First Revision No. 37-NFPA 1983-2015 [Detail]

Make the following changes to 7.6.3:

7.16 (moved from 7.6.3) Descent Control Device Performance Requirements.

7.16.1 (moved from 7.6.3.1) **Escape descent control devices shall be tested for deformation as specified in Section 8.6, Manner of Function Tensile Test, Procedure A, and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.**

~~7.6.3.2~~ ~~**Escape descent control devices shall be tested for breaking strength as specified in Section 8.6, Manner of Function Tensile Test, Procedure B, and shall have a minimum breaking strength of at least 13.5 kN (3034 lbf).**~~

7.16.2 **Escape descent control devices shall be tested for maximum impact force as specified in Section 8.14, Escape Descent Control Device and Systems Drop Test, and shall have the maximum impact force not exceed 8 kN (1798.5 lbf), shall not damage the device or rope, and shall remain functional.**

7.16.3 (moved from 7.6.3.3) **Technical use descent control devices shall be tested for deformation as specified in Section 8.6, Manner of Function Tensile Test, Procedure A, and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.**

7.16. (moved from 7.6.3.4) **General use descent control devices shall be tested for deformation as specified in Section 8.6, Manner of Function Tensile Test, Procedure A, and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.**

~~7.6.3.5~~ ~~**General use descent control devices shall be tested for breaking strength as specified in Section 8.6, Manner of Function Tensile Test, Procedure B, and shall have a minimum breaking strength of at least 22 kN (4946 lbf).**~~

~~7.6.3.5.1~~ ~~**Where the descent control device is designed to slip under high load, general use descent control devices shall be tested for slippage as specified in Section 8.6, Manner of Function Tensile Test, Procedure B, and shall not slip under a test load of 9 kN (2023 lbf).**~~

7.16.5 (moved from 7.6.3.6) **ISO 22159, *Personal equipment for protection against falls — Descending devices*, Type 2, 3, and 4 descent control devices with a hands-free locking element shall be tested in accordance with Section 8.11, Holding Test, and shall meet the requirements in 4.6.1 of ISO 22159.**

7.16.5.1 (moved from 7.6.3.6.1) **ISO 22159 Type 2 and 3 descent control devices with a panic-locking element shall be tested in accordance with Section 8.11, Holding Test, and shall meet the requirements in 4.6.2 of ISO 22159.**

7.16.5.2 (moved from 7.6.3.6.2) **ISO 22159 Type 5 and 6 descent control devices shall be tested in accordance with Section 8.11, Holding Test, and shall meet the requirements in 4.6.3 of ISO 22159.**

7.16.6 (moved from 7.6.3.7) **Permanently attached descent control device product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.**

7.16.7 (moved from 7.6.3.8) **All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.**

~~7.6.3.9~~ ~~**Where the escape descent control device incorporates a passive or active breaking feature that creates friction between the device and the rope, the maximum force required to pay a specific type of rope through the descent control device shall be tested as specified in Section 8.13, Payout Test, and shall not exceed 90 N (20 lb).**~~

~~7.6.3.10 System Level Drop Test.~~ ~~**Escape systems shall be tested for maximum impact force as**~~

~~**specified in Section 8.14, Escape Descent Control Device and Systems Drop Test, and shall have the maximum impact force not exceed 8.0 kN (1798.5 lbf), shall not damage the rope or device, and shall remain functional.**~~

Submitter Information Verification

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Submittal Date: Fri Apr 03 12:55:05 EDT 2015

Committee Statement

Committee Statement: The primary concern for removing Procedure B at this time is based on the results of the certification testing under 2012. We found we were getting 3 sigma calculated MBS numbers that that did not reflect the actual strength of the device. This was due to the variability of the required tie-off systems necessary to cause a failure in a device that was designed to slip under load. That variability resulted in a 3 sigma MBS well below the breaking strengths of the samples.

With this in mind, the committee then looked to see the value of an MBS number for a DCD. This requirement produces information that can establish a false sense of safety to the end user by providing an MBS that is neither realistic nor achievable in actual practice. This, in turn, can cause the user to assume a higher strength value for this component when calculating system safety factors, thereby possibly resulting in a system that is less robust than what the user might assume.

The results of procedure B are produced by rigging the descender by threading a rope or cable through the device, and blocking the normal path of the line in order to prevent the rope from traveling through the device as designed. Then, the rope is pulled until the device fails, usually at the connection point.

This test method requires the DCD to be tied off or blocked in order to create a maximum load, yielding MBS values above the threshold where functional damage to the device and/or to the rope will occur. Using it in this manner would be outside the scope of intended use for the device. This results in an MBS that may be misleading to the end user. Furthermore, the tie-off method is not only rope model dependent, but also varies with the precision of the tie such that the resulting 3 sigma calculation results in an MBS much below the actual breaking strength of even the lowest of the samples.

These proposed changes maintain Procedure A and the Holding Test in the document, unchanged. This test method provides assurance that the descender is capable of withstanding high loads, in excess of forces likely to occur in Escape, Technical and General use Rescue Systems. The performance requirements prescribed in procedure A continue to provide practical information to the end user such as deformation (loss of function) of the device as well as rope damage.

Response Message:

Public Input No. 7-NFPA 1983-2013 [Section No. 7.6.3.9]
Public Input No. 9-NFPA 1983-2013 [New Section after 7.6.3.10]

First Revision No. 13-NFPA 1983-2015 [Section No. 1.3.1]

1.3.1

This standard shall apply to the design, performance, testing, and certification of new emergency services life safety rope, escape rope, water ~~rescue~~ escape webbing, fire escape rope, fire escape webbing, throwlines, life safety harnesses, belts, victim extrication devices, end-to-end straps, multiple configuration straps, manufacturer-supplied eye terminations, moderate elongation laid life ~~safety~~ saving rope, belay devices, carabiners, escape anchors, litters, portable anchors, pulleys, rope grab and ascending devices, escape systems, fire escape systems, manufactured systems , and other auxiliary equipment.

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Submittal Date: Wed Feb 04 00:24:06 EST 2015

Committee Statement

Committee Statement: Edited to reflect the reorganization of the standard
Response Message:
Public Input No. 58-NFPA 1983-2015 [Chapter 1]

First Revision No. 18-NFPA 1983-2015 [Section No. 2.3.2]

2.3.2 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959.

ASTM B117, *Standard Practice for Operating Salt Spray (Fog) Apparatus*, 2011.

ASTM D4966, *Standard Test Method for Abrasion Resistance of Textile Fabrics, (Martindale Abrasion Tester Method)* , ~~(Martindale Abrasion Tester Method),~~ ~~2010~~ 2012 e1 .

ASTM ~~D6413~~ D6413/ D6413M , *Standard Test Method for Flame Resistance of Textiles (Vertical Test)*, ~~2011~~ 2013b .

ASTM E794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, 2006, reaffirmed 2012 .

ASTM F1772, *Standard Specification for Climbing Harnesses,*~~2005~~ 2012 .

ASTM F1956, *Standard Specification for Rescue Carabiners*, ~~1999~~ 2013 .

ASTM F2436, *Standard Test Method for Measuring the Performance of Synthetic Rope Rescue Belay Systems Using a Drop Test,*~~2005~~ reaffirmed 2011 .

ASTM F2821, *Standard Test Methods for Basket Type Rescue Litters,* 2010.

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Submittal Date: Wed Feb 04 09:02:20 EST 2015

Committee Statement

Committee Statement: Updating references
Response Message:
Public Input No. 32-NFPA 1983-2014 [Chapter 2]

First Revision No. 19-NFPA 1983-2015 [Section No. 2.3.4]

2.3.4 ISO Publications.

International Standards Organization, 1 rue de Varembé, Case Postal 56, CH-1211 Geneve 20, Switzerland.

ISO Guide 27, *Guidelines for corrective action to be taken by a certification body in the event of misuse of its mark of conformity*, 1983.

~~ISO Guide 62, *General requirements for bodies operating assessment and certification/registration of quality systems* , 1996.~~

~~ISO Guide 65, *General requirements for bodies operating product certification systems* , 1996.~~

ISO/DIS 9001, *Quality management systems — requirements*, ~~2008~~ 2014 .

ISO 17011, *General requirements for accreditation bodies accrediting conformity assessment bodies*, 2004.

ISO/IEC 17021, *Conformity assessment — Requirements for bodies providing audit and certification of management systems* , 2011.

ISO 17025, *General requirements for the competence of testing and calibration laboratories*, 2005.

ISO/IEC 17065, *Conformity assessment — Requirements for bodies certifying products, processes, and services* , 2012.

ISO 17493, *Clothing and equipment for protection against heat — Test method for convective heat resistance using a hot air circulating oven*, 2000.

ISO 22159, *Personal equipment for protection against falls — Descending devices*, 2007.

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Submitter Full Name: Chris Farrell
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Committee Statement

Committee Statement: Updating references
Response Message:

First Revision No. 24-NFPA 1983-2015 [Section No. 2.3.5]

2.3.5 SAE International Publications.
SAE International, 400 Commonwealth Dr., Warrendale, PA 15096-0001.
SAE-~~STD~~ AMS -2175A, *Castings, Classification and Inspection of,* 2010.

Submitter Information Verification

Submitter Full Name: Chris Farrell
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Submittal Date: Wed Feb 04 10:28:32 EST 2015

Committee Statement

Committee Statement: Updating references
Response Message:

First Revision No. 23-NFPA 1983-2015 [Section No. 2.3.6]

2.3.6 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations*, 2006, ~~with revisions through June 13, 2010~~ Revised 2013 .

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Committee Statement

Committee Statement: Updating reference
Response Message:
Public Input No. 55-NFPA 1983-2015 [Section No. 2.3.6]

First Revision No. 25-NFPA 1983-2015 [Section No. 2.3.7]

2.3.7 U.S. Government Publications.

U.S. Government Printing Office, Washington, DC 20402.

MIL-~~W-83420D~~ 83420M , Military Specification: *General Specification for Flexible Wire Rope for Aircraft Control* (~~25~~ 1 April ~~1983~~ 2005).

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Submittal Date: Wed Feb 04 10:29:40 EST 2015

Committee Statement

Committee Statement: Updating referencess
Response Message:

First Revision No. 1-NFPA 1983-2015 [Section No. 3.3.3.1]

3.3.3.1* Load-Bearing Attachment Point.

Point on a harness, victim extrication device, or escape belt that is used for connection to an anchor system that will provide full support and fall arrest for the designed load.

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Committee Statement

Committee Statement: Includes victim extrication device as one that uses load bearing attachments. Added annex material to reflect change as well.
Response Message:

Public Input No. 35-NFPA 1983-2014 [Section No. 3.3.3.1]
Public Input No. 37-NFPA 1983-2014 [Section No. A.3.3.3.1]

First Revision No. 3-NFPA 1983-2015 [Section No. 3.3.4]

3.3.4 Auxiliary Equipment.

Equipment items that are load bearing and designed to be utilized with life safety rope and harness~~, such as ascending devices, carabiners, descent control devices, rope grab devices, and snap-links~~ .

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Committee Statement

Committee Statement: Modified definition to reflect changes made in the document reorganization.
Response Message:

First Revision No. 11-NFPA 1983-2015 [Section No. 3.3.10]

3.3.10 Carabiner.

An auxiliary equipment system item~~;~~ consisting of a load-bearing connector with a self-closing gate used to join other components ~~of life safety rope~~ .

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Submittal Date: Tue Feb 03 17:00:12 EST 2015

Committee Statement

Committee Statement: Carabiners are intended to be used with components other than life safety rope, including escape rope, harnesses, anchorages and others.
Response Message:

First Revision No. 9-NFPA 1983-2015 [Section No. 3.3.42]

3.3.42 Line.
See ~~3.3.64.5~~ ~~and~~ ~~3.3.77~~ Generic term for rope or webbing .

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Submittal Date: Tue Feb 03 16:57:05 EST 2015

Committee Statement

Committee Statement: Clarify the definition of line for consistency throughout the document
Response Message:

First Revision No. 5-NFPA 1983-2015 [Section No. 3.3.64.3 [Excluding any Sub-Sections]]

~~A single-purpose,~~ Rope dedicated solely for the purpose of supporting people during emergency self-escape (self-rescue) ~~rope;~~ not classified as a life safety rope.

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Submittal Date: Tue Feb 03 16:26:34 EST 2015

Committee Statement

Committee Statement: To clarify the definition and omit the term "single purpose" to reduce confusion
Response Message:

First Revision No. 8-NFPA 1983-2015 [Section No. 3.3.64.3.1]

3.3.64.3.1 Fire Escape Rope.

~~An~~ Rope dedicated solely for the purpose of supporting people during emergency self-rescue ~~rope used to escape~~ (self-escape) from an immediately hazardous environment involving fire or fire products; not classified as a life safety rope.

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Submittal Date: Tue Feb 03 16:30:36 EST 2015

Committee Statement

Committee Statement: To clarify the definition and omit the term "single purpose" to reduce confusion
Response Message:
Public Input No. 34-NFPA 1983-2014 [Section No. 3.3.64.3.1]

First Revision No. 10-NFPA 1983-2015 [Section No. 3.3.64.5]

3.3.64.5 Throwline.

A floating rope that is intended to be thrown to a person during water rescues or as a tether for rescuers entering the water..

~~**3.3.64.5** Line.~~

~~Rope when in use.~~

Submitter Information Verification

Submitter Full Name: Chris Farrell
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Submittal Date: Tue Feb 03 16:58:30 EST 2015

Committee Statement

Committee Statement: Clarify the definition of line for consistency throughout the standard
Response Message:

First Revision No. 6-NFPA 1983-2015 [Section No. 3.3.77.1]

3.3.76.1 Escape Webbing.

~~A single-purpose,~~ Webbing dedicated solely for the purpose of supporting people during emergency self-escape (self-rescue) ~~webbing~~ .

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Submittal Date: Tue Feb 03 16:28:26 EST 2015

Committee Statement

Committee Statement: To clarify the definition and omit the term "single purpose" to reduce confusion
Response Message:

First Revision No. 7-NFPA 1983-2015 [Section No. 3.3.77.2]

3.3.76.2 Fire Escape Webbing.

~~A single-purpose,~~ Webbing dedicated solely for the purpose of supporting people during emergency self-escape (self-rescue) ~~webbing to be used to escape~~ from an immediately hazardous environment involving fire or fire products.

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Submittal Date: Tue Feb 03 16:29:31 EST 2015

Committee Statement

Committee Statement: To clarify the definition and omit the term "single purpose" to reduce confusion
Response Message:

First Revision No. 16-NFPA 1983-2015 [Sections 4.1.8, 4.1.9, 4.1.10]

4.1.8

The certification organization shall not issue any new certifications to the 2006 edition of NFPA 1983~~,~~ ~~*Standard on Fire Service Life Safety Rope and Equipment for Emergency Services* ,~~ on or after the NFPA effective date for the 2012 edition, which is ~~January 2, 2012~~ effective date .

4.1.9

The certification organization shall not permit any manufacturer to continue to label any protective ensembles or ensemble elements that are certified as compliant with the ~~2006~~ 2012 edition of NFPA 1983~~, *Standard on Fire Service Life Safety Rope and Equipment for Emergency Services* ,~~ after [~~January 2, 2013~~ effective date, plus 12 months] .

4.1.10

The certification organization shall require manufacturers to remove all certification labels and product labels indicating compliance with the ~~2006~~ 2012 edition of NFPA 1983~~, *Standard on Fire Service Life Safety Rope and Equipment for Emergency Services* ,~~ from all protective ensembles and ensemble elements that are under the control of the manufacturer on ~~January 2, 2013~~ [effective date, plus 12 months] , and the certification organization shall verify this action is taken.

Supplemental Information

File Name	Description
4.1.8-4.1.10_FR_16.docx	

Submitter Information Verification

Submitter Full Name: Chris Farrell
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Submittal Date: Wed Feb 04 01:02:08 EST 2015

Committee Statement

Committee Statement: Update certification requirements based on standard publication date.
Response Message:
Public Input No. 38-NFPA 1983-2014 [Sections 4.1.8, 4.1.9, 4.1.10]

4.1.8 The certification organization shall not issue any new certifications to the 2012 edition of NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*, on or after the NFPA effective date for the 2017 edition which is [effective date].

4.1.9 The certification organization shall not permit any manufacturer to continue to label any protective ensembles or ensemble elements that are certified as compliant with the 2006 edition of NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*, after (effective date plus 12 months).

4.1.10 The certification organization shall require manufacturers to remove all certification labels and product labels indicating compliance with the 2006 edition of NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*, from all protective ensembles and ensemble elements that are under the control of the manufacturer on [effective date] plus 12 months), and the certification organization shall verify this action is taken.

First Revision No. 14-NFPA 1983-2015 [Section No. 4.3.6]

4.3.6

Inspection by the certification organization shall include an evaluation of any symbols and pictorial graphic representations used on product labels or in user information, as permitted ~~by~~ in 5.1.1.6, 5.2.1.6, 5.9.1.8, 5.10.1.8, 5.22.1.7, ~~and~~ 5.6.1.6, 5.11.1.6 , 5.18.1.7 , 5.23.1.7 , 5.4.1.6 , 5.8.1.5 and 5.7.1.5 to ensure that the symbols are clearly explained in the product's user information package.

Submitter Information Verification

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Submittal Date: Wed Feb 04 00:59:26 EST 2015

Committee Statement

Committee Statement: Added references to reflect reorganization of standard.
Response Message:

First Revision No. 17-NFPA 1983-2015 [Section No. 4.4.1]

4.4.1

All products that are labeled as being compliant with this standard shall undergo recertification in accordance with Table 4.4.1.

Table 4.4.1 Recertification Schedule

Product	Test	Time
All component product	Corrosion testing	Initial cert only
All component product	Product label durability tests	Initial cert only
~~Life safety rope~~	~~Rope breaking and elongation~~	~~Every year~~
~~Escape rope~~	~~Rope breaking and elongation~~	~~Every year~~
~~Water rescue throwlines~~ Throwlines	Rope breaking	Every year
~~Water rescue throwlines~~ Throwlines	Floatability	Every year
Life safety harness	Static	Alternating years with drop test
Life safety harness	Drop	Alternating years with static test
Belt	Static	Alternating years with drop test
Belt	Drop	Alternating years with static test
~~Auxiliary equipment carabiners~~ Carabiners and and snap-link	All	Every 2 years
~~Auxiliary equipment rope~~ Rope grab devices	All	Every 2 years
~~Auxiliary equipment system descent~~ Descent control devices — auto stop	~~Passive brake holding~~ Holding test	Every year
~~Auxiliary equipment components descent~~ Descent control devices — auto stop	Manner of function	Every year
~~Auxiliary equipment descent control descent~~ Descent control devices — non–auto stop	All	Every 2 years
~~Auxiliary equipment portable~~ Portable anchor	All	Initial cert only
~~Auxiliary equipment pulley~~ Pulley	All	Every 2 years
~~Auxiliary equipment pick-off, anchor and rigging strap~~ Multiple configuration and end-to-end straps	Breaking strength	Every year
~~Auxiliary equipment manufactured~~ Manufactured systems	All	Every year
Escape systems	All	Every year
Life safety rope	Diameter, rope breaking, and elongation	Every year
Life safety rope fibers	Melting and crystallization temperatures by thermal analysis	Every year
Escape rope	Diameter, rope breaking, and elongation	Every year
Fire escape rope	Elevated rope temperature test	Every year
Escape rope fibers	Melting and crystallization temperatures by thermal analysis	Every year
Escape webbing	Perimeter, rope breaking, and elongation	Every year

Product	Test	Time
Fire escape webbing	Elevated rope temperature test	Every year
Escape webbing fibers	Melting and crystallization temperatures by thermal analysis	Every year
Fire escape webbing	Elevated rope temperature test	Every year
Moderate elongation laid life-saving rope	Diameter, rope breaking, and elongation	Every year
Moderate elongation laid life life-saving rope fibers	Melting and crystallization temperatures by thermal analysis	Every year
~~Escape webbing fibers~~	~~Melting and crystallization temperatures by thermal analysis~~	~~Every year~~
Victim extrication devices	Static	Every 2 years
Litters	Litter strength test — vertical	~~Initial only~~ Alternating years with horizontal
Litters	Litter strength test — horizontal	~~Initial only~~ Alternating years with horizontal
Load-bearing textiles used in victim extrication devices	Melting and crystallization temperatures by thermal analysis	Every year
Thread used in victim extrication devices	Melting and crystallization temperatures by thermal analysis	Every year
Webbing components	Melting and crystallization temperatures by thermal analysis	Every year
Thread components	Melting and crystallization temperatures by thermal analysis	Every year
~~Escape webbing fibers~~	~~Melting and crystallization temperatures by thermal analysis~~	~~Every year~~
Load-bearing textiles used in belts with optional flame resistance	Flame resistance	Every year
Load-bearing textiles used in belts with optional flame resistance	Heat resistance	Every year
Hardware installed in belts with optional flame resistance	Heat resistance	Every year
Thread used in belts with optional flame resistance	Thread heat resistance	Every year
Load-bearing textiles used in life safety harnesses with optional flame resistance	Flame resistance	Every year
Load-bearing textiles used in life safety harnesses with optional flame resistance	Flame resistance	Every year
~~Load-bearing textiles used in life safety harnesses with optional flame resistance~~	~~Heat resistance~~	~~Every year~~
Hardware installed in life safety harnesses with optional flame resistance	Heat resistance	Every year

Product	Test	Time
Thread used in life safety harnesses with optional flame resistance	Thread heat resistance	Every year
Manufacturer-supplied eye termination	Breaking strength	Every year
Manufacturer-supplied eye termination	Thread melting	Every year
Belay devices	Manner of function	Every two years

4.4.1.1

This recertification shall include inspection and evaluation to the design requirements and testing to the performance requirements as required by this standard on all manufacturers' compliant product models.

4.4.1.2

Any change that affects the compliant product performance under design or performance requirements of this standard shall constitute a different model.

4.4.1.3

For the purpose of this standard, models shall include each unique pattern, style, or design of the compliant products.

Supplemental Information

File Name	Description
Table_4.4.1_FR_17.docx	

Submitter Information Verification

Submitter Full Name: Chris Farrell
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Submittal Date: Wed Feb 04 01:05:06 EST 2015

Committee Statement

Committee Statement: Added belay devices to annual recertification table which was inadvertently left off from last edition as well as changes from TIA.

Response Message:

Public Input No. 59-NFPA 1983-2015 [Chapter 4]
Public Input No. 39-NFPA 1983-2014 [Section No. 4.4.1 [Excluding any Sub-Sections]]
Public Input No. 1-NFPA 1983-2013 [Section No. 4.4.1]

All products that are labeled as being compliant with this standard shall undergo recertification in accordance with Table 4.4.1.

Table 4.4.1 Recertification Schedule

Product	Test	Time
All component product	Corrosion testing	Initial cert only
All component product	Product label durability tests	Initial cert only
~~Life safety rope~~	~~Rope breaking and elongation~~	~~Every year~~
~~Escape rope~~	~~Rope breaking and elongation~~	~~Every year~~
~~Water rescue~~ Throwlines	Rope breaking	Every year
~~Water rescue~~ Throwlines	Floatability	Every year
Life safety harness	Static	Alternating years with drop test
Life safety harness	Drop	Alternating years with static test
Belt	Static	Alternating years with drop test
Belt	Drop	Alternating years with static test
~~Auxiliary equipment~~ carabiners and snap-link	All	Every 2 years
~~Auxiliary equipment~~ rope grab devices	All	Every 2 years
~~Auxiliary equipment system~~ descent control devices — auto stop	~~Passive brake~~ holding test	Every year
~~Auxiliary equipment components~~ descent control devices — auto stop	Manner of function	Every year
~~Auxiliary equipment descent control~~ descent control devices — non-auto stop	All	Every 2 years
~~Auxiliary equipment~~ portable anchor	All	Initial cert only
~~Auxiliary equipment~~ pulley	All	Every 2 years
~~Auxiliary equipment pick-off, anchor and rigging strap~~ Multiple configuration and end-to-end straps	Breaking strength	Every year
~~Auxiliary equipment~~ manufactured systems	All	Every year
Escape systems	All	Every year
Life safety rope	Diameter, rope breaking, and elongation	Every year
Life safety rope fibers	Melting and crystallization temperatures by thermal analysis	Every year
Escape rope	Diameter, rope breaking, and elongation	Every year
Fire escape rope	Elevated rope temperature test	Every year
Escape rope fibers	Melting and crystallization temperatures by thermal analysis	Every year
Escape webbing	Perimeter, rope breaking, and elongation	Every year
Fire escape webbing	Elevated rope temperature test	Every year

Product	Test	Time
Escape webbing fibers	Melting and crystallization temperatures by thermal analysis	Every year
Moderate elongation laid life saving rope	Diameter, rope breaking, and elongation	Every year
Moderate elongation laid life saving rope fibers	Melting and crystallization temperatures by thermal analysis	Every year
~~Escape webbing fibers~~	~~Melting and crystallization temperatures by thermal analysis~~	~~Every year~~
Victim extrication devices	Static	Every 2 years
Litters	Litter strength test — vertical	~~Initial only~~ Alternating years with horizontal
	Litter strength test — horizontal	~~Initial only~~ Alternating years with vertical
Load-bearing textiles used in victim extrication devices	Melting and crystallization temperatures by thermal analysis	Every year
Thread used in victim extrication devices	Melting and crystallization temperatures by thermal analysis	Every year
Webbing components	Melting and crystallization temperatures by thermal analysis	Every year
Thread components	Melting and crystallization temperatures by thermal analysis	Every year
~~Escape webbing fibers~~	~~Melting and crystallization temperatures by thermal analysis~~	~~Every year~~
Load-bearing textiles used in belts with optional flame resistance	Flame resistance	Every year
Load-bearing textiles used in belts with optional flame resistance	Heat resistance	Every year
Hardware installed in belts with optional flame resistance	Heat resistance	Every year
Thread used in belts with optional flame resistance	Thread heat resistance	Every year
Load-bearing textiles used in life safety harnesses with optional flame resistance	Flame resistance	Every year
Load-bearing textiles used in life safety harnesses with optional flame resistance	Flame resistance	Every year
~~Load-bearing textiles used in life safety harnesses with optional flame resistance~~	~~Heat resistance~~	~~Every year~~
Hardware installed in life safety harnesses with optional flame resistance	Heat resistance	Every year
Thread used in life safety harnesses with optional flame resistance	Thread heat resistance	Every year
Manufacturer-supplied eye termination	Breaking strength	Every year
Manufacturer-supplied eye termination	Thread melting	Every year
Belay devices	Manner of function	Every two years

First Revision No. 15-NFPA 1983-2015 [Section No. 4.6.13]

4.6.13*

Where a change to an NFPA standard(s) is felt to be necessary, the certification organization shall also provide a copy of the report and corrective actions indicated to NFPA and shall also submit either a Public ~~Proposal~~ Input for a proposed change to the next revision of the applicable standard or a proposed Temporary Interim Amendment (TIA) to the current edition of the applicable standard.

Submitter Information Verification

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Submittal Date: Wed Feb 04 01:00:55 EST 2015

Committee Statement

Committee Statement: Editorial change to reflect proper terminology
Response Message:

First Revision No. 12-NFPA 1983-2015 [Chapter 5]

Chapter 5 Labeling and Information

5.1 ~~Product Label Requirements~~ Life Safety Rope .

5.1.1 Life Safety Rope Label Requirements .

5.1.1.1

Each life safety rope item shall have a product label.

5.1.1.2

Where life safety rope is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the life safety rope shall be required to have at least the continuous identification tape specified in 5.1.1.13.

5.1.1.3

The life safety rope product label shall be permitted to be a hang tag affixed to each individual life safety rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the life safety rope.

5.1.1.4

All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.1.5

All worded portions of the required product label shall at least be in English.

5.1.1.6

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.1.7

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.1.1.8*

Each life safety rope shall have the following compliance statement on the product label:

"~~THIS ROPE~~ MEETS THE LIFE SAFETY ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* ~~2012~~ 2017 EDITION.
CLASS: _____-USE ROPE"

5.1.1.9

The class designation of the life safety rope that is required in 5.1.1.8 to be stated on the product label shall be as determined by the certification organization in accordance with Section 7.1.

5.1.1.10

In addition to the compliance statement specified in 5.1.1.8, at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN DIAMETER: _____ mm
Type of fiber(s) _____"

5.1.1.11

The minimum breaking strength (MBS) value of the life safety rope, which is required in 5.1.1.10 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.1.1 or 7.1.2, as applicable, but shall not be greater than the calculated ~~minimum breaking strength~~ MBS .

5.1.1.12

The diameter of the life safety rope, which is required in 5.1.1.10 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.1.3 or 7.1.4, as applicable.

5.1.1.13*

In addition to the compliance statement specified in 5.1.1.8, each life safety rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be ~~legibly~~ printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR LIFE SAFETY ROPE OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer]

[Year and quarter of manufacture (not coded)]

5.1.1.14

In addition to the compliance and information statements in 5.1.1.8~~,~~ and 5.1.1.10, ~~and 5.1.1.13~~ , at least the following information shall also be printed ~~legibly~~ on the product label(s)~~. All~~ where all letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

(6) Elongation at 1.35 kN (300 lbf)

(7) Elongation at 2.7 kN (600 lbf)

(8) Elongation at 4.4 kN (1000 lbf)

5.1.2 Life Safety Rope User Information.

5.1.2.1

The manufacturer of life safety rope that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.1.2.2

The manufacturer shall provide information for the user to consider prior to reusing life safety rope, including that the rope be considered for reuse only if all of the following conditions are met:

(1) Rope has not been visually damaged.

(2) Rope has not been exposed to heat, direct flame impingement, or abrasion.

(3) Rope has not been subjected to any impact load.

(4) Rope has not been exposed to liquids, solids, gases, mists, or vapors of any chemical or other material that can deteriorate rope.

(5) Rope passes inspection when inspected by a qualified person following the manufacturer's inspection procedures both before and after each use.

5.1.2.3

The manufacturer shall provide information for the user regarding not using the life safety rope and removing the rope from service if the rope does not meet all of the conditions in 5.1.2.2 ~~5.1.2.2 5.1.2.25.2.1.2~~ , if the rope does not pass inspection, or if there is any doubt about the safety or serviceability of the rope.

5.1.2.4

The manufacturer shall provide information for the user regarding at least the following issues:

(1)* Inspecting the rope periodically according to the manufacturer's inspection procedure

(2) Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope

(3) Protecting the rope from abrasion

(4) Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature

(5) Keeping the product label and user instructions/information after they are removed/separated from the rope and retaining them in the permanent rope record; copying the product label and user instructions/information and keeping the copies with the rope

(6) Referring to the user instructions/information before and after each use

(7) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.1.2.5

The manufacturer shall provide information for the user that additional information regarding moderate elongation laid life-saving rope can be found in NFPA 1500, ~~*Standard on Fire Department Occupational Safety and Health Program*~~ , and NFPA 1983, ~~*Standard on Life Safety Rope and Equipment for Emergency Services*~~ .

5.1.2.6

The manufacturer of life safety rope that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of life safety rope and a list of items that the records need to contain.

~~**5.1.2** Escape Rope.~~

~~**5.1.2.1***~~

~~Each escape rope item shall have a product label.~~

~~**5.1.2.2***~~

~~Where escape rope is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the escape rope shall be required to have at least the continuous identification tape specified in 5.1.2.12 .~~

~~**5.1.2.3**~~

~~The escape rope product label shall be permitted to be a hang tag affixed to each escape rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the escape rope.~~

~~**5.1.2.4**~~

~~All letters shall be at least 1.6 mm ($^{1}/_{16}$ in.) high.~~

~~**5.1.2.5**~~

~~All worded portions of the required product label shall at least be in English.~~

~~**5.1.2.6**~~

~~Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).~~

~~**5.1.2.7**~~

~~The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm ($^{3}/_{32}$ in.) high.~~

~~**5.1.2.8**~~

~~Each escape rope shall have the following compliance statement on the product label.~~

~~**"THIS ROPE MEETS THE ESCAPE ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION."**~~

~~**5.1.2.9***~~

~~In addition to the compliance statement specified in 5.1.2.8 , at least the following information shall be provided on the product label.~~

~~**"MINIMUM BREAKING STRENGTH: _____ kN DIAMETER: _____ mm**~~

~~**Type of fiber(s) _____"**~~

5.1.2.10

The minimum breaking strength value of the escape rope, which is required in 5.1.2.9 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.2.1 , but shall not be greater than the calculated minimum breaking strength.

5.1.2.11

The diameter of the escape rope, which is required in 5.1.2.9 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.2.2 .

5.1.2.12*

In addition to the compliance statement specified in 5.1.2.8 , each escape rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR ESCAPE ROPE OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer] [Year and quarter of manufacture (not coded)]

5.1.2.13

In addition to the compliance and information statements in 5.1.2.9 , 5.1.2.10 , and 5.1.2.12 at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

- Manufacturer's name, identification, or designation
- Manufacturer's address
- Country of manufacture
- Manufacturer's product identification
- Model, style, lot, or serial number
- Elongation at 1.35 kN (300 lb)
- Elongation at 2.7 kN (600 lb)
- Elongation at 4.4 kN (1000 lb)

5.1.2 Life Safety Harness.

5.1.2.1

Each life safety harness item shall have a product label.

5.1.2.2

Harnesses used in manufactured systems shall be required to be individually labeled.

5.1.2.3

Harness product labels shall be embossed, printed, sewn, stapled, riveted, or otherwise permanently attached to the harness.

5.1.2.4

Harness product labels shall be conspicuously located on each harness when the harness is properly assembled with all components in place.

5.1.2.5

All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high

5.1.2.6

Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.2.7

All worded portions of the required product label shall at least be in English.

5.1.2.8

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.2.9

The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm ($^{3}/_{32}$ in.) high.

5.1.2.10

Where the life safety harness is certified as compliant with only the nonoptional requirements of the standard and is not certified with the optional flame resistance requirements, the following statement shall be printed legibly on the product label:

"THIS LIFE SAFETY HARNESS MEETS THE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION, CLASS _____. THIS HARNESS IS NOT FLAME-RESISTANT! DO NOT REMOVE THIS LABEL!"

5.1.2.11

Where the life safety harness is certified as compliant with nonoptional requirements of this standard and also certified as compliant with the optional flame resistance requirements specified in 6.3.9 , the following statement shall be printed legibly on the product label:

"THIS LIFE SAFETY HARNESS MEETS THE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION, AND THE OPTIONAL FLAME RESISTANCE REQUIREMENTS OF NFPA 1983, CLASS _____. DO NOT REMOVE THIS LABEL!"

5.1.2.12*

In addition to the compliance statement specified in 5.1.3.10 or 5.1.3.11 , at least the following information shall be provided on the product label:

For Class II harness: **"Fits waist size _____"**

For one-piece Class III harness: **"Fits waist size _____, Fits height _____"** or **"Fits chest size _____, Fits height _____"**

For multiple-piece Class III harness: **"Fits waist size _____, Fits height _____"** or **"Fits chest size _____, Fits height _____"**

This is one part of a multiple-piece harness and must be used in conjunction with component part number ___ in order to fully meet the criteria of Class ___ harness."

5.1.2.13

The class designation of the life safety harness required to be stated on the product label(s) shall be as determined by the certification organization in accordance with 6.3.1 .

5.1.2.14

In addition to the compliance and information statements in 5.1.3.10 , 5.1.3.12 , and 5.1.3.15 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

Manufacturer's name, identification, or designation

Manufacturer's address

Country of manufacture

Manufacturer's product identification

Model, style, lot, or serial number

5.1.2.15

Where detachable components must be used with a life safety harness in order for the life safety harness to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the life safety harness. All letters shall be at least 2.5 mm ($^{3}/_{32}$ in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS LIFE SAFETY HARNESS:"

[The detachable component(s) shall be listed here.]

5.1.2 Belts.

5.1.2.1

Each belt item shall have a product label.

5.1.2.2

Belts used in manufactured systems shall be required to be individually labeled.

5.1.2.3

Belt product labels shall be embossed, printed, sewn, stapled, riveted, or otherwise permanently attached to the belt.

5.1.2.4

Belt product labels shall be conspicuously located on each belt when the belt is properly assembled with all components in place.

5.1.2.5

All letters shall be at least 2 mm ($^{5}\!/_{64}$ in.) high.

5.1.2.6

Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.2.7

All worded portions of the required product label shall at least be in English.

5.1.2.8

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.2.9

The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm ($^{3}\!/_{32}$ in.) high.

5.1.2.10

Where the belt is certified as compliant with only the nonoptional requirements of the standard and is not certified with the optional flame resistance requirements, the following statement shall be printed legibly on the product label:

"THIS BELT MEETS THE REQUIREMENTS OF NFPA 1983 , *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION, TYPE _____. THIS BELT IS NOT FLAME-RESISTANT! DO NOT REMOVE THIS LABEL!"

5.1.2.11

Where the belt is certified as compliant with nonoptional requirements of this standard and also certified as compliant with the optional flame resistance requirements specified in 6.4.9 , the following statement shall be printed legibly on the product label:

"THIS BELT MEETS THE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION, AND THE OPTIONAL FLAME RESISTANCE REQUIREMENTS OF NFPA 1983, TYPE _____. DO NOT REMOVE THIS LABEL!"

5.1.2.12

In addition to the compliance statement specified in 5.1.4.10 or 5.1.4.11 , at least the following information shall be provided on the product label:

"Fits waist size _____"

5.1.2.13

The type designation of belt required to be stated on the product label shall be as determined by the certification organization in accordance with 6.4.1 .

5.1.2.14

In addition to the compliance and information statements in 5.1.4.10 , 5.1.4.12 , and 5.1.4.15 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

Manufacturer's name, identification, or designation

Manufacturer's address

Country of manufacture

Manufacturer's product identification

Model, style, lot, or serial number

5.1.2.15

Where detachable components must be used with the belt in order for the belt to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the belt. All letters shall be at least 2.5 mm ($^{3}/_{32}$ in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS BELT:" [The detachable component(s) shall be listed here.]

5.1.2 Auxiliary Equipment.

5.1.2.1

Each auxiliary equipment item shall have a product label.

5.1.2.2

Each load-bearing hardware auxiliary equipment item shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.1.2.2.15.1.5.2.1 through 5.1.2.2.55.1.5.2.5 .

5.1.2.2.1

Each load-bearing hardware auxiliary equipment item shall have the following compliance statement:

"MEETS NFPA 1983 (2012 ED)."

5.1.2.2.2

Each load-bearing hardware auxiliary equipment shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.1.2.2.3

Each load-bearing hardware auxiliary equipment shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.1.2.2.4

Each load-bearing hardware auxiliary equipment shall display a "G" for general use items, a "T" for technical use items, or an "E" for escape use items. The designation "G," "T," or "E" shall be designated in accordance with 6.5.2 .

5.1.2.2.5

Each auxiliary equipment ascending device, rope grab device, and descent control device shall also display the range of rope diameters with which the device is intended to be used.

5.1.2.3

The product label for the portions of the product label information not specified in 5.1.2.2.15.1.5.2.1 through 5.1.2.2.55.1.5.2.5 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the auxiliary equipment item.

5.1.2.4

All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

5.1.2.5

Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.2.6

All worded portions of the required product label shall at least be in English.

5.1.2.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.2.8

The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

5.1.2.9

Each auxiliary equipment item shall have the following compliance statement on the product label.

"THIS [insert name of equipment item here] MEETS THE AUXILIARY EQUIPMENT REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES* , 2012 EDITION."

5.1.2.10

In addition to the compliance statement specified in 5.1.2.9 5.1.5.9 , at least the information required in 5.1.2.2.3 5.1.5.2.3 through 5.1.2.2.5 5.1.5.2.5 shall also be provided on the printed product label.

5.1.2.11

In addition to the compliance statement specified in 5.1.2.9 5.1.5.9 , portable anchor auxiliary equipment devices shall include the following additional information on the product label:

"MINIMUM BREAKING STRENGTH AND RATING ARE DETERMINED AT THE CONFIGURATION OF LOWEST STRENGTH PER MANUFACTURER'S INSTRUCTIONS."

5.1.2.12

In addition to the compliance statement specified in 5.1.2.9 5.1.5.9 , rigging and anchor straps shall include the following additional statement on the product label:

"MINIMUM BREAKING STRENGTH AND RATING ARE DETERMINED USING A BASKET (U) CONFIGURATION. IN ADDITION, THIS STRAP HAS A MINIMUM BREAKING STRENGTH OF:

_____ kN IN A CHOKER CONFIGURATION

_____ kN WHEN PULLED END TO END."

5.1.2.13

In addition to the compliance and information statements in 5.1.2.9 5.1.5.9 , 5.1.2.10 5.1.5.10 , and 5.1.2.11 5.1.5.11 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

- Manufacturer's name, identification, or designation
- Manufacturer's address
- Country of manufacture
- Manufacturer's product identification
- Model, style, lot, or serial number

5.1.2.14

Where detachable components must be used with the auxiliary equipment item in order for the auxiliary equipment item to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the item. All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS [insert type of auxiliary equipment here]:"

[The detachable component(s) shall be listed here.]

5.1.5 Throwlines.

5.1.5.1 *

Each throwline item shall have a product label.

5.1.5.2

Where a throwline is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the throwline shall be required to have at least the continuous identification tape specified in 5.1.6.12 .

5.1.5.3

The throwline product label shall be permitted to be a hang tag affixed to each individual throwline or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the throwline.

5.1.5.4

All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.5.5

All worded portions of the required product label shall at least be in English.

5.1.5.6

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.5.7

The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.5.8*

Each throwline shall have the following compliance statement on the product label:

"THIS ROPE MEETS THE THROWLINE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION."

5.1.5.9

In addition to the compliance statement specified in 5.1.6.8 , at least the following information shall be provided on the product label.

"MINIMUM BREAKING STRENGTH: _____ kN DIAMETER: _____ mm

Type of fiber(s) _____"

5.1.5.10

The minimum breaking strength value of the throwline, which is required in 5.1.6.9 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.3.1 , but shall not be greater than the calculated minimum breaking strength.

5.1.5.11

The diameter of the throwline, which is required in 5.1.6.8 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.3.2 .

5.1.5.12

In addition to the compliance statement specified in 5.1.6.8 , each throwline shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR THROWLINE OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer] [Year and quarter of manufacture (not coded)]

5.1.5.13

In addition to the compliance and information statements in 5.1.6.8 and 5.1.6.9 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

Manufacturer's name, identification, or designation

Manufacturer's address

Country of manufacture

Manufacturer's product identification

Model, style, lot, or serial number

5.1.3 Victim Extrication Device.

5.1.3.1

Each victim extrication device shall have a product label.

5.1.3.2

Each victim extrication device shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information.

5.1.3.2.1

Each victim extrication device shall display the mark or logo of the certification organization , and the manufacturer's name or identifying mark.

5.1.3.3

All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

5.1.3.4

Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.3.5

All worded portions of the required product label shall be at least in English.

5.1.3.6

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.3.7

The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

5.1.3.8

Each victim extrication device shall have the following compliance statement on the product label:

"MEETS THE VICTIM EXTRICATION DEVICE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION, CLASS_____."

5.1.3.9

In addition to the compliance and information statements in 5.1.7.8 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

- Manufacturer's name, identification, or designation
- Manufacturer's address
- Country of manufacture
- Manufacturer's product identification
- Model, style, lot, or serial number

5.1.3.10

Where detachable components must be used with a victim extrication device in order for the device to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the device. All labels shall be at least 2 mm ($^{5}/_{64}$ in.) high. The detachable components shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS VICTIM EXTRICATION DEVICE:" [The detachable component(s) shall be listed here.]

5.1.3 Litters.

5.1.3.1

Each litter shall have a product label.

5.1.3.2

Each litter shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.1.8.2.1 5.1.3.2.1 through 5.1.8.2.2 5.1.3.2.2 .

5.1.3.2.1

Each litter shall have the following compliance statement:

"MEETS NFPA 1983 (2012 ED)"

5.1.3.2.2

Each litter shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.1.3.3

The product label for the portions of the product label information not specified in 5.1.8.2.1 5.1.3.2.1 and 5.1.8.2.2 5.1.3.2.2 shall be permitted to be a hang tag affixed to each individual litter.

5.1.3.4

All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

5.1.3.5

Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.3.6

All worded portions of the required product label shall be at least in English.

5.1.3.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.3.8

The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

5.1.3.9

Each litter shall have the following compliance statement on the product label:

"MEETS THE LITTER REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION."

5.1.3.10

In addition to the compliance statement specified in 5.1.8.9 5.1.3.9 , litters shall include the following additional information on the product label:

"VERTICAL BREAKING STRENGTH: _____kN. HORIZONTAL BREAKING STRENGTH: _____kN"

5.1.3.11

In addition to the compliance and information statements in 5.1.8.9 5.1.3.9 and 5.1.8.11 5.1.3.11 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

- Manufacturer's name, identification, or designation
- Manufacturer's address
- Country of manufacture
- Manufacturer's product identification
- Model, style, lot, or serial number

5.1.8 Escape Webbing.

5.1.8.1

Escape webbing shall meet the labeling requirements in 5.1.2 , excluding 5.1.2.8 , 5.1.2.9 , 5.1.2.10 , 5.1.2.11 , and 5.1.2.12 .

5.1.8.2

Each escape webbing shall have the following compliance statement on the product label:

"THIS WEBBING MEETS THE ESCAPE WEBBING REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION."

5.1.8.3* In addition to the compliance statement specified in 5.1.9.3, at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN PERIMETER: _____ mm

Type of fiber(s) _____"

5.1.8.4 The perimeter of the escape webbing, which is required in 5.1.9.3 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.9.2 .

5.1.8.5 In addition to the compliance statement specified in 5.1.9.3 , each escape webbing shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.).

"MEETS REQUIREMENTS FOR ESCAPE WEBBING OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer] [Year and quarter of manufacture (not coded)]

5.1.8 Fire Escape Webbing.

5.1.8.1 Fire escape webbing shall meet the labeling requirements in 5.1.2 , escape rope, excluding 5.1.2.8 , 5.1.2.9 , 5.1.2.10 , 5.1.2.11 , and 5.1.2.12 .

5.1.8.2 Each fire escape webbing shall have the following compliance statement on the product label:

"THIS WEBBING MEETS THE FIRE ESCAPE WEBBING REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION."

5.1.8.3* In addition to the compliance statement specified in 5.1.10.2 , at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN PERIMETER: _____ mm

Type of fiber(s) _____"

5.1.8.4 The perimeter of the fire escape webbing, which is required in 5.1.10.3 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.10.2 .

5.1.8.5 In addition to the compliance statement specified in 5.1.10.2 , each fire escape webbing shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.).

"MEETS REQUIREMENTS FOR FIRE ESCAPE WEBBING OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer]

[Year and quarter of manufacture (not coded)]

5.1.2 Escape Systems Compliance and Information Statements.

5.1.2.1 Each escape system shall have a product label.

5.1.2.2 Each escape system load-bearing hardware item shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.1.2.2.1 5.1.5.2.1 through 5.1.2.2.5 5.1.5.2.5 .

5.1.2.2.1 Each load-bearing escape system component shall have the following compliance statement:

"MEETS NFPA 1983 (2012 ED)"

5.1.2.2.2 Each load-bearing hardware escape system component shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.1.2.2.3

Each load-bearing hardware escape system component shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.1.2.2.4

Each load-bearing escape system component shall display an "E" for escape use items. The designation "E" shall be designated in accordance with 6.5.2.1 .

5.1.2.2.5

Each system device, rope grab device, and descent control device shall also display the range of rope diameters with which the device is intended to be used.

5.1.2.3

The product label for the portions of the product label information not specified in 5.1.2.2.1 5.1.5.2.1 shall be permitted to be a hang tag affixed to each individual equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the escape system.

5.1.2.4

All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

5.1.2.5

Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.2.6

All worded portions of the required product label shall be at least in English.

5.1.2.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.2.8

The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm ($^{3}/_{32}$ in.) high.

5.1.2.9

Each escape system shall have the following compliance statement on the product label:

For fire escape systems: "THIS [insert name of equipment item here] MEETS THE FIRE ESCAPE SYSTEM REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION."

For escape systems: "THIS [insert name of equipment item here] MEETS THE ESCAPE SYSTEM REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION."

5.1.2.10

In addition to the compliance and information statements in 5.1.2.9 5.1.5.9 , 5.1.2.10 5.1.5.10 , and 5.1.2.11 5.1.5.11 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

- Manufacturer's name, identification, or designation
- Manufacturer's address
- Country of manufacture
- Manufacturer's product identification
- Model, style, lot, or serial number

5.1.2.11

Where detachable components must be used with the escape system item in order for the escape system to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the item. All letters shall be at least 2.5 mm (3⁄32 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS [insert type of escape system here]:"

[The detachable component(s) shall be listed here.]

5.1.10 Fire Escape Rope.

5.1.10.1*

Each fire escape rope item shall have a product label.

5.1.10.2*

Where fire escape rope is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the fire escape rope shall be required to have at least the continuous identification tape specified in 5.1.2.12 .

5.1.10.3

The fire escape rope product label shall be permitted to be a hang tag affixed to each fire escape rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the fire escape rope.

5.1.10.4

All letters shall be at least 1.6 mm (1⁄16 in.) high.

5.1.10.5

All worded portions of the required product label shall be at least in English.

5.1.10.6

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.10.7

The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.1.10.8

Each fire escape rope shall have the following compliance statement on the product label:

"THIS ROPE MEETS THE FIRE ESCAPE ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION."

5.1.10.9*

In addition to the compliance statement specified in 5.1.12.8 , at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN DIAMETER: _____ mm

Type of fiber(s) _____"

5.1.10.10

The minimum breaking strength value of the fire escape rope, which is required in 5.1.12.9 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.2.1 , but shall not be greater than the calculated minimum breaking strength.

5.1.10.11

The diameter of the fire escape rope, which is required in 5.1.12.9 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.2.2 .

5.1.10.12*

In addition to the compliance statement specified in 5.1.12.9 , each fire escape rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR FIRE ESCAPE ROPE OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer]

[Year and quarter of manufacture (not coded)]

5.1.10.13

In addition to the compliance and information statements in 5.1.12.8 , 5.1.12.9 , and 5.1.12.12 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

Manufacturer's name, identification, or designation

Manufacturer's address

Country of manufacture

Manufacturer's product identification

Model, style, lot, or serial number

Elongation at 1.35 kN (300 lb)

Elongation at 2.7 kN (600 lb)

Elongation at 4.4 kN (1000 lb)

5.1.8 Manufacturer-Supplied Eye Termination.

5.1.8.1

Each manufacturer-supplied eye termination shall have a product label.

5.1.8.2

The manufacturer-supplied eye termination product label shall be permitted to be a hang tag affixed to each manufacturer-supplied eye termination or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the manufacturer-supplied eye termination.

5.1.8.3

All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

5.1.8.4

All worded portions of the required product label shall be at least in English.

5.1.8.5

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.8.6

The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm ($^{3}/_{32}$ in.) high.

5.1.8.7

Each manufacturer-supplied eye termination shall have the following compliance statement on the product label:

"THIS MANUFACTURER-SUPPLIED EYE TERMINATION MEETS THE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION MBS: _____kN"

5.1.8.8

In addition to the compliance statement specified in 5.1.13.7 , at least the following information shall be provided on the product label:

"THIS (ROPE OR ESCAPE WEBBING) IS CERTIFIED AS CLASS: _____ (ROPE OR WEBBING) WITH MBS OF ___kN

DIAMETER: _____mm

Type of Fibers: _____, Thread Fiber: _____"

~~5.1.8.9~~

~~In addition to the compliance and information statements in 5.1.13.7 and 5.1.13.8 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.~~

- ~~Manufacturer's name, identification, or designation~~
- ~~Manufacturer's address~~
- ~~Country of manufacturer~~
- ~~Manufacturer's product identification~~
- ~~Model, style, lot, or serial number~~

~~5.1.8.10~~

~~Where the manufacturer of the rope and the manufacturer of the manufacturer supplied eye termination are the same, the labeling for both the rope and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the rope and of the manufacturer-supplied eye termination as given in 5.1.13.1 through 5.1.13.9 is included on the label.~~

5.1.8.11

Where the manufacturer of the manufactured system and the manufacturer of the manufacturer-supplied eye termination are the same, the labeling for both the system and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the manufactured system and of the manufacturer-supplied eye termination as given in 5.1.13.1 through 5.1.13.9 is included on the label. Where the manufacturer of the escape webbing and the manufacturer of the manufacturer-supplied eye termination are the same, the labeling for both the escape webbing and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the escape webbing and of the manufacturer-supplied eye termination as given in 5.1.13 through 5.1.13.9 is included on label.

5.1.8.12

Where the manufacturer of the escape webbing and the manufacturer of the manufacturer-supplied eye termination are the same, the labeling for both the escape webbing and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the escape webbing and of the manufacturer-supplied eye termination as given in 5.1.12.1 through 5.1.12.8 is included on label.

5.1.9 Moderate Elongation Laid Life Saving Rope.

5.1.9.1

Each moderate elongation laid life saving rope shall have a product label.

5.1.9.2

The moderate elongation laid life saving rope product label shall be permitted to be a hang tag affixed to each rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the moderate elongation laid life saving rope.

5.1.9.3

All letters shall be at least 2 mm ($^{5}/_{64}$ in.) high.

5.1.9.4

All worded portions of the required product label shall be at least in English.

5.1.9.5

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.9.6

The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm ($^{3}/_{32}$ in.) high.

5.1.9.7

Each moderate elongation laid life saving rope shall have the following compliance statement on the product label:

"THIS ROPE MEETS THE MODERATE ELONGATION LAID LIFE SAVING ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2012 EDITION."

5.1.9.8

In addition to the compliance statement specified in 5.1.14.7 , at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: ___kN

DIAMETER: ____mm

Type of Fiber(s) :_____:"

5.1.9.9

The minimum breaking strength value of the moderate elongation laid life saving rope, which is required in 5.1.14.8 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.14.1 , but shall not be greater than the calculated minimum breaking strength.

5.1.9.10

The diameter of the moderate elongation laid life saving rope, which is required in 5.1.14.8 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.14.2 .

~~**5.1.9.11**~~

~~In addition to the compliance statement specified in 5.1.14.7 , each moderate elongation laid life saving rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.):~~

~~**"MEETS REQUIREMENTS FOR MODERATE ELONGATION LAID LIFE SAVING ROPE OF NFPA 1983"**~~

~~**[Certification organization's label, symbol, or identifying mark]**~~

~~**[Name of manufacturer]**~~

~~**[Year and quarter of manufacture (not coded)]**~~

~~**5.1.9.12**~~

~~In addition to the compliance and information statements specified in 5.1.14.7 , 5.1.14.8 , and 5.1.14.11 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.~~

~~Manufacturer's name, identification, or designation~~

~~Manufacturer's address~~

~~Country of manufacture~~

~~Manufacturer's product identification~~

~~Model, style, lot, or serial number~~

~~Elongation at 1.35 kN (300 lbf)~~

~~Elongation at 2.7 kN (600 lbf)~~

~~Elongation at 4.4 kN (1000 lbf)~~

5.2 Escape Rope.

5.2.1 Escape Rope Label Requirements.

5.2.1.1*

Each escape rope item shall have a product label.

5.2.1.2*

Where escape rope is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the escape rope shall be required to have at least the continuous identification tape specified in 5.2.1.12 ~~5.2.1.12~~ ~~5.2.1.12~~5.1.2.12 .

5.2.1.3

The escape rope product label shall be permitted to be a hang tag affixed to each escape rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the escape rope.

5.2.1.4

All letters shall be at least 1.6 mm (1⁄16 in.) high.

5.2.1.5

All worded portions of the required product label shall at least be in English.

5.2.1.6

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.2.1.7

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.2.1.8

Each escape rope shall have the following compliance statement on the product label.

"~~THIS ROPE~~ MEETS THE ESCAPE ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* ~~2012~~ 2017 EDITION."

5.2.1.9*

In addition to the compliance statement specified in 5.2.1.8 ~~5.2.1.8~~ ~~5.2.1.85.1.2.8~~ , at least the following information shall be provided on the product label.

"MINIMUM BREAKING STRENGTH: _____ kN DIAMETER: _____ mm

Type of fiber(s) _____"

5.2.1.10

The ~~minimum breaking strength~~ MBS value of the escape rope, which is required in 5.2.1.9 ~~5.2.1.9~~ ~~5.2.1.95.1.2.9~~ to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.2.1, but shall not be greater than the calculated ~~minimum breaking strength~~ MBS .

5.2.1.11

The diameter of the escape rope, which is required in 5.2.1.9 ~~5.2.1.9~~ ~~5.2.1.95.1.2.9~~ to be stated on the product label, shall be as determined by the certification organization in accordance with 7.2.2.

5.2.1.12*

In addition to the compliance statement specified in 5.2.1.8 ~~5.2.1.8~~ ~~5.2.1.85.2.1.8~~ ~~5.2.1.8~~ ~~5.2.1.85.1.2.8~~ , each escape rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be ~~legibly~~ printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR ESCAPE ROPE OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer] [Year and quarter of manufacture (not coded)]

5.2.1.13

In addition to the compliance and information statements in 5.2.1.9 ~~5.2.1.9~~ ~~5.2.1.95.1.2.9~~ ~~,~~ and 5.2.1.10 ~~5.2.1.10~~ ~~5.2.1.105.1.2.10~~ ~~, and~~ ~~5.2.1.125.1.2.12~~ at least the following information shall also be printed ~~legibly~~ on the product label(s)~~. All~~ where all letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

(6) Elongation at 1.35 kN (300 lb)

(7) Elongation at 2.7 kN (600 lb)

(8) Elongation at 4.4 kN (1000 lb)

5.2.2 Escape Rope User Requirements.

5.2.2.1

The manufacturer of escape rope, escape webbing, fire escape rope, and fire escape webbing that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.2.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Using the rope only with a life safety harness or escape belt

(2) Inspecting the rope periodically according to the manufacturers' inspection procedure

(3) Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope

(4) Protecting the rope from abrasion

(5) Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature

(6) Keeping the product label and user instructions/information after they are removed/separated from the rope for future reference

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.2.2.3

The manufacturer shall provide information for the user that additional information regarding escape rope, escape webbing, fire escape rope, and fire escape webbing can be found in NFPA 1500~~,~~ ~~*Standard on Fire Department Occupational Safety and Health Program* ,~~ and NFPA 1983~~,~~ ~~*Standard on Life Safety Rope and Equipment for Emergency Services*~~ .

5.2.2.4

The manufacturer of escape rope, escape webbing, fire escape rope, and fire escape webbing that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of escape rope, escape webbing, fire escape rope, and fire escape webbing and a list of items that the records need to contain.

5.3 Escape Webbing.

5.3.1 Escape Webbing Label Requirements.

5.3.1.1

Escape webbing shall meet the labeling requirements in 5.2.1 ~~5.2.1~~ ~~5.2.1~~ , excluding 5.2.1.8 ~~5.2.1.8~~ ~~5.2.1.8~~ , 5.2.1.9 ~~5.2.1.9~~ ~~5.1.2.9~~ , 5.2.1.10 ~~5.2.1.10~~ ~~5.1.2.10~~ , 5.2.1.11 ~~5.2.1.11~~ ~~5.1.2.11~~ , and 5.2.1.12 ~~5.2.1.12~~ ~~5.1.2.12~~ .

5.3.1.2

Each escape webbing shall have the following compliance statement on the product label:

"~~THIS WEBBING~~ MEETS THE ESCAPE WEBBING REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,*~~2012~~ 2017 EDITION."

5.3.1.3*

In addition to the compliance statement specified in 5.3.1.2 ~~5.1.9.3~~ , at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN PERIMETER: _____ mm

Type of fiber(s) _____"

5.3.1.4

The perimeter of the escape webbing, which is required in 5.3.1.3 ~~5.3.1.3~~ ~~5.1.9.3~~ to be stated on the product label, shall be as determined by the certification organization in accordance with 7.3.2.

5.3.1.5

In addition to the compliance statement specified in 5.3.1.3 ~~5.3.1.3~~ ~~5.1.9.3~~ , each escape webbing shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be ~~legibly~~ printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR ESCAPE WEBBING OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer] [Year and quarter of manufacture (not coded)]

5.3.1.6

The MBS value of the escape webbing, which is required in 5.3.1.3 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.3.1 , but shall not be greater than the calculated MBS.

5.3.2 Escape Webbing User Information.

5.3.2.1

The manufacturer of escape webbing, that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.3.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Using the webbing only with a life safety harness or escape belt

(2) Inspecting the webbing periodically according to the manufacturers' inspection procedure

(3) Removing the webbing from service and destroying it if the webbing does not pass inspection or if there is any doubt about the safety or serviceability of the webbing

(4) Protecting the webbing from abrasion

(5) Not exposing the webbing to flame or high temperature and carrying the webbing where it will be protected as the webbing could melt or burn and fail if exposed to flame or high temperature

(6) Keeping the product label and user instructions/information after they are removed/separated from the webbing for future reference

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.3.2.3

The manufacturer shall provide information for the user that additional information regarding escape webbing can be found in NFPA 1500 and NFPA 1983

5.3.2.4

The manufacturer of escape webbing that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of escape webbing and a list of items that the records need to contain.

5.4 Fire Escape Rope.

5.4.1 Fire Escape Rope Label Requirements.

5.4.1.1*

Each fire escape rope item shall have a product label.

5.4.1.2*

Where fire escape rope is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the fire escape rope shall be required to have at least the continuous identification tape specified in 5.4.1.12 ~~5.4.1.12~~ ~~5.1.2.12~~ .

5.4.1.3

The fire escape rope product label shall be permitted to be a hang tag affixed to each fire escape rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the fire escape rope.

5.4.1.4

All letters shall be at least 1.6 mm (1⁄16 in.) high.

5.4.1.5

All worded portions of the required product label shall be at least in English.

5.4.1.6

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.4.1.7

The certification organization’s label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.4.1.8

Each fire escape rope shall have the following compliance statement on the product label:

"~~THIS ROPE~~ MEETS THE FIRE ESCAPE ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* ~~2012~~ 2017 EDITION."

5.4.1.9*

In addition to the compliance statement specified in 5.4.1.8 ~~5.4.1.8~~ ~~5.1.12.8~~ , at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN DIAMETER: _____ mm

Type of fiber(s) _____"

5.4.1.10

The ~~minimum breaking strength~~ MBS value of the fire escape rope, which is required in 5.4.1.9 ~~5.4.1.9~~ ~~5.1.12.9~~ to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.2.1, but shall not be greater than the calculated ~~minimum breaking strength~~ MBS .

5.4.1.11

The diameter of the fire escape rope, which is required in 5.4.1.9 ~~5.4.1.9~~ ~~5.1.12.9~~ to be stated on the product label, shall be as determined by the certification organization in accordance with 7.2.2.

5.4.1.12*

In addition to the compliance statement specified in ~~5.1.12.9~~ 5.4.1.8 , each fire escape rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be ~~legibly~~ printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR FIRE ESCAPE ROPE OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer]

[Year and quarter of manufacture (not coded)]

5.4.1.13

In addition to the compliance and information statements in 5.4.1.8 ~~5.4.1.8~~ ~~5.1.12.8~~ ~~,~~ and 5.4.1.9 ~~5.4.1.9~~ ~~5.1.12.9~~ ~~, and~~ ~~5.4.1.125.1.12.12~~ , at least the following information shall also be printed ~~legibly~~ on the product label(s). ~~All~~ where all letters shall be at least 2 mm (5/64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

(6) Elongation at 1.35 kN (300 lb)

(7) Elongation at 2.7 kN (600 lb)

(8) Elongation at 4.4 kN (1000 lb)

5.4.2 Fire Escape Rope User Information.

5.4.2.1

The manufacturer of fire escape rope that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.4.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Using the rope only with a life safety harness or escape belt

(2) Inspecting the rope periodically according to the manufacturers' inspection procedure

(3) Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope

(4) Protecting the rope from abrasion

(5) Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature

(6) Keeping the product label and user instructions/information after they are removed/separated from the rope for future reference

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.4.2.3

The manufacturer shall provide information for the user that additional information regarding fire escape rope can be found in NFPA 1500 and NFPA 1983.

5.4.2.4

The manufacturer of fire escape rope that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of fire escape rope and a list of items that the records need to contain.

5.5 Fire Escape Webbing.

5.5.1 Fire Escape Webbing Label Requirements.

5.5.1.1

Fire escape webbing shall meet the labeling requirements in ~~5.1.2~~ 5.2.1 , escape rope, excluding 5.2.1.8 ~~5.2.1.8~~ ~~5.1.2.8~~ , 5.2.1.9 ~~5.2.1.9~~ ~~5.1.2.9~~ , 5.2.1.10 ~~5.2.1.10~~ ~~5.1.2.10~~ , 5.2.1.11 ~~5.2.1.11~~ ~~5.1.2.11~~ , and 5.2.1.12 ~~5.2.1.12~~ ~~5.1.2.12~~ .

5.5.1.2

Each fire escape webbing shall have the following compliance statement on the product label:

"~~THIS WEBBING~~ MEETS THE FIRE ESCAPE WEBBING REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,*~~2012~~ 2017 EDITION."

5.5.1.3*

In addition to the compliance statement specified in 5.5.1.2 ~~5.5.1.2~~ ~~5.1.10.2~~ , at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN PERIMETER: _____ mm

Type of fiber(s) _____"

5.5.1.4

The perimeter of the fire escape webbing, which is required in 5.5.1.3 ~~5.5.1.3~~ ~~5.1.10.3~~ to be stated on the product label, shall be as determined by the certification organization in accordance with ~~7.10.2~~ 7.5.2 .

5.5.1.5

In addition to the compliance statement specified in 5.5.1.2 ~~5.5.1.2~~ ~~5.1.10.2~~ , each fire escape webbing shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.).

"MEETS REQUIREMENTS FOR FIRE ESCAPE WEBBING OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer]

[Year and quarter of manufacture (not coded)]

5.5.1.6

The MBS value of the escape webbing, which is required in 5.5.1.3 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.5.1 , but shall not be greater than the calculated MBS.

5.5.2 Fire Escape Webbing User Information.

5.5.2.1

The manufacturer of fire escape webbing that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.5.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Using the webbing only with a life safety harness or escape belt

(2) Inspecting the webbing periodically according to the manufacturers' inspection procedure

(3) Removing the webbing from service and destroying it if the webbing does not pass inspection or if there is any doubt about the safety or serviceability of the webbing

(4) Protecting the webbing from abrasion

(5) Not exposing the webbing to flame or high temperature and carrying the webbing where it will be protected as the webbing could melt or burn and fail if exposed to flame or high temperature

(6) Keeping the product label and user instructions/information after they are removed/separated from the webbing for future reference

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.5.2.3

The manufacturer shall provide information for the user that additional information regarding fire escape webbing can be found in NFPA 1500 and NFPA 1983.

5.5.2.4

The manufacturer of fire escape webbing that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of fire escape webbing and a list of items that the records need to contain.

5.6 Throwlines.

5.6.1 Throwline Label Requirements.

5.6.1.1*

Each throwline item shall have a product label.

5.6.1.2

Where a throwline is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the throwline shall be required to have at least the continuous identification tape specified in 5.6.1.12 ~~5.6.1.12~~ ~~5.1.6.12~~ .

5.6.1.3

The throwline product label shall be permitted to be a hang tag affixed to each individual throwline or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the throwline.

5.6.1.4

All letters shall be at least 2 mm (5⁄64 in.) high.

5.6.1.5

All worded portions of the required product label shall at least be in English.

5.6.1.6

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.6.1.7

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.6.1.8* Each throwline shall have the following compliance statement on the product label:

"~~THIS~~ ROPE MEETS THE THROWLINE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,~~2012~~ 2017* EDITION."

5.6.1.9 In addition to the compliance statement specified in 5.6.1.8 ~~5.6.1.8~~ ~~5.1.6.8~~ , at least the following information shall be provided on the product label.

"MINIMUM BREAKING STRENGTH: _____ kN DIAMETER: _____ mm

Type of fiber(s) _____"

5.6.1.10 The ~~minimum breaking strength~~ MBS value of the throwline, which is required in 5.6.1.9 ~~5.6.1.9~~ ~~5.1.6.9~~ to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.3.1 ~~7.3.1~~ ~~7.6.1~~ , but shall not be greater than the calculated ~~minimum breaking strength~~ MBS .

5.6.1.11 The diameter of the throwline, which is required in 5.6.1.8 ~~5.6.1.8~~ ~~5.1.6.8~~ to be stated on the product label, shall be as determined by the certification organization in accordance with 7.3.2 ~~7.3.2~~ ~~7.6.2~~ .

5.6.1.12 In addition to the compliance statement specified in 5.6.1.8 ~~5.6.1.8~~ ~~5.1.6.8~~ , each throwline shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be ~~legibly~~ printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR THROWLINE OF NFPA 1983."

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer] [Year and quarter of manufacture (not coded)]

5.6.1.13 In addition to the compliance and information statements in 5.6.1.8 ~~5.6.1.8~~ ~~5.1.6.8~~ and 5.6.1.9 ~~5.6.1.9~~ ~~5.1.6.9~~ , at least the following information shall also be printed ~~legibly~~ on the product label(s)~~. All~~ where all letters shall be at least 2 mm (5⁄64 in.) high:~~.~~

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.6.2 Water Rescue Throwline User Information.

The manufacturer of a throwline that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.7 Moderate Elongation Laid Life-Saving Rope.

5.7.1 Moderate Elongation Laid Life-Saving Rope Label Requirements.

5.7.1.1 Each moderate elongation laid life-saving rope shall have a product label.

5.7.1.2 The moderate elongation laid life-saving rope product label shall be permitted to be a hang tag affixed to each rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the moderate elongation laid life-saving rope.

5.7.1.3 All letters shall be at least 2 mm (5⁄64 in.) high.

5.7.1.4 All worded portions of the required product label shall be at least in English.

5.7.1.5 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.7.1.6

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.7.1.7

Each moderate elongation laid life- saving rope shall have the following compliance statement on the product label:

"~~THIS ROPE~~ MEETS THE MODERATE ELONGATION LAID LIFE- SAVING ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,*~~2012~~ 2017 EDITION."

5.7.1.8

In addition to the compliance statement specified in 5.7.1.7 ~~5.7.1.7~~ ~~5.1.14.7~~ , at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: ___kN

DIAMETER: ____mm

Type of Fiber(s):_____. ~~:~~ "

5.7.1.9

The ~~minimum breaking strength~~ MBS value of the moderate elongation laid life-saving rope, which is required in 5.7.1.8 ~~5.7.1.8~~ ~~5.1.14.8~~ to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.7.1, but shall not be greater than the calculated ~~minimum breaking strength~~ MBS .

5.7.1.10

The diameter of the moderate elongation laid life-saving rope, which is required in 5.7.1.8 ~~5.7.1.8~~ ~~5.1.14.8~~ to be stated on the product label, shall be as determined by the certification organization in accordance with ~~7.14.2~~ 7.7.2 .

5.7.1.11

In addition to the compliance statement specified in 5.7.1.7 ~~5.7.1.7~~ ~~5.1.14.7~~ , each moderate elongation laid life-saving rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be ~~legibly~~ printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR MODERATE ELONGATION LAID LIFE-SAVING ROPE OF NFPA 1983."

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer]

[Year and quarter of manufacture (not coded)]

5.7.1.12

In addition to the compliance and information statements specified in 5.7.1.7 ~~5.7.1.7~~ ~~5.1.14.7~~ , 5.7.1.8 ~~5.7.1.8~~ ~~5.1.14.8~~ , and 5.7.1.11 ~~5.7.1.11~~ ~~5.1.14.11~~ , at least the following information shall also be printed ~~legibly~~ on the product label(s)~~. All~~ where all letters shall be at least 2 mm (5⁄64 in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

(6) Elongation at 1.35 kN (300 lbf)

(7) Elongation at 2.7 kN (600 lbf)

(8) Elongation at 4.4 kN (1000 lbf)

5.7.2 Moderate Elongation Laid Life-Saving Rope User Information.

5.7.2.1

The manufacturer of moderate elongation laid life-saving rope that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.7.2.2

The manufacturer shall provide information for the user to consider prior to reusing moderate elongation laid life-saving rope, including that the rope be considered for reuse only if all of the following conditions are met:

(1) Rope has not been visually damaged.

(2) Rope has not been exposed to heat, direct flame impingement, or abrasion.

(3) Rope has not been subjected to any impact load.

(4) Rope has not been exposed to liquids, solids, gases, mists, or vapors of any chemical or other material that can deteriorate rope.

(5) Rope passes inspection when inspected by a qualified person following the manufacturer's inspection procedures both before and after each use.

5.7.2.3

The manufacturer shall provide information for the user regarding not using the moderate elongation laid life- saving rope and removing the rope from service if the rope does not meet all of the conditions in 5.7.2.2 ~~5.7.2.2~~ ~~5.2.10.2~~ , if the rope does not pass inspection, or if there is any doubt about the safety or serviceability of the rope.

5.7.2.4

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the rope periodically according to the manufacturer's inspection procedure

(2) Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope

(3) Protecting the rope from abrasion

(4) Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature

(5) Keeping the product label and user instructions/information after they are removed/separated from the rope and retaining them in the permanent rope record; copying the product label and user instructions/information and keeping the copies with the rope

(6) Referring to the user instructions/information before and after each use

(7) Cautioning that if the instructions/information are not followed, the user could suffer serious consequences

5.7.2.5

The manufacturer shall provide information for the user that additional information regarding victim extrication devices can be found in NFPA 1500~~, *Standard on Fire Department Occupational Safety and Health Program*~~ , and NFPA 1983~~, *Standard on Life Safety Rope and Equipment for Emergency Services*~~ .

5.7.2.6

The manufacturer of moderate elongation laid life-saving rope that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of moderate elongation laid life-saving rope and a list of items that the records need to contain.

5.8 Manufacturer-Supplied Eye Termination.

5.8.1 Manufacturer-Supplied Eye Termination Label Requirements.

5.8.1.1

Each manufacturer-supplied eye termination shall have a product label.

5.8.1.2

The manufacturer-supplied eye termination product label shall be permitted to be a hang tag affixed to each manufacturer-supplied eye termination or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the manufacturer-supplied eye termination.

5.8.1.3

All letters shall be at least 2 mm (5⁄64 in.) high.

5.8.1.4

All worded portions of the required product label shall be at least in English.

5.8.1.5

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.8.1.6

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.8.1.7

Each manufacturer-supplied eye termination shall have the following compliance statement on the product label:

"~~THIS MANUFACTURER-SUPPLIED EYE TERMINATION~~ MEETS THE MANUFACTURER-SUPPLIED EYE TERMINATION REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* ~~2012~~ 2017 EDITION MBS: _____kN"

5.8.1.8

In addition to the compliance statement specified in 5.8.1.7 ~~5.8.1.7~~ ~~5.1.13.7~~ , at least the following information shall be provided on the product label:

"THIS (ROPE OR ESCAPE WEBBING) IS CERTIFIED AS CLASS: _____ (ROPE OR WEBBING) WITH MBS OF ___kN

DIAMETER: _____mm

Type of Fibers: _____, Thread Fiber: _____"

5.8.1.9

In addition to the compliance and information statements in 5.8.1.7 ~~5.8.1.7~~ ~~5.1.13.7~~ and 5.8.1.8 ~~5.8.1.8~~ ~~5.1.13.8~~ , at least the following information shall also be printed ~~legibly~~ on the product label(s). ~~All~~ where all letters shall be at least 2 mm (5⁄64 in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacturer

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.8.1.10

Where the manufacturer of the life safety, escape, or fire escape rope, and the manufacturer of the manufacturer -supplied eye termination are the same, the labeling for both the rope and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the rope and of the manufacturer-supplied eye termination as given in 5.8.1.1 through 5.8.1.9 is included on the label.

5.8.1.11

Where the manufacturer of the manufactured system and the manufacturer of the manufacturer-supplied eye termination are the same, the labeling for both the system and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the manufactured system and of the manufacturer-supplied eye termination as given in 5.8.1.1 ~~5.8.1.1~~ ~~5.1.13.1~~ through 5.8.1.9 ~~5.8.1.9~~ ~~5.1.13.9~~ is included on the label.

5.8.1.12

Where the manufacturer of the escape webbing and the manufacturer of the manufacturer-supplied eye termination are the same, the labeling for both the escape webbing and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the escape webbing and of the manufacturer-supplied eye termination as given in 5.8.1.1 ~~5.8.1.1~~ ~~5.1.12.1~~ through 5.8.1.9 ~~5.8.1.9~~ ~~5.1.12.8~~ is included on label.

5.8.2 Manufacturer-Supplied Eye Termination User Information.

5.8.2.1

The manufacturer of the manufacturer-supplied eye termination that is certified as being compliant with ~~the~~ this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.8.2.2

The manufacturer shall provide information for the user to consider prior to reusing manufacturer-supplied eye termination, including that the rope be considered for reuse only if all of the following conditions are met:

(1) Manufacturer-supplied eye termination has not been visually damaged.

(2) Manufacturer-supplied eye termination has not been exposed to heat, direct flame impingement, or abrasion.

(3) Manufacturer-supplied eye termination has not been subjected to any impact load.

(4) Manufacturer-supplied eye termination has not been exposed to liquids, solids, gases, mists, or vapors of any chemical or other material that can deteriorate the manufacturer-supplied eye termination.

(5) Manufacturer-supplied eye termination passes inspection when inspected by a qualified person following the manufacturer's inspection procedures both before and after each use.

5.8.2.3

The manufacturer shall provide information for the user regarding not using the manufacturer-supplied eye termination and removing the manufacturer-supplied eye termination from service if the rope does not meet all of the conditions in 5.8.2.2 ~~5.8.2.2~~ ~~5.2.9.2~~ , if the manufacturer-supplied eye termination does not pass inspection, or if there is any doubt about the safety or serviceability of the manufacturer-supplied eye termination.

5.8.2.4

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the manufacturer-supplied eye termination periodically according to the manufacturer's inspection procedure

(2) Removing the manufacturer-supplied eye termination from service and destroying it if the manufacturer-supplied eye termination does not pass inspection or if there is any doubt about the safety of the manufacturer-supplied eye termination

(3) Protecting the manufacturer-supplied eye termination from abrasion

(4) Not exposing the manufacturer-supplied eye termination to flame or high temperature and carrying the manufacturer-supplied eye termination where it will be protected as the manufacturer-supplied eye termination could melt or burn and fail if exposed to flame or high temperature

(5) Keeping the product label and user instructions/information after they are removed/separated from the manufacturer-supplied eye termination and retaining them in the permanent manufacturer-supplied eye termination record; copying the product label and user information/instructions and keeping copies with the manufacturer-supplied eye termination

(6) Referring to the user instructions/information before and after each use

(7) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.8.2.5

The manufacturer of manufacturer-supplied eye termination that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of manufacturer-supplied eye termination and a list of items that the records need to contain.

5.8.2.5.1

The suggested inspection records shall include inspection of the loop of the eye, inspection for worn or broken thread in sewn termination, and inspection of contact point of swage and rope in swage termination.

5.8.2.6

Where the manufacturer of the rope and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the rope and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the rope and required user information/instructions of manufacturer-supplied eye termination as given in 5.8.2.1 ~~5.8.2.1~~ ~~5.2.9.1~~ through ~~5.2.9.5~~ 5.8.2.5.1 are included in the user information/instructions.

5.8.2.7

Where the manufacturer of the escape webbing and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the escape webbing and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the escape webbing and required user information/instructions of manufacturer-supplied eye termination as given in 5.8.2.1 ~~5.8.2.1~~ ~~5.2.9.1~~ through ~~5.2.9.5~~ 5.8.2.5.1 are included in the user information/instructions.

5.8.2.8

Where the manufacturer of the throwline and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the throwline and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the throwline and required user information/instructions of manufacturer-supplied eye termination as given in 5.8.2.1 through 5.8.2.5.1 are included in the user information/instructions.

5.8.2.9

Where the manufacturer of the manufactured system and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the manufactured system and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the manufactured system and required user information/instructions of the manufacturer-supplied eye termination as given in 5.8.2.1 ~~5.8.2.1~~ ~~5.2.9.1~~ through ~~5.2.9.5~~ 5.8.2.5.1 are included in the user information/instructions.

5.8.2.10

The manufacturer shall provide information for the user that additional information regarding manufacturer-supplied eye termination can be found in NFPA 1500 and NFPA 1983.

5.9 Life Safety Harness.

5.9.1 Life Safety Harness Label Requirements.

5.9.1.1

Each life safety harness item shall have a product label.

5.9.1.2

Harnesses used in manufactured systems shall be required to be individually labeled.

5.9.1.3

Harness product labels shall be embossed, printed, sewn, stapled, riveted, or otherwise permanently attached to the harness.

5.9.1.4

Harness product labels shall be ~~conspicuously~~ located on each harness when the harness is properly assembled with all components in place.

5.9.1.5

All letters shall be at least 2 mm (5⁄64 in.) high

5.9.1.6

~~Multiple~~ Multi- label pieces shall be permitted ~~in order~~ to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.9.1.7

All worded portions of the required product label shall at least be in English.

5.9.1.8

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.9.1.9

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.9.1.10

Where the life safety harness is certified as compliant with only the nonoptional requirements of the standard and is not certified with the optional flame resistance requirements, the following statement shall be printed legibly on the product label:

"~~THIS LIFE SAFETY HARNESS~~ MEETS THE LIFE SAFETY HARNESS REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,~~2012~~ 2017 EDITION, CLASS _____. THIS HARNESS IS NOT FLAME-RESISTANT! DO NOT REMOVE THIS LABEL!"

5.9.1.11

Where the life safety harness is certified as compliant with nonoptional requirements of this standard and also certified as compliant with the optional flame resistance requirements specified in 6.9.2, the following statement shall be printed ~~legibly~~ on the product label:

"~~THIS LIFE SAFETY HARNESS~~ MEETS THE LIFE SAFETY HARNESS REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* ~~2012~~ 2017 EDITION, AND THE OPTIONAL FLAME RESISTANCE REQUIREMENTS OF NFPA 1983, CLASS _____. DO NOT REMOVE THIS LABEL!"

5.9.1.12*

In addition to the compliance statement specified in 5.9.1.10 ~~5.9.1.10~~ ~~5.1.3.10~~ or 5.9.1.11 ~~5.9.1.11~~ ~~5.1.3.11~~ , at least the following information shall be provided on the product label:

(1) For Class II harness: **"Fits waist size _____"**

(2) For one-piece Class III harness: **"Fits waist size _____, Fits height _____"** or **"Fits chest size _____, Fits height _____"**

(3) For multiple-piece Class III harness: **"Fits waist size _____, Fits height _____"** or **"Fits chest size _____, Fits height _____"**

This is one part of a ~~multiple~~ multi -piece harness and must be used in conjunction with component part number ___ ~~in order~~ to fully meet the criteria of Class ___ harness."

5.9.1.13

The class designation of the life safety harness required to be stated on the product label(s) shall be as determined by the certification organization in accordance with 6.9.1 ~~6.9.16.9.16.3~~ ~~6.3.1~~ .

5.9.1.14

In addition to the compliance and information statements in 5.9.1.10 ~~5.9.1.10~~ ~~5.1.3.10~~ , 5.9.1.12 ~~5.9.1.12~~ ~~5.1.3.12~~ , and 5.9.1.15 ~~5.9.1.15~~ ~~5.1.3.15~~ , at least the following information shall also be printed ~~legibly~~ on the product label(s)~~. All~~ where all letters shall be at least 2 mm (5⁄64 in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.9.1.15

Where detachable components must be used with a life safety harness ~~in order~~ for the life safety harness to be compliant with this standard, at least the following statement and information shall also be printed ~~legibly~~ on the product label of the life safety harness. All letters shall be at least 2.5 mm (3⁄32 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS LIFE SAFETY HARNESS:"

[The detachable component(s) shall be listed here.]

5.9.2 Life Safety Harness User Information.

5.9.2.1

The manufacturer of life safety harnesses that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.9.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the harness periodically according to the manufacturer's inspection procedure.

(2) Removing the harness from service and destroying it if the harness does not pass inspection or if there is any doubt about the safety or serviceability of the harness.

(3) For a life safety harness certified to only the nonoptional requirements of the standard, not exposing the harness to flame or high temperature and carrying the harness where it will be protected, as the harness could melt or burn and fail if exposed to flame or high temperature.

(4) Repairing the harness only in accordance with the manufacturer's instructions.

(5) Keeping the user instructions/information after they are separated from the harness and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the harness.

(6) Referring to the user instructions/information before and after each use.

(7) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.9.2.3

The manufacturer shall provide information for the user that additional information regarding life safety harnesses can be found in NFPA 1500, ~~*Standard on Fire Department Occupational Safety and Health Program* ,~~ and NFPA 1983, ~~*Standard on Life Safety Rope and Equipment for Emergency Services* .~~

5.9.2.4

The manufacturer of life safety harnesses that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of life safety harnesses and a list of items that the records need to contain.

5.9.2.5

The manufacturer of life safety harnesses that are certified as being compliant with this standard shall indicate that tie-off is required for webbing ends if tie-off of webbing end(s) was required during testing. The instructions shall include location(s) and method(s) with text and/or illustrations.

5.10 Belts.

5.10.1 Belt Label Requirements.

5.10.1.1

Each belt item shall have a product label.

5.10.1.2

Belts used in manufactured systems shall be required to be individually labeled.

5.10.1.3

Belt product labels shall be embossed, printed, sewn, stapled, riveted, or otherwise permanently attached to the belt.

5.10.1.4

Belt product labels shall be ~~conspicuously~~ located on each belt when the belt is properly assembled with all components in place.

5.10.1.5

All letters shall be at least 2 mm (5⁄64 in.) high.

5.10.1.6

~~Multiple~~ Multi- label pieces shall be permitted ~~in order~~ to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.10.1.7

All worded portions of the required product label shall at least be in English.

5.10.1.8

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.10.1.9

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.10.1.10

Where the belt is certified as compliant with only the nonoptional requirements of the standard and is not certified with the optional flame resistance requirements, the following statement shall be printed ~~legibly~~ on the product label:

"~~THIS BELT~~ MEETS THE BELT REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* ~~2012~~ 2017 EDITION, TYPE _____. THIS BELT IS NOT FLAME-RESISTANT! DO NOT REMOVE THIS LABEL!"

5.10.1.11

Where the belt is certified as compliant with nonoptional requirements of this standard and also certified as compliant with the optional flame resistance requirements specified in 6.10.2 ~~6.10.2~~ ~~6.10.1.9~~ , the following statement shall be printed ~~legibly~~ on the product label:

"~~THIS BELT~~ MEETS THE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* ~~2012~~ 2017 EDITION, AND THE OPTIONAL FLAME RESISTANCE REQUIREMENTS OF NFPA 1983, TYPE _____. DO NOT REMOVE THIS LABEL!"

5.10.1.12

In addition to the compliance statement specified in 5.10.1.10 ~~5.10.1.10~~ ~~5.1.4.10~~ or 5.10.1.11 ~~5.10.1.11~~ ~~5.1.4.11~~ , at least the following information shall be provided on the product label:

"Fits waist size _____"

5.10.1.13

The type designation of belt required to be stated on the product label shall be as determined by the certification organization in accordance with 6.10.1 ~~6.10.1~~ ~~6.10.16.10.16.10.1.1~~ .

5.10.1.14

In addition to the compliance and information statements in 5.10.1.10 ~~5.10.1.10~~ ~~5.1.4.10~~ or 5.10.1.11 , 5.10.1.12 ~~5.10.1.12~~ ~~5.1.4.12~~ , and 5.10.1.15 ~~5.10.1.15~~ ~~5.1.4.15~~ , at least the following information shall also be printed legibly on the product label(s)~~. All~~ where all letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.10.1.15

Where detachable components must be used with the belt ~~in order~~ for the belt to be compliant with this standard, at least the following statement and information shall also be printed ~~legibly~~ on the product label of the belt. All letters shall be at least 2.5 mm (3⁄32 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used~~.~~ :

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS BELT:"[The detachable component(s) shall be listed here.]

5.10.2 Belt User Information.

5.10.2.1

The manufacturer of belts that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.10.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the belt periodically according to the manufacturer's inspection procedure~~.~~

(2) Removing the belt from service and destroying it if the belt does not pass inspection or if there is any doubt about the safety or serviceability of the belt~~.~~

(3) For belts certified to only the nonoptional requirements of the standard, not exposing the belt to flame or high temperature and carrying the belt where it will be protected, as the belt could melt or burn and fail if exposed to flame or high temperature~~.~~

(4) Repairing the belt only in accordance with the manufacturer's instructions~~.~~

(5) Keeping the user instructions/information after they are separated from the belt and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the belt

(6) Referring to the user instructions/information before and after each use~~.~~

(7) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences~~.~~

5.10.2.3

The manufacturer shall provide information for the user that additional information regarding belts can be found in NFPA 1500~~,~~ ~~*Standard on Fire Department Occupational Safety and Health Program*~~ ~~,~~ and NFPA 1983~~,~~ ~~*Standard on Life Safety Rope and Equipment for Emergency Services*~~ .

5.10.2.4

The manufacturer of belts that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of belts and a list of items that the records need to contain.

5.10.2.5

The manufacturer of belts that are certified as being compliant with this standard shall indicate that tie-off of webbing end(s) is required for webbing end(s) if tie-off of webbing end(s) was required during testing. The instructions shall include location(s) and method(s) with text and/or illustrations.

5.11 Victim Extrication Device.

5.11.1 Victim Extrication Device Label Requirements.

5.11.1.1

Each victim extrication device shall have a product label.

5.11.1.2

Each victim extrication device shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information.

5.11.1.2.1

Each victim extrication device shall display the mark or logo of the certification organization ~~,~~ and the manufacturer's name or identifying mark.

5.11.1.3

All letters shall be at least 2 mm (5⁄64 in.) high.

5.11.1.4

~~Multiple~~ Multi- label pieces shall be permitted ~~in order~~ to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.11.1.5

All worded portions of the required product label shall be at least in English.

5.11.1.6

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.11.1.7

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.11.1.8

Each victim extrication device shall have the following compliance statement on the product label:

"MEETS THE VICTIM EXTRICATION DEVICE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* ~~2012~~ 2017 EDITION, CLASS_____."

5.11.1.9

In addition to the compliance and information statements in 5.11.1.8 ~~5.11.1.8~~ ~~5.1.7.8~~ , at least the following information shall also be printed ~~legibly~~ on the product label(s). ~~All~~ where all letters shall be at least 2 mm (5/64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.11.1.10

Where detachable components must be used with a victim extrication device ~~in order~~ for the device to be compliant with this standard, at least the following statement and information shall also be printed ~~legibly~~ on the product label of the device. All labels shall be at least 2 mm (5/64 in.) high. The detachable components shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS VICTIM EXTRICATION DEVICE:"

[The detachable component(s) shall be listed here.]

5.11.2 Victim Extrication Device User Information.

5.11.2.1

The manufacturer of the victim extrication device that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.11.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the victim extrication device periodically according to the manufacturer's inspection procedure

(2) Removing the victim extrication device from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the victim extrication device in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the victim extrication device to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded

(5) Not exposing any software component of the victim extrication device to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

(6) Repairing the victim extrication device only in accordance with the manufacturer's instructions

(7) Keeping the user instructions/information after they are separated from the victim extrication device and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(8) Referring to the user instructions/information before and after each use

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.11.2.3

The manufacturer of a victim extrication device that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the victim extrication device and a list of items that the records need to contain.

5.12 End-to-End Straps.

5.12.1 End-to-End Strap Label Requirements.

5.12.1.1

Each end-to-end strap shall have a product label.

5.12.1.2

End-to-end strap labels shall be embossed, printed, sewn, stapled, riveted, or otherwise permanently attached to the strap.

5.12.1.3

End-to-end strap labels shall be located on each strap when the strap is properly assembled with all components in place.

5.12.1.4

All letters shall be at least 2 mm (5/64 in.) high.

5.12.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.12.1.6

All worded portions of the required product label shall at least be in English.

5.12.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.12.1.8

The certification organization's label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high.

5.12.1.9

End-to-end strap labels shall display a "G" for general use and "T" for technical use. The designation "G" or "T" shall be designated in accordance with 6.12.1 .

5.12.1.10

Each end-to-end strap shall have the following compliance statement on the product label:

"MEETS THE END-TO-END STRAP REQUIREMENTS OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION"

5.12.1.11

In addition to the compliance statement specified in 5.12.1.10 , the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH OF _____ kN WHEN PULLED END TO END."

5.12.1.12

In addition to the compliance and information statements in 5.12.1.9 , 5.12.1.10 , and 5.12.1.11 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm ($\frac{5}{64}$ in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.12.2 End-to-End Strap User Information.

5.12.2.1

The manufacturer of end-to-end straps that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.12.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the strap periodically according to the manufacturer's inspection procedure

(2) Removing the strap from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the strap

(3) Maintaining the strap in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the straps to the manufacturer or to a qualified inspection person/center if the strap is dropped or impact-loaded

(5) Not exposing the strap to flame or high temperature and carrying the strap where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

(6) Repairing the strap only in accordance with the manufacturer's instructions

(7) Keeping the user instructions/information after they are separated from the strap and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the strap

(8) Referring to the user instructions/information before and after each use

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.12.2.3

The manufacturer shall provide information for the user that additional information regarding end-to-end straps can be found in NFPA 1500 and NFPA 1983

5.12.2.4

The manufacturer of end-to-end straps that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the strap and a list of items that the records need to contain.

5.13 Multiple Configuration Straps.

5.13.1 Multiple Configuration Strap Label Requirements.

5.13.1.1

Each multiple configuration strap shall have a product label.

5.13.1.2

Multiple configuration strap labels shall be embossed, printed, sewn, stapled, riveted, or otherwise permanently attached to the strap.

5.13.1.3

Multiple configuration strap labels shall be located on each strap when the strap is properly assembled with all components in place.

5.13.1.4

All letters shall be at least 2 mm (5/64 in.) high.

5.13.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.13.1.6

All worded portions of the required product label shall at least be in English.

5.13.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.13.1.8

The certification organization’s label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2 mm ($^{5}\!/_{64}$ in.) high.

5.13.1.9

Multiple configuration labels shall display a “G” for general use and “T” for technical use. The designation “G” or “T” shall be designated in accordance with 6.13.1 .

5.13.1.10

Each multiple configuration strap shall have the following compliance statement on the product label:

“MEETS THE MULTIPLE CONFIGURATION STRAP REQUIREMENTS OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION”

5.13.1.11

In addition to the compliance statement specified in 5.13.1.10 , the following information shall be provided on the product label:

“MINIMUM BREAKING STRENGTH AND RATING ARE DETERMINED USING A BASKET (U) CONFIGURATION. IN ADDITION, THIS STRAP HAS A MINIMUM BREAKING STRENGTH OF: _____ kN IN A CHOKER CONFIGURATION _____ kN WHEN PULLED END TO END.”

5.13.1.12

In addition to the compliance and information statements in 5.13.1.9 , 5.13.1.10 , and 5.13.1.11 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm ($\frac{5}{64}$ in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.13.2 Multiple Configuration Strap User Information.

5.13.2.1

The manufacturer of multiple configuration straps that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.13.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the strap periodically according to the manufacturer's inspection procedure

(2) Removing the strap from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the strap

(3) Maintaining the strap in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the straps to the manufacturer or to a qualified inspection person/center if the strap is dropped or impact- loaded

(5) Not exposing the strap to flame or high temperature and carrying the strap where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

(6) Repairing the strap only in accordance with the manufacturer's instructions

(7) Keeping the user instructions/information after they are separated from the strap and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the strap

(8) Referring to the user instructions/information before and after each use

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.13.2.3

The manufacturer shall provide information for the user that additional information regarding multiple configuration straps can be found in NFPA 1500 and NFPA 1983.

5.13.2.4

The manufacturer of multiple configuration straps that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the strap and a list of items that the records need to contain.

5.14 Belay Devices.

5.14.1 Belay Device Label Requirements.

5.14.1.1

Each belay device shall have a product label.

5.14.1.2

Each belay device shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.14.1.2.1 through 5.14.1.2.4 .

5.14.1.2.1

Each belay shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.14.1.2.2

Each belay device shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.14.1.2.3

Each belay device shall display a "G" for general use or "T" for technical use. The designation "G" or "T" shall be designated in accordance with 6.14.1.2 .

5.14.1.2.4

Each belay device shall also display the range of rope diameters with which the device is intended to be used.

5.14.1.3

The product label for the portions of the product label information not specified in 5.14.1.2.1 through 5.14.1.2.4 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the auxiliary equipment item.

5.14.1.4

All letters shall be at least 2 mm (5⁄64 in.) high.

5.14.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.14.1.6

All worded portions of the required product label shall at least be in English.

5.14.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.14.1.8

The certification organization's label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.14.1.9

Each belay device shall have the following compliance statement on the product label:

"MEETS THE BELAY DEVICE REQUIREMENTS OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION."

5.14.1.10

In addition to the compliance statement specified in 5.14.1.9 , at least the information required in 5.14.1.2.3 and 5.14.1.2.4 shall also be provided on the printed product label.

5.14.1.11

In addition to the compliance and information statements in 5.14.1.9 and 5.14.1.10 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm (5⁄64 in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.14.2 Belay Device User Information.

5.14.2.1

The manufacturer of belay device that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.14.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the belay device periodically according to the manufacturer's inspection procedure

(2) Removing the belay device from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the belay device in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the belay device to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact- loaded

(5) Repairing the belay device only in accordance with the manufacturer's instructions

(6) Keeping the user instructions/information after they are separated from the belay device and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.14.2.3

The manufacturer shall provide information for the user that additional information regarding auxiliary equipment can be found in NFPA 1500 and NFPA 1983.

5.14.2.4

The manufacturer of a belay device that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the belay device and a list of items that the records need to contain.

5.14.2.5

Because belay is tested with a rope, the following statement shall be provided in the user instructions:

"THIS BELAY DEVICE HAS PASSED THE MANNER OF FUNCTION TEST USING THE FOLLOWING ROPE: [insert rope manufacturer name, designation, part number, and diameter here]."

5.14.2.6

Where the auxiliary equipment has been tested with multiple ropes, each rope shall be listed in the user instructions.

5.15 Carabiners and Snap Links.

5.15.1 Carabiners and Snap Link Label Requirements.

5.15.1.1

Each carabiner and snap link shall have a product label.

5.15.1.2

Each carabiner and snap link shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.15.1.2.1 through 5.15.1.2.4 .

5.15.1.2.1

Each carabiner and snap link shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.15.1.2.2

Each carabiner and snap link shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.15.1.2.3

Each carabiner and snap link shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The MBS value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated MBS.

5.15.1.2.4

Each carabiner and snap link shall display a "G" for general-use items or a "T" for technical-use items. The designation "G" or "T" shall be designated in accordance with 6.15.1.2 .

5.15.1.3

The product label for the portions of the product label information not specified in 5.15.1.2.1 through 5.15.1.2.4 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the auxiliary equipment item.

5.15.1.4

All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high.

5.15.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.15.1.6

All worded portions of the required product label shall at least be in English.

5.15.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.15.1.8

The certification organization's label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high.

5.15.1.9

Each carabiner and snap link shall have the following compliance statement on the product label:

"MEETS THE [insert CARABINER OR SNAP LINK here] REQUIREMENTS OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION."

5.15.1.10

In addition to the compliance statement specified in 5.15.1.9 , at least the information required in 5.15.1.2.3 and 5.15.1.2.4 shall also be provided on the printed product label.

5.15.1.11

In addition to the compliance and information statements in 5.15.1.9 and 5.15.1.10 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm (5⁄64 in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.15.2 Carabiner and Snap Link User Information.

5.15.2.1

The manufacturer of a carabiner and snap link that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.15.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the carabiner or snap link periodically according to the manufacturer's inspection procedure

(2) Removing the carabiner or snap link from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the carabiner or snap link in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the carabiner or snap link to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded

(5) Repairing the carabiner or snap-link only in accordance with the manufacturer's instructions

(6) Keeping the user instructions/information after they are separated from the carabiner or snap link and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.15.2.3

The manufacturer shall provide information for the user that additional information regarding carabiners and snap links can be found in NFPA 1500 and NFPA 1983.

5.15.2.4

The manufacturer of a carabiner or snap- link that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the carabiner or snap-link and a list of items that the records need to contain.

5.16 Descent Control Devices.

5.16.1 Descent Control Device Label Requirements.

5.16.1.1

Each descent control device shall have a product label.

5.16.1.2

Each descent control device shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.16.1.2.1 through 5.16.1.2.5 .

5.16.1.2.1

Each descent control device shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.16.1.2.2

Each descent control device shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.16.1.2.3

Each descent control device shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The MBS value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated MBS.

5.16.1.2.4

Each descent control device shall display a "G" for general-use items, a "T" for technical-use items, or an "E" for escape-use items. The designation "G," "T," or "E" shall be designated in accordance with 6.16.1.2 .

5.16.1.2.5

Each descent control device shall also display the range of rope diameters with which the device is intended to be used.

5.16.1.3

The product label for the portions of the product label information not specified in 5.16.1.2.1 through 5.16.1.2.5 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the auxiliary equipment item.

5.16.1.4

All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high.

5.16.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.16.1.6

All worded portions of the required product label shall at least be in English.

5.16.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.16.1.8

The certification organization's label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high.

5.16.1.9

Each descent control device shall have the following compliance statement on the product label:

"MEETS THE DESCENT CONTROL DEVICE OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION."

5.16.1.10

In addition to the compliance statement specified in 5.16.1.9 , at least the information required in 5.16.1.2.3 through 5.16.1.2.5 shall also be provided on the printed product label.

5.16.1.11

In addition to the compliance and information statements in 5.16.1.9 and 5.16.1.10 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm (5⁄64 in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.16.1.12

Where detachable components must be used with the descent control device for the descent control device to be compliant with this standard, at least the following statement and information shall also be printed on the product label of the item. All letters shall be at least 2 mm (5⁄64 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS DESCENT CONTROL DEVICE:" [The detachable component(s) shall be listed here.]

5.16.2 Descent Control Device User Information.

5.16.2.1

The manufacturer of a descent control device that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.16.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the descent control device periodically according to the manufacturer's inspection procedure

(2) Removing the descent control device from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the descent control device in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the descent control device to the manufacturer or to a qualified inspection person/center if the descent control device is dropped or impact- loaded

(5) Not exposing the rope or webbing used with the descent control device and any other software to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

(6) Repairing the descent control device only in accordance with the manufacturer's instructions

(7) Keeping the user instructions/information after they are separated from the descent control device and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the descent control device

(8) Referring to the user instructions/information before and after each use

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.16.2.3

The manufacturer shall provide information for the user that additional information regarding descent control devices can be found in NFPA 1500 and NFPA 1983.

5.16.2.4

The manufacturer of a descent control device that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the descent control device and a list of items that the records need to contain.

5.16.2.5

Because the descent control device is tested with a rope or escape webbing, one of the following statements shall be provided in the user instructions:

For rope: **"THIS DESCENT CONTROL DEVICE HAS PASSED THE MINIMUM BREAKING STRENGTH AND HOLDING LOAD TEST USING THE FOLLOWING ROPE: [insert rope manufacturer name, designation, part number, and diameter here]."**

For escape webbing: "**THIS DESCENT CONTROL DEVICE HAS PASSED THE MINIMUM BREAKING STRENGTH AND HOLDING LOAD TEST USING THE FOLLOWING ESCAPE WEBBING: [insert webbing manufacturer name, designation, part number, and perimeter here].**"

5.16.2.6

Where the descent control device has been tested with multiple ropes and/or escape webbings, each rope and/or escape webbing shall be listed in the user instructions.

5.17 Escape Anchor.

5.17.1 Escape Anchor Label Requirements.

5.17.1.1

Each escape anchor shall have a product label.

5.17.1.2

Each escape anchor shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.17.1.2.1 through 5.17.1.2.4 .

5.17.1.2.1

Each escape anchor shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.17.1.2.2

Each escape anchor shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.17.1.2.3

Each escape anchor shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The MBS value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated MBS.

5.17.1.2.4

Each escape anchor shall display an "E" for escape-use items.

5.17.1.3

The product label for the portions of the product label information not specified in 5.17.1.2.1 through 5.17.1.2.4 shall be permitted to be a hang tag affixed to each individual escape anchor or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the escape anchor.

5.17.1.4

All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high.

5.17.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.17.1.6

All worded portions of the required product label shall at least be in English.

5.17.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.17.1.8

The certification organization's label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high.

5.17.1.9

Each escape anchor shall have the following compliance statement on the product label:

"MEETS THE ESCAPE ANCHOR REQUIREMENTS OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION."

5.17.1.10

In addition to the compliance statement specified in 5.17.1.9 , at least the information required in 5.17.1.2.3 and 5.17.1.2.4 shall also be provided on the printed product label.

5.17.1.11

In addition to the compliance and information statements in 5.17.1.9 and 5.17.1.10 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm ($\frac{5}{64}$ in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.17.2 Escape Anchor User Information.

5.17.2.1

The manufacturer of an escape anchor that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.17.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the escape anchor periodically according to the manufacturer's inspection procedure

(2) Removing the escape anchor from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the escape anchor in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the escape anchor to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact- loaded

(5) Repairing the escape anchor only in accordance with the manufacturer's instructions

(6) Keeping the user instructions/information after they are separated from the escape anchor and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.17.2.3

The manufacturer shall provide information for the user that additional information regarding escape anchors can be found in NFPA 1500 and NFPA 1983.

5.17.2.4

The manufacturer of an escape anchor that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the escape anchor and a list of items that the records need to contain.

5.18 Litters.

5.18.1 Litter Label Requirements.

5.18.1.1

Each litter shall have a product label.

5.18.1.2

Each litter shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.18.1.2.1 ~~5.18.1.2.1~~ ~~5.1.8.2.1~~ through 5.18.1.2.2 ~~5.18.1.2.2~~ ~~5.1.8.2.2~~ .

5.18.1.2.1

Each litter shall have the following compliance statement:

"MEETS NFPA 1983 (2012 ED)"

5.18.1.2.2

Each litter shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.18.1.3

The product label for the portions of the product label information not specified in 5.18.1.2.1 ~~5.18.1.2.1~~ ~~5.18.1.2.15.1.8.2.1~~ and 5.18.1.2.2 ~~5.18.1.2.2~~ ~~5.1.8.2.2~~ shall be permitted to be a hang tag affixed to each individual litter.

5.18.1.4

All letters shall be at least 2 mm (5⁄64 in.) high.

5.18.1.5

~~Multiple~~ Multi- label pieces shall be permitted ~~in order~~ to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.18.1.6

All worded portions of the required product label shall be at least in English.

5.18.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.18.1.8

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.18.1.9

Each litter shall have the following compliance statement on the product label:

"MEETS THE LITTER REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, ~~2012~~ 2017 EDITION."

5.18.1.10

In addition to the compliance statement specified in 5.18.1.9 ~~5.18.1.9~~ ~~5.1.8.9~~ , litters shall include the following additional information on the product label:

"VERTICAL BREAKING STRENGTH: _____kN. HORIZONTAL BREAKING STRENGTH: _____kN"

5.18.1.11

In addition to the compliance and information statements in 5.18.1.9 ~~5.18.1.9~~ ~~5.1.8.9~~ and 5.18.1.10 ~~5.18.1.115.1.8.11~~ , at least the following information shall also be printed ~~legibly~~ on the product label(s). ~~All~~ where all letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.18.2 Litter User Information.

5.18.2.1

The manufacturer of the litter that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.18.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the litter periodically according to the manufacturer's inspection procedure

(2) Removing the litter from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the litter in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the litter to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded

(5) Not exposing any software component of the litter to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

(6) Repairing the litter only in accordance with the manufacturer's instructions

(7) Keeping the user instructions/information after they are separated from the litter and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(8) Referring to the user instructions/information before and after each use

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.18.2.3

The manufacturer shall provide information for the user that additional information regarding litters can be found in NFPA 1500, ~~*Standard on Fire Department Occupational Safety and Health Program*~~ , and NFPA 1983, ~~*Standard on Life Safety Rope and Equipment for Emergency Services*~~ .

5.18.2.4

The manufacturer of a litter that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the litter and a list of items that the records need to contain.

5.19 Portable Anchors.

5.19.1 Portable Anchor Label Requirements.

5.19.1.1

Each portable anchor shall have a product label.

5.19.1.2

Each portable anchor shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.19.1.2.1 through 5.19.1.2.4 .

5.19.1.2.1

Each portable anchor shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.19.1.2.2

Each portable anchor shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.19.1.2.3

Each portable anchor shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The MBS value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated MBS.

5.19.1.2.4

Each portable anchor shall display a "G" for general-use items or a "T" for technical-use items. The designation "G" or "T" shall be designated in accordance with 6.19.2.

5.19.1.3

The product label for the portions of the product label information not specified in 5.19.1.2.1 through 5.19.1.2.4 shall be permitted to be a hang tag affixed to each portable anchor or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the portable anchor.

5.19.1.4

All letters shall be at least 2 mm (5⁄64 in.) high.

5.19.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.19.1.6

All worded portions of the required product label shall at least be in English.

5.19.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.19.1.8

The certification organization's label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.19.1.9

Each portable anchor shall have the following compliance statement on the product label:

"MEETS THE PORTABLE ANCHOR REQUIREMENTS OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION."

5.19.1.10

In addition to the compliance statement specified in 5.19.1.9 , at least the information required in 5.19.1.2.3 through 5.19.1.2.4 shall also be provided on the printed product label.

5.19.1.11

In addition to the compliance statement specified in 5.19.1.9 , portable anchors shall include the following additional information on the product label:

"MINIMUM BREAKING STRENGTH AND RATING ARE DETERMINED AT THE CONFIGURATION OF LOWEST STRENGTH PER MANUFACTURER'S INSTRUCTIONS."

5.19.1.12

In addition to the compliance and information statements in 5.19.1.9 , 5.19.1.10 , and 5.19.1.11 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm (5⁄64 in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.19.1.13

Where detachable components must be used with the portable anchor for the portable anchor to be compliant with this standard, at least the following statement and information shall also be printed on the product label of the item. All letters shall be at least 2 mm (5⁄64 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS PORTABLE ANCHOR:"

[The detachable component(s) shall be listed here.]

5.19.2 Portable Anchor User Information.

5.19.2.1

The manufacturer of the portable anchor that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.19.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the portable anchor periodically according to the manufacturer's inspection procedure

(2) Removing the portable anchor from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the portable anchor in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the portable anchor to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded

(5) Repairing the portable anchor only in accordance with the manufacturer's instructions

(6) Keeping the user instructions/information after they are separated from the portable anchor and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.19.2.3

The manufacturer shall provide information for the user that additional information regarding portable anchors can be found in NFPA 1500 and NFPA 1983.

5.19.2.4

The manufacturer of a portable anchor that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the portable anchor and a list of items that the records need to contain.

5.19.2.5

The manufacturer of portable anchors shall provide information for the user that indicates the actual configuration of the device when meeting the breaking strength requirement, including the height, attachment points, and angular configuration of the legs, such that the user can set up the equipment in the same configuration as tested.

5.20 Pulleys.

5.20.1 Pulley Label Requirements.

5.20.1.1

Each pulley shall have a product label.

5.20.1.2

Each pulley shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.20.1.2.1 through 5.20.1.2.4 .

5.20.1.2.1

Each pulley shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.20.1.2.2

Each pulley shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.20.1.2.3

Each pulley shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The MBS value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated MBS.

5.20.1.2.4

Each pulley shall display a “G” for general-use items or “T” for technical-use items. The designation “G” or “T” shall be designated in accordance with 6.20.1.2 .

5.20.1.3

The product label for the portions of the product label information not specified in 5.20.1.2.1 through 5.20.1.2.4 shall be permitted to be a hang tag affixed to each individual pulley or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the pulley.

5.20.1.4

All letters shall be at least 2 mm (5⁄64 in.) high.

5.20.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.20.1.6

All worded portions of the required product label shall at least be in English.

5.20.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.20.1.8

The certification organization's label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.20.1.9

Each pulley shall have the following compliance statement on the product label:

“MEETS THE PULLEY REQUIREMENTS OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION.”

5.20.1.10

In addition to the compliance statement specified in 5.20.1.9 , at least the information required in 5.20.1.2.3 and 5.20.1.2.4 shall also be provided on the printed product label.

5.20.1.11

In addition to the compliance and information statements in 5.20.1.9 and 5.20.1.10 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm (5⁄64 in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.20.2 Pulley User Information.

5.20.2.1

The manufacturer of a pulley that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.20.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the pulley periodically according to the manufacturer's inspection procedure

(2) Removing the pulley from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the pulley in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the pulley to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact- loaded

(5) Repairing the pulley only in accordance with the manufacturer's instructions

(6) Keeping the user instructions/information after they are separated from the pulley and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.20.2.3

The manufacturer shall provide information for the user that additional information regarding pulleys can be found in NFPA 1500 and NFPA 1983.

5.20.2.4

The manufacturer of a pulley that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the pulley and a list of items that the records need to contain.

5.21 Rope Grabs and Ascending Devices.

5.21.1 Rope Grab and Ascending Device Label Requirements.

5.21.1.1

Each rope grab and ascending device shall have a product label.

5.21.1.2

Each rope grab and ascending device shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.21.1.2.1 through 5.21.1.2.4 .

5.21.1.2.1

Each rope grab and ascending device shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.21.1.2.2

Each rope grab and ascending device shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.21.1.2.3

Each rope grab and ascending device shall display a "G" for general use or "T" for technical use. The designation "G" or "T" shall be designated in accordance with 6.21.1.2 .

5.21.1.2.4

Each rope grab and ascending device shall also display the range of rope diameters with which the device is intended to be used.

5.21.1.3

The product label for the portions of the product label information not specified in 5.21.1.2.1 through 5.21.1.2.4 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the rope grab or ascending device.

5.21.1.4

All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high.

5.21.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.21.1.6

All worded portions of the required product label shall at least be in English.

5.21.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.21.1.8

The certification organization's label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high.

5.21.1.9

Each rope grab and ascending device shall have the following compliance statement on the product label:

"MEETS THE [insert ROPE GRAB OR ASCENDING DEVICE here] REQUIREMENTS OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION."

5.21.1.10

In addition to the compliance statement specified in 5.21.1.9 , at least the information required in 5.21.1.2.3 and 5.21.1.2.4 shall also be provided on the printed product label.

5.21.1.11

In addition to the compliance and information statements in 5.21.1.9 and 5.21.1.10 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm ($\frac{5}{64}$ in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.21.2 Rope Grab and Ascending Devices User Information.

5.21.2.1

The manufacturer of a rope grab or ascending device that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.21.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the rope grab or ascending device periodically according to the manufacturer's inspection procedure

(2) Removing the rope grab or ascending device from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the rope grab or ascending device in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the rope grab or ascending device to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded

(5) Repairing the rope grab or ascending device only in accordance with the manufacturer's instructions

(6) Keeping the user instructions/information after they are separated from the rope grab or ascending device and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.21.2.3

The manufacturer shall provide information for the user that additional information regarding rope grabs and ascending devices can be found in NFPA 1500 and NFPA 1983.

5.21.2.4

The manufacturer of a rope grab or ascending device that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the rope grab or ascending device and a list of items that the records need to contain.

5.21.2.5

Because a rope grab or ascending device is tested with a rope, the following statement shall be provided in the user instructions:

"THIS [insert ROPE GRAB OR ASCENDING DEVICE here] HAS PASSED THE MANNER OF FUNCTION TEST USING THE FOLLOWING ROPE: [insert rope manufacturer name, designation, part number, and diameter here]."

5.21.2.6

Where the rope grab or ascending device has been tested with multiple ropes, each rope shall be listed in the user instructions.

5.22 Other Auxiliary Equipment.

5.22.1 Other Auxiliary Equipment Label Requirements.

5.22.1.1

Each auxiliary equipment item shall have a product label.

5.22.1.2

Each load-bearing hardware auxiliary equipment item shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.22.1.2.1 ~~5.22.1.2.1~~ ~~5.1.5.2.1~~ through 5.22.1.2.4 ~~5.1.5.2.5~~ .

5.22.1.2.1

Each load-bearing hardware auxiliary equipment item shall have the following compliance statement:

"MEETS NFPA 1983 (~~2012~~ 2017 ED)."

5.22.1.2.2

Each load-bearing hardware auxiliary equipment shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.22.1.2.3

Each load-bearing hardware auxiliary equipment shall display at least the minimum rated breaking strength prefaced by the letters “MBS.” The ~~minimum breaking strength~~ MBS value stated on the product label shall be permitted to be any value greater than the actual “pass” requirement value determined by the certification testing, but shall not be greater than the calculated ~~minimum breaking strength~~ MBS .

5.22.1.2.4

Each load-bearing hardware auxiliary equipment shall display a “G” for general-use items, a “T” for technical-use items, or an “E” for ~~escape~~ escape- use items. The designation “G,” “T,” or “E” shall be designated in accordance with 6.22.1.2.

5.22.1.3

The product label for the portions of the product label information not specified in 5.22.1.2.1 ~~5.22.1.2.1~~ ~~5.1.5.2.1~~ through 5.1.5.2.5 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the auxiliary equipment item.

5.22.1.4

All letters shall be at least 2 mm (5⁄64 in.) high.

5.22.1.5

~~Multiple~~ Multi- label pieces shall be permitted ~~in order~~ to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.22.1.6

All worded portions of the required product label shall at least be in English.

5.22.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.22.1.8

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.22.1.9

Each auxiliary equipment item shall have the following compliance statement on the product label.

“THIS [insert name of equipment item here] MEETS THE AUXILIARY EQUIPMENT REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, ~~2012~~ 2017 EDITION.”

5.22.1.10

In addition to the compliance statement specified in 5.22.1.9 ~~5.22.1.9~~ ~~5.1.5.9~~ , at least the information required in 5.22.1.2.3 ~~5.22.1.2.3~~ ~~5.1.5.2.3~~ through 5.22.1.2.4 ~~5.1.5.2.5~~ shall also be provided on the printed product label.

5.22.1.11

In addition to the compliance and information statements in 5.22.1.9 ~~5.22.1.9~~ ~~5.1.5.9~~ , ~~5.22.1.10~~ ~~5.22.1.10~~ ~~5.22.1.105.1.5.10~~ , and 5.22.1.10 ~~5.1.5.11~~ , at least the following information shall also be printed ~~legibly~~ on the product label(s). ~~All~~ where all letters shall be at least 2 mm (5⁄64 in.) high, -

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.22.1.12

Where detachable components must be used with the auxiliary equipment item ~~in order~~ for the auxiliary equipment item to be compliant with this standard, at least the following statement and information shall also be printed ~~legibly~~ on the product label of the item. All letters shall be at least 2 mm (5⁄64 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS [insert type of auxiliary equipment here]:"

[The detachable component(s) shall be listed here.]

5.22.2 Other Auxiliary Equipment User Information.

5.22.2.1

The manufacturer of auxiliary equipment that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.22.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the auxiliary equipment periodically according to the manufacturer's inspection procedure.

(2) Removing the auxiliary equipment from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

(3) Maintaining the auxiliary equipment in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning the auxiliary equipment to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.

(5) Not exposing the software of the auxiliary equipment to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature.

(6) Repairing the auxiliary equipment only in accordance with the manufacturer's instructions.

(7) Keeping the user instructions/information after they are separated from the auxiliary equipment and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.

(8) Referring to the user instructions/information before and after each use.

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.22.2.3

The manufacturer shall provide information for the user that additional information regarding auxiliary equipment can be found in NFPA 1500, ~~*Standard on Fire Department Occupational Safety and Health Program* ,~~ and NFPA 1983, ~~*Standard on Life Safety Rope and Equipment for Emergency Services* .~~

5.22.2.4

The manufacturer of auxiliary equipment that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the auxiliary equipment and a list of items that the records need to contain.

~~**5.23.3.5**~~

~~In addition to the requirements for auxiliary equipment, the manufacturer of portable anchors shall provide information for the user that indicates the actual configuration of the device when meeting the breaking strength requirement, including the height, attachment points, and angular configuration of the legs, such that the user can set up the equipment in the same configuration as tested.~~

~~**5.23.3.6**~~

~~The manufacturer of manufactured systems auxiliary equipment certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the manufactured system auxiliary equipment.~~

~~**5.23.3.7***~~

~~Where auxiliary equipment is tested with a rope, the following statement shall be provided in the user instructions:~~

~~**"THIS [insert name of equipment item here] HAS PASSED THE MINIMUM BREAKING STRENGTH AND HOLDING LOAD TEST USING THE FOLLOWING ROPE: [insert rope manufacturer name, designation, part number, and diameter here]."**~~

~~**5.23.3.8**~~

~~Where the auxiliary equipment has been tested with multiple ropes, each rope shall be listed in the user instructions.~~

5.23 Escape Systems ~~Compliance and Information Statements~~ .

5.23.1 Escape Systems Label Requirements.

5.23.1.1

Each escape system shall have a product label.

5.23.1.2

Each escape system load-bearing hardware item shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.23.1.2.1 ~~5.23.1.2.1~~ ~~5.1.5.2.1~~ through 5.23.1.2.5 ~~5.1.5.2.5~~ .

5.23.1.2.1

Each load-bearing escape system component shall have the following compliance statement:

"MEETS NFPA 1983 (~~2012~~ 2017 ED)"

5.23.1.2.2

Each load-bearing hardware escape system component shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.23.1.2.3

Each load-bearing hardware escape system component shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The ~~minimum breaking strength~~ MBS value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated ~~minimum breaking strength~~ MBS .

5.23.1.2.4

Each load-bearing escape system component shall display an "E" for escape-use items. The designation "E" shall be designated in accordance with 6.23.1.2 ~~6.23.1.2~~ ~~6.22.1.2.1~~ .

5.23.1.2.5

Each system device, rope grab device, and descent control device shall also display the range of rope diameters with which the device is intended to be used.

5.23.1.3

The product label for the portions of the product label information not specified in 5.23.1.2.1 ~~5.23.1.2.1~~ ~~5.1.5.2.1~~ shall be permitted to be a hang tag affixed to each individual equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the escape system.

5.23.1.4

All letters shall be at least 2 mm (5⁄64 in.) high.

5.23.1.5

~~Multiple~~ Multi- label pieces shall be permitted ~~in order~~ to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.23.1.6

All worded portions of the required product label shall be at least in English.

5.23.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.23.1.8

The certification organization's label, symbol, or identifying mark shall be ~~legibly~~ printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.23.1.9

Each escape system shall have the following compliance statement on the product label:

~~**For fire escape systems: "THIS [insert name of equipment item here] MEETS THE FIRE ESCAPE SYSTEM REQUIREMENTS OF NFPA 1983,** ***STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,*** **2012 EDITION."**~~

~~**For escape systems: "THIS [insert name of equipment item here]**~~ **MEETS THE ESCAPE SYSTEM REQUIREMENTS OF NFPA 1983,** ***STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,~~2012~~ 2017*** **EDITION."**

5.23.1.10

In addition to the compliance statement specified in 5.23.1.9 , at least the information required in 5.23.1.2.3 through 5.23.1.2.5 shall also be provided on the printed product label.

5.23.1.11

In addition to the compliance and information statements in 5.23.1.9 ~~5.23.1.9~~ ~~5.1.5.9~~ and 5.23.1.10 ~~5.23.1.10~~ ~~5.1.5.10~~ ~~, and 5.1.5.11,~~ at least the following information shall also be printed ~~legibly~~ on the product label(s)~~. All~~ where all letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.23.1.12

Where detachable components must be used with the escape system item ~~in order~~ for the escape system to be compliant with this standard, at least the following statement and information shall also be printed ~~legibly~~ on the product label of the item. All letters shall be at least 2.5 mm (3⁄32 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS [insert type of escape system here]:"

[The detachable component(s) shall be listed here.]

5.23.2 Escape Systems User Information.

5.23.2.1

The manufacturer of an escape system that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.23.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the escape system periodically according to the manufacturer's inspection procedure

(2) Removing the escape system from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the escape system in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the escape system to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact- loaded

(5) Not exposing the software of the escape system to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

(6) Repairing the escape system only in accordance with the manufacturer's instructions

(7) Keeping the user instructions/information after they are separated from the escape system and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(8) Referring to the user instructions/information before and after each use

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.23.2.3

The manufacturer shall provide information for the user that additional information regarding escape systems can be found in NFPA 1500 and NFPA 1983.

5.23.2.4

The manufacturer of an escape system that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the escape system and a list of items that the records need to contain.

5.23.2.5

The compliant configuration(s) used in the payout test shall be described.

5.24 Fire Escape Systems.

5.24.1 Fire Escape System Label Requirements.

5.24.1.1

Each fire escape system shall have a product label.

5.24.1.2

Each fire escape system load-bearing hardware item shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.11.2.1 through 5.11.2.3 .

5.24.1.2.1

Each load-bearing fire escape system component shall have the following compliance statement:

“MEETS NFPA 1983 (2017 ED).”

5.24.1.2.2

Each load-bearing hardware fire escape system component shall display the mark or logo of the certification organization and the manufacturer’s name or identifying mark.

5.24.1.2.3

Each load-bearing hardware fire escape system component shall display at least the minimum rated breaking strength prefaced by the letters “MBS.” The MBS value stated on the product label shall be permitted to be any value greater than the actual “pass” requirement value determined by the certification testing, but shall not be greater than the calculated MBS.

5.24.1.2.4

Each load-bearing fire escape system component shall display an “E” for escape-use items. The designation “E” shall be designated in accordance with 6.24.1.2 .

5.24.1.2.5

Each fire escape system device, rope grab device, and descent control device shall also display the range of rope diameters with which the device is intended to be used.

5.24.1.3

The product label for the portions of the product label information not specified in 5.24.1.2.1 shall be permitted to be a hang tag affixed to each individual equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the fire escape system.

5.24.1.4

All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high.

5.24.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.24.1.6

All worded portions of the required product label shall be at least in English.

5.24.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.24.1.8

The certification organization's label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2.5 mm ($\frac{3}{32}$ in.) high.

5.24.1.9

Each fire escape system shall have the following compliance statement on the product label:

"MEETS THE FIRE ESCAPE SYSTEM REQUIREMENTS OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION."

5.24.1.10

In addition to the compliance statement specified in 5.24.1.9 , at least the information required in 5.24.1.2.3 through 5.24.1.2.5 shall also be provided on the printed product label.

5.24.1.11

11 In addition to the compliance and information statements in 5.24.1.9 and 5.24.1.10 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm ($\frac{5}{64}$ in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.24.1.12

Where detachable components must be used with the fire escape system item for the fire escape system to be compliant with this standard, at least the following statement and information shall also be printed on the product label of the item. All letters shall be at least 2.5 mm ($\frac{3}{32}$ in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS FIRE ESCAPE SYSTEM:" [The detachable component(s) shall be listed here.]

5.24.2 Fire Escape Systems User Information.

5.24.2.1

The manufacturer of a fire escape system that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.24.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the fire escape system periodically according to the manufacturer's inspection procedure

(2) Removing the fire escape system from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the fire escape system in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the fire escape system to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact- loaded

(5) Not exposing the software components of the fire escape system to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

(6) Repairing the fire escape system only in accordance with the manufacturer's instructions

(7) Keeping the user instructions/information after they are separated from the fire escape system and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(8) Referring to the user instructions/information before and after each use

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.24.2.3

The manufacturer shall provide information for the user that additional information regarding fire escape systems can be found in NFPA 1500 and NFPA 1983.

5.24.2.4

The manufacturer of a fire escape system that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the fire escape system and a list of items that the records need to contain.

5.24.2.5

The compliant configuration(s) used in the payout test shall be described.

5.25 Manufactured Systems.

5.25.1 Manufactured System Label Requirements.

5.25.1.1

Each manufactured system shall have a product label.

5.25.1.2

Each manufactured system load-bearing hardware item shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.11.2.1 through 5.11.2.3 .

5.25.1.2.1

Each manufactured system load-bearing component shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.25.1.2.2

Each load-bearing hardware manufactured system component shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.25.1.2.3

Each load-bearing hardware manufactured system component shall display at least the minimum rated breaking strength prefaced by the letters “MBS.” The MBS value stated on the product label shall be permitted to be any value greater than the actual “pass” requirement value determined by the certification testing, but shall not be greater than the calculated MBS.

5.25.1.2.4

Each load-bearing hardware manufactured system component shall display a “G” for general-use items, a “T” for technical-use items, or an “E” for escape-use items. The designation “G,” “T,” or “E” shall be designated in accordance with 6.25.1.2 .

5.25.1.2.5

Each manufactured system ascending device, rope grab device, and descent control device shall also display the range of rope diameters with which the device is intended to be used.

5.25.1.3

The product label for the portions of the product label information not specified in 5.25.1.2.1 through 5.25.1.2.5 shall be permitted to be a hang tag affixed to each manufacturer system or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the manufactured system.

5.25.1.4

All letters shall be at least 2 mm (5⁄64 in.) high.

5.25.1.5

Multi-label pieces shall be permitted to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.25.1.6

All worded portions of the required product label shall at least be in English.

5.25.1.7

Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.25.1.8

The certification organization's label, symbol, or identifying mark shall be printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.25.1.9

Each manufactured system shall have the following compliance statement on the product label:

“ **MEETS THE MANUFACTURED SYSTEM REQUIREMENTS OF NFPA 1983, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES, 2017 EDITION.”**

5.25.1.10

In addition to the compliance statement specified in 5.25.1.9 , at least the information required in 5.25.1.2.1 through 5.25.1.2.5 shall also be provided on the printed product label.

5.25.1.11

In addition to the compliance and information statements in 5.25.1.9 and 5.25.1.10 , at least the following information shall also be printed on the product label(s) where all letters shall be at least 2 mm (5⁄64 in.) high:

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.25.1.12

Where detachable components must be used with the manufactured system for the manufactured system to be compliance with this standard, at least the following statement and information shall also be printed on the product label of the item. All letters shall be at least 2 mm ($\frac{5}{64}$ in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS MANUFACTURED SYSTEM:"

[The detachable component(s) shall be listed here.]

5.25.2 Manufactured Systems User Information.

5.25.2.1

The manufacturer of a manufactured system that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.25.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the manufactured system periodically according to the manufacturer's inspection procedure

(2) Removing the manufactured system from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the manufactured system in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning the manufactured system to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact- loaded

(5) Not exposing the software components of the manufactured system to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

(6) Repairing the manufactured system only in accordance with the manufacturer's instructions

(7) Keeping the user instructions/information after they are separated from the manufactured system and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(8) Referring to the user instructions/information before and after each use

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.25.2.3

The manufacturer shall provide information for the user that additional information regarding manufactured systems can be found in NFPA 1500 and NFPA 1983.

5.25.2.4

The manufacturer of manufactured systems certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the manufactured system auxiliary equipment.

~~**5.26** User Information.~~

~~**5.26.1** Life Safety Rope User Information.~~

~~**5.26.1.1**~~

~~The manufacturer of life safety rope that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.~~

5.26.1.2

The manufacturer shall provide information for the user to consider prior to reusing life safety rope, including that the rope be considered for reuse only if all of the following conditions are met:

Rope has not been visually damaged.

Rope has not been exposed to heat, direct flame impingement, or abrasion.

Rope has not been subjected to any impact load.

Rope has not been exposed to liquids, solids, gases, mists, or vapors of any chemical or other material that can deteriorate rope.

Rope passes inspection when inspected by a qualified person following the manufacturer's inspection procedures both before and after each use.

5.26.1.3

The manufacturer shall provide information for the user regarding not using the life safety rope and removing the rope from service if the rope does not meet all of the conditions in 5.26.1.25.2.1.2 , if the rope does not pass inspection, or if there is any doubt about the safety or serviceability of the rope.

5.26.1.4

The manufacturer shall provide information for the user regarding at least the following issues:

* Inspecting the rope periodically according to the manufacturer's inspection procedure

Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope

Protecting the rope from abrasion

Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature

Keeping the product label and user instructions/information after they are removed/separated from the rope and retaining them in the permanent rope record; copying the product label and user instructions/information and keeping the copies with the rope

Referring to the user instructions/information before and after each use

Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.26.1.5

The manufacturer shall provide information for the user that additional information regarding moderate elongation laid life saving rope can be found in NFPA 1500 , *Standard on Fire Department Occupational Safety and Health Program* , and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services* .

5.26.1.6

The manufacturer of life safety rope that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of life safety rope and a list of items that the records need to contain.

5.26.1 Escape Rope, Escape Webbing, Fire Escape Rope, and Fire Escape Webbing User Information.

5.3.2.1

The manufacturer of escape rope, escape webbing, fire escape rope, and fire escape webbing that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.3.2.2

The manufacturer shall provide information for the user regarding at least the following issues:

Using the rope only with a life safety harness or escape belt

Inspecting the rope periodically according to the manufacturers' inspection procedure

Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope

Protecting the rope from abrasion

Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature

Keeping the product label and user instructions/information after they are removed/separated from the rope for future reference

Referring to the user instructions/information before and after each use

Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.3.2.3

The manufacturer shall provide information for the user that additional information regarding escape rope, escape webbing, fire escape rope, and fire escape webbing can be found in NFPA 1500 , *Standard on Fire Department Occupational Safety and Health Program* , and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services* .

5.3.2.4

The manufacturer of escape rope, escape webbing, fire escape rope, and fire escape webbing that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of escape rope, escape webbing, fire escape rope, and fire escape webbing and a list of items that the records need to contain.

5.10.3 Life Safety Harness User Information.

5.10.3.1

The manufacturer of life safety harnesses that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.10.3.2

The manufacturer shall provide information for the user regarding at least the following issues:

Inspecting the harness periodically according to the manufacturer's inspection procedure.

Removing the harness from service and destroying it if the harness does not pass inspection or if there is any doubt about the safety or serviceability of the harness.

For a life safety harness certified to only the nonoptional requirements of the standard, not exposing the harness to flame or high temperature and carrying the harness where it will be protected, as the harness could melt or burn and fail if exposed to flame or high temperature.

Repairing the harness only in accordance with the manufacturer's instructions.

Keeping the user instructions/information after they are separated from the harness and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the harness.

Referring to the user instructions/information before and after each use.

Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.10.3.3

The manufacturer shall provide information for the user that additional information regarding life safety harnesses can be found in NFPA 1500 , *Standard on Fire Department Occupational Safety and Health Program* , and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services* .

5.10.3.4

The manufacturer of life safety harnesses that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of life safety harnesses and a list of items that the records need to contain.

5.10.3.5

The manufacturer of life safety harnesses that are certified as being compliant with this standard shall indicate that tie-off is required for webbing ends if tie-off of webbing end(s) was required during testing. The instructions shall include location(s) and method(s) with text and/or illustrations.

5.11.3 Belt User Information.

5.11.3.1

The manufacturer of belts that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.11.3.2

The manufacturer shall provide information for the user regarding at least the following issues:

Inspecting the belt periodically according to the manufacturer's inspection procedure.

Removing the belt from service and destroying it if the belt does not pass inspection or if there is any doubt about the safety or serviceability of the belt.

For belts certified to only the nonoptional requirements of the standard, not exposing the belt to flame or high temperature and carrying the belt where it will be protected, as the belt could melt or burn and fail if exposed to flame or high temperature.

Repairing the belt only in accordance with the manufacturer's instructions.

Keeping the user instructions/information after they are separated from the belt and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the belt

Referring to the user instructions/information before and after each use.

Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.11.3.3

The manufacturer shall provide information for the user that additional information regarding belts can be found in NFPA 1500 , *Standard on Fire Department Occupational Safety and Health Program* , and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services* .

5.11.3.4

The manufacturer of belts that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of belts and a list of items that the records need to contain.

5.11.3.5

The manufacturer of belts that are certified as being compliant with this standard shall indicate that tie-off of webbing end(s) is required for webbing end(s) if tie-off of webbing end(s) was required during testing. The instructions shall include location(s) and method(s) with text and/or illustrations.

5.23.3 Auxiliary Equipment User Information.

5.23.3.1

The manufacturer of auxiliary equipment that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.23.3.2

The manufacturer shall provide information for the user regarding at least the following issues:

Inspecting the auxiliary equipment periodically according to the manufacturer's inspection procedure.

Removing the auxiliary equipment from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

Maintaining the auxiliary equipment in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

Returning auxiliary equipment to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.

Not exposing the software auxiliary equipment to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature.

Repairing the auxiliary equipment only in accordance with the manufacturer's instructions.

Keeping the user instructions/information after they are separated from the auxiliary equipment and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.

Referring to the user instructions/information before and after each use.

Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.23.3.3

The manufacturer shall provide information for the user that additional information regarding auxiliary equipment can be found in NFPA 1500 , *Standard on Fire Department Occupational Safety and Health Program* , and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services* .

5.23.3.4

The manufacturer of auxiliary equipment that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the auxiliary equipment and a list of items that the records need to contain.

5.23.3.5

In addition to the requirements for auxiliary equipment, the manufacturer of portable anchors shall provide information for the user that indicates the actual configuration of the device when meeting the breaking strength requirement, including the height, attachment points, and angular configuration of the legs, such that the user can set up the equipment in the same configuration as tested.

5.23.3.6

The manufacturer of manufactured systems auxiliary equipment certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the manufactured system auxiliary equipment.

5.23.3.7*

Where auxiliary equipment is tested with a rope, the following statement shall be provided in the user instructions:

"THIS [insert name of equipment item here] HAS PASSED THE MINIMUM BREAKING STRENGTH AND HOLDING LOAD TEST USING THE FOLLOWING ROPE: [insert rope manufacturer name, designation, part number, and diameter here]."

5.23.3.8

Where the auxiliary equipment has been tested with multiple ropes, each rope shall be listed in the user instructions.

5.7.6 Water Rescue Throwline User Information.

The manufacturer of a throwline that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.12.4 Victim Extrication Device User Information.

5.12.4.1

The manufacturer of the victim extrication device that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.12.4.2

The manufacturer shall provide information for the user regarding at least the following issues:

Inspecting the victim extrication device periodically according to the manufacturer's inspection procedure

Removing the victim extrication device from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

Maintaining the victim extrication device in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

Returning victim extrication device to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded

Not exposing any software component of the victim extrication device to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

Repairing the victim extrication device only in accordance with the manufacturer's instructions

Keeping the user instructions/information after they are separated from the victim extrication device and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

Referring to the user instructions/information before and after each use

Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.12.4.3

The manufacturer of a victim extrication device that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the victim extrication device and a list of items that the records need to contain.

5.19.4 Litter User Information.

5.19.4.1

The manufacturer of the litter that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.19.4.2

The manufacturer shall provide information for the user regarding at least the following issues:

Inspecting the litter periodically according to the manufacturer's inspection procedure

Removing the litter from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

Maintaining the litter in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

Returning litter to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded

Not exposing any software component of the litter to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

Repairing the litter only in accordance with the manufacturer's instructions

Keeping the user instructions/information after they are separated from the litter and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

Referring to the user instructions/information before and after each use

Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.19.4.3

The manufacturer shall provide information for the user that additional information regarding litters can be found in NFPA 1500 , *Standard on Fire Department Occupational Safety and Health Program* , and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services* .

5.19.4.4

The manufacturer of a litter that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the litter and a list of items that the records need to contain.

5.9.8 Manufacturer-Supplied Eye Termination User Information.

5.9.8.1

The manufacturer of the manufacturer-supplied eye termination that is certified as being compliant with the this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.9.8.2

The manufacturer shall provide information for the user to consider prior to reusing manufacturer-supplied eye termination, including that the rope be considered for reuse only if all of the following conditions are met:

Manufacturer-supplied eye termination has not been visually damaged.

Manufacturer-supplied eye termination has not been exposed to heat, direct flame impingement, or abrasion.

Manufacturer-supplied eye termination has not been subjected to any impact load.

Manufacturer-supplied eye termination has not been exposed to liquids, solids, gases, mists, or vapors of any chemical or other material that can deteriorate the manufacturer-supplied eye termination.

Manufacturer-supplied eye termination passes inspection when inspected by a qualified person following the manufacturer’s inspection procedures both before and after each use.

5.9.8.3

The manufacturer shall provide information for the user regarding not using the manufacturer-supplied eye termination and removing the manufacturer-supplied eye termination from service if the rope does not meet all of the conditions in 5.2.9.2 , if the manufacturer-supplied eye termination does not pass inspection, or if there is any doubt about the safety or serviceability of the manufacturer-supplied eye termination.

5.9.8.4

The manufacturer shall provide information for the user regarding at least the following issues:

- Inspecting the manufacturer-supplied eye termination periodically according to the manufacturer's inspection procedure
- Removing the manufacturer-supplied eye termination from service and destroying it if the manufacturer-supplied eye termination does not pass inspection or if there is any doubt about the safety of the manufacturer-supplied eye termination
- Protecting the manufacturer-supplied eye termination from abrasion
- Not exposing the manufacturer-supplied eye termination to flame or high temperature and carrying the manufacturer-supplied eye termination where it will be protected as the manufacturer-supplied eye termination could melt or burn and fail if exposed to flame or high temperature
- Keeping the product label and user instructions/information after they are removed/separated from the manufacturer-supplied eye termination and retaining them in the permanent manufacturer-supplied eye termination record; copying the product label and user information/instructions and keeping copies with the manufacturer-supplied eye termination
- Referring to the user instructions/information before and after each use
- Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.9.8.5

The manufacturer of manufacturer-supplied eye termination that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of manufacturer-supplied eye termination and a list of items that the records need to contain.

5.9.8.5.1

The suggested inspection records shall include inspection of the loop of the eye, inspection for worn or broken thread in sewn termination, and inspection of contact point of swage and rope in swage termination.

5.9.8.6

Where the manufacturer of the rope and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the rope and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the rope and required user information/instructions of manufacturer-supplied eye termination as given in 5.2.9.1 through 5.2.9.5 are included in the user information/instructions.

5.9.8.7

Where the manufacturer of the manufactured system and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the manufactured system and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the manufactured system and required user information/instructions of the manufacturer-supplied eye termination as given in 5.2.9.1 through 5.2.9.5 are included in the user information/instructions.

5.9.8.8

Where the manufacturer of the escape webbing and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the escape webbing and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the escape webbing and required user information/instructions of manufacturer-supplied eye termination as given in 5.2.9.1 through 5.2.9.5 are included in the user information/instructions.

5.8.9 Moderate Elongation Laid Life Saving Rope User Information.

5.8.9.1

The manufacturer of moderate elongation laid life saving rope that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.8.9.2

The manufacturer shall provide information for the user to consider prior to reusing moderate elongation laid life saving rope, including that the rope be considered for reuse only if all of the following conditions are met:

- Rope has not been visually damaged.
- Rope has not been exposed to heat, direct flame impingement, or abrasion.
- Rope has not been subjected to any impact load.
- Rope has not been exposed to liquids, solids, gases, mists, or vapors of any chemical or other material that can deteriorate rope.
- Rope passes inspection when inspected by a qualified person following the manufacturer's inspection procedures both before and after each use.

5.8.9.3

The manufacturer shall provide information for the user regarding not using the moderate elongation laid life saving rope and removing the rope from service if the rope does not meet all of the conditions in 5.2.10.2 , if the rope does not pass inspection, or if there is any doubt about the safety or serviceability of the rope.

5.8.9.4

The manufacturer shall provide information for the user regarding at least the following issues:

- Inspecting the rope periodically according to the manufacturer's inspection procedure
- Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope
- Protecting the rope from abrasion
- Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature
- Keeping the product label and user instructions/information after they are removed/separated from the rope and retaining them in the permanent rope record; copying the product label and user instructions/information and keeping the copies with the rope
- Referring to the user instructions/information before and after each use
- Cautioning that if the instructions/information are not followed, the user could suffer serious consequences

5.8.9.5

The manufacturer shall provide information for the user that additional information regarding victim extrication devices can be found in NFPA 1500 , *Standard on Fire Department Occupational Safety and Health Program* , and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services* .

Supplemental Information

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Committee Statement

Committee Statement: Technical Committee reorganized chapter to improve flow and clearly identified label and user information requirements for equipment types.

PI 48: This moves the User Guide requirement from 8.13.6.4 to the User Guide Section.

Correlating revisions were included in the reorganization.

Annex material was added to clarify use of an escape line for the purpose of training.

Response Message:

Public Input No. 60-NFPA 1983-2015 [Chapter 5]
Public Input No. 48-NFPA 1983-2014 [New Section after 5.2.5.8]
Public Input No. 3-NFPA 1983-2013 [New Section after 5.2.10.5]
Public Input No. 2-NFPA 1983-2013 [Section No. 5.1.5.12]

5.1 Life safety Rope.

5.1.1 Life Safety Rope Label Requirements.

5.1.1.1 Each life safety rope item shall have a product label.

5.1.1.2 Where life safety rope is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the life safety rope shall be required to have at least the continuous identification tape specified in 5.1.1.13.

5.1.1.3 The life safety rope product label shall be permitted to be a hang tag affixed to each individual life safety rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the life safety rope.

5.1.1.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.1.5 All worded portions of the required product label shall at least be in English.

5.1.1.6 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.1.7 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.1.1.8* Each life safety rope shall have the following compliance statement on the product label:

"MEETS THE LIFE SAFETY ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION.

CLASS: _____-USE ROPE"

5.1.1.9 The class designation of the life safety rope that is required in 5.1.1.8 to be stated on the product label shall be as determined by the certification organization in accordance with Section 7.1.

5.1.1.10 In addition to the compliance statement specified in 5.1.1.8, at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN DIAMETER: _____ mm

Type of fiber(s) _____"

5.1.1.11 The minimum breaking strength value of the life safety rope, which is required in 5.1.1.10 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.1.1 or 7.1.2, as applicable, but shall not be greater than the calculated minimum breaking strength.

5.1.1.12 The diameter of the life safety rope, which is required in 5.1.1.10 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.1.3 or 7.1.4, as applicable.

5.1.1.13* In addition to the compliance statement specified in 5.1.1.8, each life safety rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.).

"MEETS REQUIREMENTS FOR LIFE SAFETY ROPE OF NFPA 1983"

[Certification organization's label, symbol, or identifying mark]

[Name of manufacturer]

[Year and quarter of manufacture (not coded)]

5.1.1.14 In addition to the compliance and information statements in 5.1.1.8 and 5.1.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

(6) Elongation at 1.35 kN (300 lbf)

(7) Elongation at 2.7 kN (600 lbf)

(8) Elongation at 4.4 kN (1000 lbf)

5.2.1 Life Safety Rope User Information. (renumber 5.1.2 and rest of section accodingly**)**

5.2.1.1 The manufacturer of life safety rope that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.1.2.2 The manufacturer shall provide information for the user to consider prior to reusing life safety rope, including that the rope be considered for reuse only if all of the following conditions are met:

(1) Rope has not been visually damaged.

(2) Rope has not been exposed to heat, direct flame impingement, or abrasion.

(3) Rope has not been subjected to any impact load.

(4) Rope has not been exposed to liquids, solids, gases, mists, or vapors of any chemical or other material that can deteriorate rope.

(5) Rope passes inspection when inspected by a qualified person following the manufacturer's inspection procedures both before and after each use.

5.2.1.3 The manufacturer shall provide information for the user regarding not using the life safety rope and removing the rope from service if the rope does not meet all of the conditions in 5.1.2.2, if the rope does not pass inspection, or if there is any doubt about the safety or serviceability of the rope.

5.2.1.4 The manufacturer shall provide information for the user regarding at least the following issues:

(1)* Inspecting the rope periodically according to the manufacturer's inspection procedure

(2) Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope

(3) Protecting the rope from abrasion

(4) Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature

(5) Keeping the product label and user instructions/information after they are removed/separated from the rope and retaining them in the permanent rope record; copying the product label and user instructions/information and keeping the copies with the rope

(6) Referring to the user instructions/information before and after each use

(7) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.2.1.5 The manufacturer shall provide information for the user that additional information regarding moderate elongation laid life saving rope can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.2.1.6 The manufacturer of life safety rope that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of life safety rope and a list of items that the records need to contain.

5. 2 Escape Rope. (renumber 5.2 and rest of section accordingly**)**

5.2.1 Escape Rope Label Requirements

5.1.2.1* Each escape rope item shall have a product label.

5.1.2.2* Where escape rope is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the escape rope shall be required to have at least the continuous identification tape specified in 5.2.1.12.

5.1.2.3 The escape rope product label shall be permitted to be a hang tag affixed to each escape rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the escape rope.

5.1.2.4 All letters shall be at least 1.6 mm (1⁄16 in.) high.

5.1.2.5 All worded portions of the required product label shall at least be in English.

5.1.2.6 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.2.7 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.1.2.8 Each escape rope shall have the following compliance statement on the product label.

"MEETS THE ESCAPE ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION."

5.1.2.9* In addition to the compliance statement specified in 5.1.2.8, at least the following information shall be provided on the product label.

"MINIMUM BREAKING STRENGTH: _____ kN
DIAMETER: _____ mm
Type of fiber(s) _____"

5.1.2.10 The minimum breaking strength value of the escape rope, which is required in 5.2.1.9 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.2.1, but shall not be greater than the calculated minimum breaking strength.

5.1.2.11 The diameter of the escape rope, which is required in 5.2.1.9 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.2.2.

5.1.2.12* In addition to the compliance statement specified in 5.2.1.8, each escape rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR ESCAPE ROPE OF NFPA 1983"
[Certification organization's label, symbol, or identifying mark]
[Name of manufacturer]
[Year and quarter of manufacture (not coded)]

5.1.2.13 In addition to the compliance and information statements in 5.2.1.9 and 5.2.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

(6) Elongation at 1.35 kN (300 lb)

(7) Elongation at 2.7 kN (600 lb)

(8) Elongation at 4.4 kN (1000 lb)

5.2.2 Escape Rope User Requirements (**this one should already be numbered appropriately**)

5.2.2.1 The manufacturer of escape rope, escape webbing, fire escape rope, and fire escape webbing that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.2.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Using the rope only with a life safety harness or escape belt

(2) Inspecting the rope periodically according to the manufacturers' inspection procedure

(3) Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope

(4) Protecting the rope from abrasion

(5) Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature

(6) Keeping the product label and user instructions/information after they are removed/separated from the rope for future reference

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.2.2.3 The manufacturer shall provide information for the user that additional information regarding escape rope, escape webbing, fire escape rope, and fire escape webbing can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.2.2.4 The manufacturer of escape rope that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of escape rope and a list of items that the records need to contain.

5.1.9 Escape Webbing. (renumber to 5.3 and rest of section accordingly**)**

5.3.1 Escape Webbing Label Requirements

5.1.9.1 Escape webbing shall meet the labeling requirements in 5.2.1, excluding 5.2.1.8, 5.2.1.9, 5.2.1.10, 5.2.1.11, and 5.2.1.12.

5.1.9.2 Each escape webbing shall have the following compliance statement on the product label:

"MEETS THE ESCAPE WEBBING REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION."

5.1.9.3* In addition to the compliance statement specified in 5.3.1.3, at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN PERIMETER: _____ mm
Type of fiber(s) _____"

5.1.9.4 The perimeter of the escape webbing, which is required in 5.3.1.3 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.3.2.

5.1.9.5 In addition to the compliance statement specified in 5.3.1.3, each escape webbing shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.).

"MEETS REQUIREMENTS FOR ESCAPE WEBBING OF NFPA 1983"
[Certification organization's label, symbol, or identifying mark]
[Name of manufacturer]
[Year and quarter of manufacture (not coded)]

5.3.1.6 The minimum breaking strength value of the escape webbing, which is required in 5.3.1.3 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.3.1, but shall not be greater than the calculated minimum breaking strength.

5.3.2 Escape Webbing User Information.

5.3.2.1 The manufacturer of escape webbing, that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.3.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Using the webbing only with a life safety harness or escape belt
(2) Inspecting the webbing periodically according to the manufacturers' inspection procedure
(3) Removing the webbing from service and destroying it if the webbing does not pass inspection or if there is any doubt about the safety or serviceability of the webbing
(4) Protecting the webbing from abrasion
(5) Not exposing the webbing to flame or high temperature and carrying the webbing where it will be protected as the webbing could melt or burn and fail if exposed to flame or high temperature
(6) Keeping the product label and user instructions/information after they are removed/separated from the webbing for future reference
(7) Referring to the user instructions/information before and after each use
(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.3.2.3 The manufacturer shall provide information for the user that additional information regarding escape webbing can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.3.2.4 The manufacturer of escape webbing that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of escape webbing and a list of items that the records need to contain.

5.1.12 Fire Escape Rope. (renumber 5.4 and rest of section accordingly**)**

5.4.1 Fire Escape Rope Label Requirements

5.1.12.1* Each fire escape rope item shall have a product label.

5.1.12.2* Where fire escape rope is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the fire escape rope shall be required to have at least the continuous identification tape specified in 5.4.1.12.

5.1.12.3 The fire escape rope product label shall be permitted to be a hang tag affixed to each fire escape rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the fire escape rope.

5.1.12.4 All letters shall be at least 1.6 mm (1⁄16 in.) high.

5.1.12.5 All worded portions of the required product label shall be at least in English.

5.1.12.6 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.12.7 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.1.12.8 Each fire escape rope shall have the following compliance statement on the product label:

"MEETS THE FIRE ESCAPE ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION."

5.1.12.9* In addition to the compliance statement specified in 5.4.1.8, at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN DIAMETER: _____ mm
Type of fiber(s) _____"

5.1.12.10 The minimum breaking strength value of the fire escape rope, which is required in 5.4.1.9 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.2.1, but shall not be greater than the calculated minimum breaking strength.

5.1.12.11 The diameter of the fire escape rope, which is required in 5.4.1.9 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.2.2.

5.1.12.12* In addition to the compliance statement specified in 5.4.1.9, each fire escape rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR FIRE ESCAPE ROPE OF NFPA 1983"
[Certification organization's label, symbol, or identifying mark]
[Name of manufacturer]
[Year and quarter of manufacture (not coded)]

5.1.12.13 In addition to the compliance and information statements in 5.4.1.8 and 5.4.1.9, , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

(6) Elongation at 1.35 kN (300 lb)

(7) Elongation at 2.7 kN (600 lb)

(8) Elongation at 4.4 kN (1000 lb)

5.4.2 Fire Escape Rope User Information.

5.4.2.1 The manufacturer of fire escape rope that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.4.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Using the rope only with a life safety harness or escape belt

(2) Inspecting the rope periodically according to the manufacturers' inspection procedure

(3) Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope

(4) Protecting the rope from abrasion

(5) Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature

(6) Keeping the product label and user instructions/information after they are removed/separated from the rope for future reference

(7) Referring to the user instructions/information before and after each use

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.4.2.3 The manufacturer shall provide information for the user that additional information regarding fire escape rope can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.4.2.4 The manufacturer of fire escape rope that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of fire escape rope and a list of items that the records need to contain.

5.1.10 Fire Escape Webbing. (renumber 5.5 and rest of section accordingly**)**

5.5.1 Fire Escape Webbing Label Requirements

5.1.10.1 Fire escape webbing shall meet the labeling requirements in 5.2.1, escape rope, excluding 5.2.1.8, 5.2.1.9, 5.2.1.10, 5.2.1.11, and 5.2.1.12.

5.1.10.2 Each fire escape webbing shall have the following compliance statement on the product label:

"MEETS THE FIRE ESCAPE WEBBING REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2012 EDITION."

5.1.10.3* In addition to the compliance statement specified in 5.5.1.2, at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: _____ kN PERIMETER: _____ mm
Type of fiber(s) _____"

5.1.10.4 The perimeter of the fire escape webbing, which is required in 5.5.1.3 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.5.2.

5.1.10.5 In addition to the compliance statement specified in 5.5.1.2, each fire escape webbing shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.).

"MEETS REQUIREMENTS FOR FIRE ESCAPE WEBBING OF NFPA 1983"
[Certification organization's label, symbol, or identifying mark]
[Name of manufacturer]
[Year and quarter of manufacture (not coded)]

5.5.1.6 The minimum breaking strength value of the escape webbing, which is required in 5.5.1.3 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.5.1, but shall not be greater than the calculated minimum breaking strength.

5.5.2 Fire Escape Webbing User Information.

5.5.2.1 The manufacturer of fire escape webbing that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.5.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Using the webbing only with a life safety harness or escape belt
(2) Inspecting the webbing periodically according to the manufacturers' inspection procedure
(3) Removing the webbing from service and destroying it if the webbing does not pass inspection or if there is any doubt about the safety or serviceability of the webbing
(4) Protecting the webbing from abrasion
(5) Not exposing the webbing to flame or high temperature and carrying the webbing where it will be protected as the webbing could melt or burn and fail if exposed to flame or high temperature
(6) Keeping the product label and user instructions/information after they are removed/separated from the webbing for future reference
(7) Referring to the user instructions/information before and after each use
(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.5.2.3 The manufacturer shall provide information for the user that additional information regarding fire escape webbing can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.5.2.4 The manufacturer of fire escape webbing that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of fire escape webbing and a list of items that the records need to contain.

5.1.6 Throwlines. (renumber 5.6 and rest of section accordingly**)**

5.6.1 Throwline Label Requirements

5.1.6.1* Each throwline item shall have a product label.

5.1.6.2 Where a throwline is an integral and nonseparable piece of a manufactured system and that manufactured system is certified as compliant with this standard, the throwline shall be required to have at least the continuous identification tape specified in 5.6.1.12.

5.1.6.3 The throwline product label shall be permitted to be a hang tag affixed to each individual throwline or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the throwline.

5.1.6.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.6.5 All worded portions of the required product label shall at least be in English.

5.1.6.6 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.6.7 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.6.1.8* Each throwline shall have the following compliance statement on the product label:

"ROPE MEETS THE THROWLINE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION."

5.1.6.9 In addition to the compliance statement specified in 5.6.1.8, at least the following information shall be provided on the product label.

"MINIMUM BREAKING STRENGTH: _____ kN DIAMETER: _____ mm
Type of fiber(s) _____"

5.1.6.10 The minimum breaking strength value of the throwline, which is required in 5.6.1.9 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.3.1, but shall not be greater than the calculated minimum breaking strength.

5.1.6.11 The diameter of the throwline, which is required in 5.6.1.8 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.3.2.

5.1.6.12 In addition to the compliance statement specified in 5.6.1.8, each throwline shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR THROWLINE OF NFPA 1983"
[Certification organization's label, symbol, or identifying mark]
[Name of manufacturer]
[Year and quarter of manufacture (not coded)]

5.1.6.13 In addition to the compliance and information statements in 5.6.1.8 and 5.6.1.9, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.6.2 Water Rescue Throwline User Information. The manufacturer of a throwline that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.1.14 Moderate Elongation Laid Life Saving Rope. (renumber to 5.7 and rest of section accordingly**)**

5.7.1 Moderate Elongation Laid Life Saving Rope Label Requirements

5.1.14.1 Each moderate elongation laid life saving rope shall have a product label.

5.1.14.2 The moderate elongation laid life saving rope product label shall be permitted to be a hang tag affixed to each rope or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the moderate elongation laid life saving rope.

5.1.14.3 All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.14.4 All worded portions of the required product label shall be at least in English.

5.1.14.5 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.14.6 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.1.14.7 Each moderate elongation laid life saving rope shall have the following compliance statement on the product label:

"MEETS THE MODERATE ELONGATION LAID LIFE SAVING ROPE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION."

5.1.14.8 In addition to the compliance statement specified in 5.7.1.7, at least the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH: ___kN
DIAMETER: ____mm
Type of Fiber(s) :_____:"

5.1.14.9 The minimum breaking strength value of the moderate elongation laid life saving rope, which is required in 5.7.1.8 to be stated on the product label, shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing in accordance with 7.7.1, but shall not be greater than the calculated minimum breaking strength.

5.1.14.10 The diameter of the moderate elongation laid life saving rope, which is required in 5.7.1.8 to be stated on the product label, shall be as determined by the certification organization in accordance with 7.7.2.

5.1.14.11 In addition to the compliance statement specified in 5.7.1.7, each moderate elongation laid life saving rope shall also be marked for its full length by insertion of a continuous identification tape(s). At least the following statement and information shall be legibly printed on the tape not less than every 1 m (39 in.):

"MEETS REQUIREMENTS FOR MODERATE ELONGATION LAID LIFE SAVING ROPE OF NFPA 1983"
[Certification organization's label, symbol, or identifying mark]
[Name of manufacturer]
[Year and quarter of manufacture (not coded)]

5.1.14.12 In addition to the compliance and information statements specified in 5.7.1.7, 5.7.1.8, and 5.7.1.11, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

(6) Elongation at 1.35 kN (300 lbf)

(7) Elongation at 2.7 kN (600 lbf)

(8) Elongation at 4.4 kN (1000 lbf)

5.2.10 Moderate Elongation Laid Life Saving Rope User Information. (renumber to 5.7.2 and rest of section accordingly**)**

5.2.10.1 The manufacturer of moderate elongation laid life saving rope that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.2.10.2 The manufacturer shall provide information for the user to consider prior to reusing moderate elongation laid life saving rope, including that the rope be considered for reuse only if all of the following conditions are met:

(1) Rope has not been visually damaged.

(2) Rope has not been exposed to heat, direct flame impingement, or abrasion.

(3) Rope has not been subjected to any impact load.

(4) Rope has not been exposed to liquids, solids, gases, mists, or vapors of any chemical or other material that can deteriorate rope.

(5) Rope passes inspection when inspected by a qualified person following the manufacturer's inspection procedures both before and after each use.

5.2.10.3 The manufacturer shall provide information for the user regarding not using the moderate elongation laid life saving rope and removing the rope from service if the rope does not meet all of the conditions in 5.7.2.2, if the rope does not pass inspection, or if there is any doubt about the safety or serviceability of the rope.

5.2.10.4 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the rope periodically according to the manufacturer's inspection procedure

(2) Removing the rope from service and destroying it if the rope does not pass inspection or if there is any doubt about the safety or serviceability of the rope

(3) Protecting the rope from abrasion

(4) Not exposing the rope to flame or high temperature and carrying the rope where it will be protected as the rope could melt or burn and fail if exposed to flame or high temperature

(5) Keeping the product label and user instructions/information after they are removed/separated from the rope and retaining them in the permanent rope record; copying the product label and user instructions/information and keeping the copies with the rope

(6) Referring to the user instructions/information before and after each use

(7) Cautioning that if the instructions/information are not followed, the user could suffer serious consequences

5.2.10.5 The manufacturer shall provide information for the user that additional information regarding victim extrication devices can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.
5.7.2.6 The manufacturer of moderate elongation laid life saving ropes that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of moderate elongation laid life saving rope and a list of items that the records need to contain.

5.1.13 Manufacturer-Supplied Eye Termination. (renumber 5.8 and rest of section accordingly**)**

5.8.1 Manufacturer-Supplied Eye Termination Label Requirements
5.1.13.1 Each manufacturer-supplied eye termination shall have a product label.

5.1.13.2 The manufacturer-supplied eye termination product label shall be permitted to be a hang tag affixed to each manufacturer-supplied eye termination or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the manufacturer-supplied eye termination.

5.1.13.3 All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.13.4 All worded portions of the required product label shall be at least in English.

5.1.13.5 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.13.6 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.1.13.7 Each manufacturer-supplied eye termination shall have the following compliance statement on the product label:

"MEETS THE MANUFACTURER-SUPPLIED EYE TERMINATION REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION
MBS: _____kN"

5.1.13.8 In addition to the compliance statement specified in 5.8.1.7, at least the following information shall be provided on the product label:

"THIS (ROPE OR ESCAPE WEBBING) IS CERTIFIED AS CLASS: _____ (ROPE OR WEBBING) WITH MBS OF ___kN
DIAMETER: _____mm
Type of Fibers: _____,
Thread Fiber: _____"

5.1.13.9 In addition to the compliance and information statements in 5.8.1.7 and 5.8.1.8, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacturer

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.8.1.10 Where the manufacturer of the life safety, escape, or fire escape rope, and the manufacturer of the manufacturer supplied eye termination are the same, the labeling for both the rope and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the rope and of the manufacturer-supplied eye termination as given in 5.8.1.1 through 5.8.1.9 is included on the label.

5.8.111 Where the manufacturer of the rope and the manufacturer of the manufacturer supplied eye termination are the same, the labeling for both the rope and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the rope and of the manufacturer-supplied eye termination as given in 5.8.1.1 through 5.8.1.9 is included on the label.

5.8.1.12 Where the manufacturer of the manufactured system and the manufacturer of the manufacturer-supplied eye termination are the same, the labeling for both the system and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the manufactured system and of the manufacturer-supplied eye termination as given in 5.8.1.1 through 5.8.1.9 is included on the label.

5.8.1.13 Where the manufacturer of the escape webbing and the manufacturer of the manufacturer-supplied eye termination are the same, the labeling for both the escape webbing and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required product label information of the escape webbing and of the manufacturer-supplied eye termination as given in 5.8.1.1 through 5.8.1.9 is included on label.

5.2.9 Manufacturer-Supplied Eye Termination User Information. (renumber 5.8.2 and rest of section accordingly**)**

5.2.9.1 The manufacturer of the manufacturer-supplied eye termination that is certified as being compliant with the this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.2.9.2 The manufacturer shall provide information for the user to consider prior to reusing manufacturer-supplied eye termination, including that the rope be considered for reuse only if all of the following conditions are met:

(1) Manufacturer-supplied eye termination has not been visually damaged.

(2) Manufacturer-supplied eye termination has not been exposed to heat, direct flame impingement, or abrasion.

(3) Manufacturer-supplied eye termination has not been subjected to any impact load.

(4) Manufacturer-supplied eye termination has not been exposed to liquids, solids, gases, mists, or vapors of any chemical or other material that can deteriorate the manufacturer-supplied eye termination.

(5) Manufacturer-supplied eye termination passes inspection when inspected by a qualified person following the manufacturer's inspection procedures both before and after each use.

5.2.9.3 The manufacturer shall provide information for the user regarding not using the manufacturer-supplied eye termination and removing the manufacturer-supplied eye termination from service if the rope does not meet all of the conditions in 5.8.2.2, if the manufacturer-supplied eye termination does not pass inspection, or if there is any doubt about the safety or serviceability of the manufacturer-supplied eye termination.

5.2.9.4 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the manufacturer-supplied eye termination periodically according to the manufacturer's inspection procedure

(2) Removing the manufacturer-supplied eye termination from service and destroying it if the manufacturer-supplied eye termination does not pass inspection or if there is any doubt about the safety of the manufacturer-supplied eye termination

(3) Protecting the manufacturer-supplied eye termination from abrasion

(4) Not exposing the manufacturer-supplied eye termination to flame or high temperature and carrying the manufacturer-supplied eye termination where it will be protected as the manufacturer-supplied eye termination could melt or burn and fail if exposed to flame or high temperature

(5) Keeping the product label and user instructions/information after they are removed/separated from the manufacturer-supplied eye termination and retaining them in the permanent manufacturer-supplied eye termination record; copying the product label and user information/instructions and keeping copies with the manufacturer-supplied eye termination

(6) Referring to the user instructions/information before and after each use

(7) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.2.9.5 The manufacturer of manufacturer-supplied eye termination that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of manufacturer-supplied eye termination and a list of items that the records need to contain.

5.2.9.5.1 The suggested inspection records shall include inspection of the loop of the eye, inspection for worn or broken thread in sewn termination, and inspection of contact point of swage and rope in swage termination.

5.2.9.6 Where the manufacturer of the rope and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the rope and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the rope and required user information/instructions of manufacturer-supplied eye termination as given in 5.8.2.1 through 5.8.2.5.1 are included in the user information/instructions.

5.8.2.7 Where the manufacturer of the escape webbing and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the escape webbing and the manufacturer-

supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the escape webbing and required user information/instructions of manufacturer-supplied eye termination as given in 5.8.2.1 through 5.8.2.5.1 are included in the user information/instructions.

5.8.2.8 Where the manufacturer of the throwline and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the throwline and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the throwline and required user information/instructions of manufacturer-supplied eye termination as given in 5.8.2.1 through 5.8.2.5.1 are included in the user information/instructions.

5.8.2.9 Where the manufacturer of the manufactured system and the manufacturer of the manufacturer-supplied eye termination are the same, the user information/instructions for both the manufactured system and the manufacturer-supplied eye termination shall be permitted to be combined, as long as all required user information/instructions of the manufactured system and required user information/instructions of the manufacturer-supplied eye termination as given in 5.8.2.1 through 5.8.2.5.1 are included in the user information/instructions.

5.8.2.10 The manufacturer shall provide information for the user that additional information regarding manufacturer-supplied eye termination can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.1.3 Life Safety Harness. (renumber 5.9 and rest of section accordingly**)**

5.9.1 Life safety Harness Label Requirements

5.1.3.1 Each life safety harness item shall have a product label.

5.1.3.2 Harnesses used in manufactured systems shall be required to be individually labeled.

5.1.3.3 Harness product labels shall be embossed, printed, sewn, stapled, riveted, or otherwise permanently attached to the harness.

5.1.3.4 Harness product labels shall be conspicuously located on each harness when the harness is properly assembled with all components in place.

5.1.3.5 All letters shall be at least 2 mm (5⁄64 in.) high

5.1.3.6 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.3.7 All worded portions of the required product label shall at least be in English.

5.1.3.8 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.3.9 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.1.3.10 Where the life safety harness is certified as compliant with only the nonoptional requirements of the standard and is not certified with the optional flame resistance requirements, the following statement shall be printed legibly on the product label:

"MEETS THE LIFE SAFETY HARNESS REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION, CLASS _____. THIS HARNESS IS NOT FLAME-RESISTANT! DO NOT REMOVE THIS LABEL!"

5.1.3.11 Where the life safety harness is certified as compliant with nonoptional requirements of this standard and also certified as compliant with the optional flame resistance requirements specified in 6.3.9, the following statement shall be printed legibly on the product label:

"MEETS THE LIFE SAFETY HARNESS REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION, AND THE OPTIONAL FLAME RESISTANCE REQUIREMENTS OF NFPA 1983, CLASS _____. DO NOT REMOVE THIS LABEL!"

5.1.3.12* In addition to the compliance statement specified in 5.9.1.10 or 5.9.1.11, at least the following information shall be provided on the product label:

(1) For Class II harness: **"Fits waist size _____"**

(2) For one-piece Class III harness: **"Fits waist size _____, Fits height _____"** or **"Fits chest size _____, Fits height _____"**

(3) For multiple-piece Class III harness: **"Fits waist size _____, Fits height _____"** or **"Fits chest size _____, Fits height _____"**

This is one part of a multiple-piece harness and must be used in conjunction with component part number ___ in order to fully meet the criteria of Class ___ harness."

5.1.3.13 The class designation of the life safety harness required to be stated on the product label(s) shall be as determined by the certification organization in accordance with 6.9.1.

5.1.3.14 In addition to the compliance and information statements in 5.9.1.10, 5.9.1.12 , and 5.9.1.15, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.1.3.15 Where detachable components must be used with a life safety harness in order for the life safety harness to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the life safety harness. All letters shall be at least 2.5 mm (3⁄32 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS LIFE SAFETY HARNESS:"

[The detachable component(s) shall be listed here.]

5.2.3 Life Safety Harness User Information. (renumber 5.9.2 and the rest of the section accordingly**)**

5.2.3.1 The manufacturer of life safety harnesses that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.2.3.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the harness periodically according to the manufacturer's inspection procedure.

(2) Removing the harness from service and destroying it if the harness does not pass inspection or if there is any doubt about the safety or serviceability of the harness.

(3) For a life safety harness certified to only the nonoptional requirements of the standard, not exposing the harness to flame or high temperature and carrying the harness where it will be protected, as the harness could melt or burn and fail if exposed to flame or high temperature.

(4) Repairing the harness only in accordance with the manufacturer's instructions.

(5) Keeping the user instructions/information after they are separated from the harness and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the harness.
(6) Referring to the user instructions/information before and after each use.
(7) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.2.3.3 The manufacturer shall provide information for the user that additional information regarding life safety harnesses can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.2.3.4 The manufacturer of life safety harnesses that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of life safety harnesses and a list of items that the records need to contain.

5.2.3.5 The manufacturer of life safety harnesses that are certified as being compliant with this standard shall indicate that tie-off is required for webbing ends if tie-off of webbing end(s) was required during testing. The instructions shall include location(s) and method(s) with text and/or illustrations.

5.1.4 Belts. (renumber 5.10 and rest of section accordingly**)**

5.10.1 Belt Label Requirements

5.1.4.1 Each belt item shall have a product label.

5.1.4.2 Belts used in manufactured systems shall be required to be individually labeled.

5.1.4.3 Belt product labels shall be embossed, printed, sewn, stapled, riveted, or otherwise permanently attached to the belt.

5.1.4.4 Belt product labels shall be conspicuously located on each belt when the belt is properly assembled with all components in place.

5.1.4.5 All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.4.6 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.4.7 All worded portions of the required product label shall at least be in English.

5.1.4.8 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.4.9 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.1.4.10 Where the belt is certified as compliant with only the nonoptional requirements of the standard and is not certified with the optional flame resistance requirements, the following statement shall be printed legibly on the product label:

"MEETS THE BELT REQUIREMENTS OF NFPA 1983*, STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION, TYPE _____. THIS BELT IS NOT FLAME-RESISTANT! DO NOT REMOVE THIS LABEL!"

5.1.4.11 Where the belt is certified as compliant with nonoptional requirements of this standard and also certified as compliant with the optional flame resistance requirements specified in 6.4.9, the following statement shall be printed legibly on the product label:

"MEETS THE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION, AND THE OPTIONAL FLAME RESISTANCE REQUIREMENTS OF NFPA 1983, TYPE _____. DO NOT REMOVE THIS LABEL!"

5.1.4.12 In addition to the compliance statement specified in 5.10.1.10 or 5.10.1.11 , at least the following information shall be provided on the product label:

"Fits waist size _____"

5.1.4.13 The type designation of belt required to be stated on the product label shall be as determined by the certification organization in accordance with 6.10.1.

5.1.4.14 In addition to the compliance and information statements in 5.10.1.10 or 5.10.1.11, 5.10.12 and 5.10.1.15 , at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.1.4.15 Where detachable components must be used with the belt in order for the belt to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the belt. All letters shall be at least 2.5 mm (3⁄32 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS BELT:"

[The detachable component(s) shall be listed here.]

5.2.4 Belt User Information. (renumber 5.10.2 and rest of section accordingly**)**

5.2.4.1 The manufacturer of belts that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.2.4.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the belt periodically according to the manufacturer's inspection procedure.

(2) Removing the belt from service and destroying it if the belt does not pass inspection or if there is any doubt about the safety or serviceability of the belt.

(3) For belts certified to only the nonoptional requirements of the standard, not exposing the belt to flame or high temperature and carrying the belt where it will be protected, as the belt could melt or burn and fail if exposed to flame or high temperature.

(4) Repairing the belt only in accordance with the manufacturer's instructions.

(5) Keeping the user instructions/information after they are separated from the belt and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the belt

(6) Referring to the user instructions/information before and after each use.

(7) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.2.4.3 The manufacturer shall provide information for the user that additional information regarding belts can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.2.4.4 The manufacturer of belts that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of belts and a list of items that the records need to contain.

5.2.4.5 The manufacturer of belts that are certified as being compliant with this standard shall indicate that tie-off of webbing end(s) is required for webbing end(s) if tie-off of webbing end(s) was required during testing. The instructions shall include location(s) and method(s) with text and/or illustrations.

5.1.7 Victim Extrication Device. (renumber 5.11 and rest of section accordingly**)**

5.11.1 Victim Extrication Device Label Requirements

5.1.7.1 Each victim extrication device shall have a product label.

5.1.7.2 Each victim extrication device shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information.

5.1.7.2.1 Each victim extrication device shall display the mark or logo of the certification organization , and the manufacturer's name or identifying mark.

5.1.7.3 All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.7.4 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.7.5 All worded portions of the required product label shall be at least in English.

5.1.7.6 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.7.7 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.7.8 Each victim extrication device shall have the following compliance statement on the product label:

"MEETS THE VICTIM EXTRICATION DEVICE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION, CLASS_____."

5.1.7.9 In addition to the compliance and information statements in 5.11.1.8, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.1.7.10 Where detachable components must be used with a victim extrication device in order for the device to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the device. All labels shall be at least 2 mm (5⁄64 in.) high. The detachable components shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS VICTIM EXTRICATION DEVICE:" [The detachable component(s) shall be listed here.]

5.2.7 Victim Extrication Device User Information. (renumber 5.11.2 and rest of section accordingly**)**

5.2.7.1 The manufacturer of the victim extrication device that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.2.7.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the victim extrication device periodically according to the manufacturer's inspection procedure

(2) Removing the victim extrication device from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the victim extrication device in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning victim extrication device to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded

(5) Not exposing any software component of the victim extrication device to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

(6) Repairing the victim extrication device only in accordance with the manufacturer's instructions

(7) Keeping the user instructions/information after they are separated from the victim extrication device and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(8) Referring to the user instructions/information before and after each use

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.2.7.3 The manufacturer of a victim extrication device that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the victim extrication device and a list of items that the records need to contain.

5.12 End-to-End Straps.

5.12.1 End-to-End Straps Label Requirements.

5.12.1.1 Each end-to-end strap shall have a product label.

5.12.1.2 End-to-End strap labels shall be embossed, printed, sewn, stapled, riveted, or otherwise permanently attached to the strap.

5.12.1.3 End-to-End strap labels shall be conspicuously located on each strap when the strap is properly assembled with all components in place.

5.12.1.4 All letters shall be at least 2 mm (5/64 in.) high.

5.12.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.12.1.6 All worded portions of the required product label shall at least be in English.

5.12.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.12.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.12.1.9 End-to-End Strap labels shall display a "G" for general use and "T" for technical use. The designation "G" or "T" shall be designated in accordance with 6.12.1.

5.12.1.10 Each end-to-end strap shall have the following compliance statement on the product label:

"MEETS THE END-TO-END STRAP REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,*
2017 EDITION"

5.12.1.11 In addition to the compliance statement specified in 5.12.1.10, the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH OF
_____ kN WHEN PULLED END TO END."

5. 12.1.12 In addition to the compliance and information statements in 5.12.1.9, 5.12.1.10, and 5.12.1.11, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.12.2 End-to-End Strap User Information

5.12.2.1 The manufacturer of end-to-end straps that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.12.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the strap periodically according to the manufacturer's inspection procedure.

(2) Removing the strap from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the strap.

(3) Maintaining the strap in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning straps to the manufacturer or to a qualified inspection person/center if the strap is dropped or impact-loaded.

(5) Not exposing the strap to flame or high temperature and carrying the strap where it will be protected as it could melt or burn and fail if exposed to flame or high temperature.

(6) Repairing the strap only in accordance with the manufacturer's instructions.

(7) Keeping the user instructions/information after they are separated from the strap and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the strap.

(8) Referring to the user instructions/information before and after each use.

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.12.2.3 The manufacturer shall provide information for the user that additional information regarding end-to-end straps can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.12.2.4 The manufacturer of end-to-end straps that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the strap and a list of items that the records need to contain.

5.13 Multiple Configuration Straps.

5.13.1 Multiple Configuration Straps Label Requirements.

5.13.1.1 Each multiple configuration strap shall have a product label.

5.13.1.2 Multiple Configuration strap labels shall be embossed, printed, sewn, stapled, riveted, or otherwise permanently attached to the strap.

5.13.1.3 Multiple Configuration strap labels shall be conspicuously located on each strap when the strap is properly assembled with all components in place.

5.13.1.4 All letters shall be at least 2 mm (5/64 in.) high.

5.13.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.13.1.6 All worded portions of the required product label shall at least be in English.

5.13.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.13.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.13.1.9 Multiple Configuration labels shall display a "G" for general use and "T" for technical use. The designation "G" or "T" shall be designated in accordance with 6.13.1.

5.13.1.10 Each multiple configuration strap shall have the following compliance statement on the product label:

"MEETS THE MULTIPLE CONFIGURATION STRAP REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2017 EDITION"

5.13.1.11 In addition to the compliance statement specificed in 5.13.1.10, the following information shall be provided on the product label:

"MINIMUM BREAKING STRENGTH AND RATING ARE DETERMINED USING A BASKET (U) CONFIGURATION. IN ADDITION, THIS STRAP HAS A MINIMUM BREAKING STRENGTH OF:

_____ kN IN A CHOKER CONFIGURATION

_____ kN WHEN PULLED END TO END."

5. 13.1.12 In addition to the compliance and information statements in 5.13.1.9, 5.13.1.10, and 5.13.1.11, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.13.2 Multiple Configuration Strap User Information

5.13.2.1 The manufacturer of multiple configuration straps that are certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.13.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the strap periodically according to the manufacturer's inspection procedure.

(2) Removing the strap from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the strap.

(3) Maintaining the strap in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning straps to the manufacturer or to a qualified inspection person/center if the strap is dropped or impact-loaded.

(5) Not exposing the strap to flame or high temperature and carrying the strap where it will be protected as it could melt or burn and fail if exposed to flame or high temperature.

(6) Repairing the strap only in accordance with the manufacturer's instructions.

(7) Keeping the user instructions/information after they are separated from the strap and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the strap.

(8) Referring to the user instructions/information before and after each use.

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.13.2.3 The manufacturer shall provide information for the user that additional information regarding multiple configuration straps can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.13.2.4 The manufacturer of multiple configuration straps that are certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the strap and a list of items that the records need to contain.

5.14 Belay Devices.

5.14.1 Belay Devices Label Requirements.

5.14.1.1 Each belay device shall have a product label.

5.14.1.2 Each belay device shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.14.1.2.1 through 5.14.1.2.4

5.14.1.2.1 Each belay shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.14.1.2.2 Each belay device shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.14.1.2.3 Each belay device shall display a "G" for general use or "T" for technical use. The designation "G" or "T" shall be designated in accordance with 6.14.2.

5.14.1. 2.4 Each belay device shall also display the range of rope diameters with which the device is intended to be used.

5.14.1.3 The product label for the portions of the product label information not specified in 5.14.1.2.1 through 5.14.1.2.4 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the auxiliary equipment item.

5.14.1.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.14.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.14.1.6 All worded portions of the required product label shall at least be in English.

5.14.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.14.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.14.1.9 Each belay device shall have the following compliance statement on the product label.

"MEETS THE BELAY DEVICE REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2017 EDITION."

5.14.1.10 In addition to the compliance statement specified in 5.14.1.9, at least the information required in 5.14.1.2.3 and 5.14.1.2.4 shall also be provided on the printed product label.

5.14.1.11 In addition to the compliance and information statements in 5.14.1.9 and 5.14.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.14.2 Belay Device User Information.

5.14.2.1 The manufacturer of belay device that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.14.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the belay device periodically according to the manufacturer's inspection procedure.

(2) Removing the belay device from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

(3) Maintaining the belay device in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning belay device to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.

(5) Repairing the belay device only in accordance with the manufacturer's instructions.

(6) Keeping the user instructions/information after they are separated from the belay device and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.

(7) Referring to the user instructions/information before and after each use.

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.14.2.3 The manufacturer shall provide information for the user that additional information regarding auxiliary equipment can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.14.2.4 The manufacturer of belay device that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the belay device and a list of items that the records need to contain.

5.14.2.5* Because belay is tested with a rope, the following statement shall be provided in the user instructions:

"THIS BELAY DEVICE HAS PASSED THE MANNER OF FUNCTION TEST USING THE FOLLOWING ROPE: [insert rope manufacturer name, designation, part number, and diameter here]."

5.14.2.6 Where the auxiliary equipment has been tested with multiple ropes, each rope,shall be listed in the user instructions.

5.15 Carabiners and Snap Links.

5.15.1 Carabiners and Snap Links Label Requirements.

5.15.1.1 Each carabiner and snap-link shall have a product label.

5.15.1.2 Each carabiner and snap-link shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.15.1.2.1 through 5.15.1.2.5.

5.15.1.2.1 Each carabiner and snap-link shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.15.1.2.2 Each carabiner and snap-link shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.15.1.2.3 Each carabiner and snap-link shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.15.1.2.4 Each carabiner and snap-link shall display a "G" for general use items or a "T" for technical use items The designation "G" or "T" shall be designated in accordance with 6.15.2.

5.15.1.3 The product label for the portions of the product label information not specified in 5.15.1.2.1 through 5.15.1.2.4 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the auxiliary equipment item.

5.15.1.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.15.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.15.1.6 All worded portions of the required product label shall at least be in English.

5.15.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.15.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.15.1.9 Each carabiner and snap-link shall have the following compliance statement on the product label.

"MEETS THE [insert CARABINER OR SNAP-LINK here] REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2017 EDITION."

5.15.1.10 In addition to the compliance statement specified in 5.15.1.9, at least the information required in 5.15.1.2.3 and 5.15.1.2.4 shall also be provided on the printed product label.

5.15.1.12 In addition to the compliance and information statements in 5.15.1.9 and 5.15.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.15.2 Carabiner and Snap-Link User Information.

5.15.2.1 The manufacturer of carabiner and snap-link that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.15.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the carabiner or snap-link periodically according to the manufacturer's inspection procedure.

(2) Removing the carabiner or snap-link from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

(3) Maintaining the carabiner or snap-link in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning carabiner or snap-link to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.

(5) Repairing the carabiner or snap-link only in accordance with the manufacturer's instructions.

(6) Keeping the user instructions/information after they are separated from the carabiner or snap-link and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.

(7) Referring to the user instructions/information before and after each use.

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.15.2.3 The manufacturer shall provide information for the user that additional information regarding carabiners and snap-links can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.15.2.4 The manufacturer of carabiner or snap-link that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the carabiner or snap-link and a list of items that the records need to contain.

5.16 Descent Control Devices.

5.16.1 Descent Control Devices Label Requirements.

5.16.1 Each descent control device shall have a product label.

5.16.1.2 Each descent control device shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.16.1.2.1 through 5.16.1.2.5.

5.16.1.2.1 Each descent control device shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.16.1.2.2 Each descent control device shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.16.1.2.3 Each descent control device shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.16.1.2.4 Each descent control device shall display a "G" for general use items, a "T" for technical use items, or an "E" for escape use items. The designation "G," "T," or "E" shall be designated in accordance with 6.16.2.

5.16.1.2.5 Each descent control device shall also display the range of rope diameters with which the device is intended to be used.

5.16.1.3 The product label for the portions of the product label information not specified in 5.16.1.2.1 through 5.16.1.2.5 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the auxiliary equipment item.

5.16.1.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.16.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.16.1.6 All worded portions of the required product label shall at least be in English.

5.16.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.16.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.16.1.9 Each descent control device shall have the following compliance statement on the product label.

"MEETS THE DESCENT CONTROL DEVICE OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2017 EDITION."

5.16.1.10 In addition to the compliance statement specified in 5.16.1.9, at least the information required in 5.16.1.2.3 through 5.16.12.5 shall also be provided on the printed product label.

5.16.1.11 In addition to the compliance and information statements in 5.16.1.9 and 5.16.1.10 at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.16.1.12 Where detachable components must be used with the descent control device in order for the descent control device to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the item. All letters shall be at least 2 mm (5⁄64 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS DESCENT CONTROL DEVICE:"

[The detachable component(s) shall be listed here.]

5.16.2. Descent Control Device User Information.

5.16.2.1 The manufacturer of descent control device that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.16.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the descent control device periodically according to the manufacturer's inspection procedure.

(2) Removing the descent control device from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

(3) Maintaining the descent control device in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning descent control device to the manufacturer or to a qualified inspection person/center if the descent control device is dropped or impact-loaded.

(5) Not exposing the rope or webbing used with the descent control device and any other software to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature.

(6) Repairing the descent control device only in accordance with the manufacturer's instructions.

(7) Keeping the user instructions/information after they are separated from the descent control device and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the descent control device.
(8) Referring to the user instructions/information before and after each use.
(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.16.2.3 The manufacturer shall provide information for the user that additional information regarding descent control devices can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.16.2.4 The manufacturer of descent control device that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the descent control device and a list of items that the records need to contain.

5.16.2.5* Because the descent control device is tested with a rope or escape webbing, the following statement shall be provided in the user instructions:

For rope:

"THIS DESCENT CONTROL DEVICE HAS PASSED THE MINIMUM BREAKING STRENGTH AND HOLDING LOAD TEST USING THE FOLLOWING ROPE: [insert rope manufacturer name, designation, part number, and diameter here]."

For escape webbing:

"THIS DESCENT CONTROL DEVICE HAS PASSED THE MINIMUM BREAKING STRENGTH AND HOLDING LOAD TEST USING THE FOLLOWING ESCAPE WEBBING: [insert webbing manufacturer name, designation, part number, and perimeter here]."

5.16.2.6 Where the descent control device has been tested with multiple ropes and/or escape webbings, each rope and/or escape webbing shall be listed in the user instructions.

5.17 ESCAPE ANCHOR

5.17.1 Escape Anchor Label Requirements.

5.17.1.1 Each escape anchor shall have a product label.

5.17.1.2 Each escape anchor shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.17.1.2.1 through 5.17.1.2.4

5.17.1.2.1 Each escape anchor shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.17.1.2.2 Each escape anchor shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.17.1.2.3 Each escape anchor shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.17.1.2.4 Each escape anchor shall display an "E" for escape use items.

5.17.1.3 The product label for the portions of the product label information not specified in 5.17.1.2.1 through 5.17.1.2.5 shall be permitted to be a hang tag affixed to each individual escape anchor or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the escape anchor.

5.17.1.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.17.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.17.1.6 All worded portions of the required product label shall at least be in English.

5.17.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.17.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.17.1.9 Each escape anchor shall have the following compliance statement on the product label.

"MEETS THE ESCAPE ANCHOR REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2017 EDITION."

5.17.1.10 In addition to the compliance statement specified in 5.17.1.9, at least the information required in 5.17.1.2.3 and 5.17.1.2.4 shall also be provided on the printed product label.

5.17.1.11 In addition to the compliance and information statements in 5.17.1.9 and 5.17.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.17.2 Escape Anchor User Information.

5.17.2.1 The manufacturer of escape anchor that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.17.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the escape anchor periodically according to the manufacturer's inspection procedure.

(2) Removing the escape anchor from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

(3) Maintaining the escape anchor in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning escape anchor to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.

(6) Repairing the escape anchor only in accordance with the manufacturer's instructions.

(7) Keeping the user instructions/information after they are separated from the escape anchor and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.

(8) Referring to the user instructions/information before and after each use.

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.17.2.3 The manufacturer shall provide information for the user that additional information regarding escape anchors can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.17.2.4 The manufacturer of escape anchor that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the escape anchor and a list of items that the records need to contain.

5.1.8 Litters. (renumber 5.18 and rest of section accordingly**)**

5.18.1 Litter Label Requirements

5.18.1.1 Each litter shall have a product label.

5.18.1.2 Each litter shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.18.1.2.1 through 5.18.1.2.2.

5.18.1.2.1 Each litter shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)"

5.18.1.2.2 Each litter shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.18.1.3 The product label for the portions of the product label information not specified in 5.18.1.2.1 and 5.18.1.2.2 shall be permitted to be a hang tag affixed to each individual litter.

5.1.8.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.8.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.8.6 All worded portions of the required product label shall be at least in English.

5.1.8.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.8.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.8.9 Each litter shall have the following compliance statement on the product label:

"MEETS THE LITTER REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION."

5.1.8.10 In addition to the compliance statement specified in 5.18.1.9, litters shall include the following additional information on the product label:

"VERTICAL BREAKING STRENGTH: _____kN. HORIZONTAL BREAKING STRENGTH: _____kN"

5.1.8.11 In addition to the compliance and information statements in 5.18.1.9 and 5.18.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.2.8 Litter User Information. (renumber 5.18.2 and rest of section accordingly)**

5.2.8.1 The manufacturer of the litter that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.2.8.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the litter periodically according to the manufacturer's inspection procedure

(2) Removing the litter from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment

(3) Maintaining the litter in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration

(4) Returning litter to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded

(5) Not exposing any software component of the litter to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature

(6) Repairing the litter only in accordance with the manufacturer's instructions

(7) Keeping the user instructions/information after they are separated from the litter and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment

(8) Referring to the user instructions/information before and after each use

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences

5.2.8.3 The manufacturer shall provide information for the user that additional information regarding litters can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.2.8.4 The manufacturer of a litter that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the litter and a list of items that the records need to contain.

5.19 PORTABLE ANCHORS.

5.19.1 Portable Anchors Label Requirements.

5.19.1.1 Each portable anchor shall have a product label.

5.19.1.2 Each portable anchor shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.19.1.2.1 through 5.19.1.2.4.

5.19.1.2.1 Each portable anchor shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.19.1.2.2 Each portable anchor shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.19.1.2.3 Each portable anchor shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater

than the actual “pass” requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.19.1.2.4 Each portable anchor shall display a “G” for general use items or a “T” for technical use. The designation “G” or “T” shall be designated in accordance with 6.19.2.

5.19.1.3 The product label for the portions of the product label information not specified in 5.19.1.2.1 through 5.19.1.2.4 shall be permitted to be a hang tag affixed to each portable anchor or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains portable anchor.

5.19.1.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.19.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.19.1.6 All worded portions of the required product label shall at least be in English.

5.19.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.19.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.19.1.9 Each portable anchor shall have the following compliance statement on the product label.

“MEETS THE PORTABLE ANCHOR REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2017 EDITION.”

5.19.1.10 In addition to the compliance statement specified in 5.19.1.9, at least the information required in 5.19.1.2.3 through 5.19.1.2.4 shall also be provided on the printed product label.

5.19.1.11 In addition to the compliance statement specified in 5.19.1.9, portable anchors shall include the following additional information on the product label:

“MINIMUM BREAKING STRENGTH AND RATING ARE DETERMINED AT THE CONFIGURATION OF LOWEST STRENGTH PER MANUFACTURER'S INSTRUCTIONS.”

5.19.1.12 In addition to the compliance and information statements in 5.19.1.9, 5.19.1.10, and 5.19.1.11, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.19.1.13 Where detachable components must be used with the portable anchor in order for the portable anchor to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the item. All letters shall be at least 2 mm (5⁄64 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

“TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS PORTABLE ANCHOR:”

[The detachable component(s) shall be listed here.]

5.19.2 Portable Anchor User Information.

5.19.2.1 The manufacturer of the portable anchor that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.19.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the portable anchor periodically according to the manufacturer's inspection procedure.

(2) Removing the portable anchor from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

(3) Maintaining the portable anchor in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning portable anchor to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.

(5) Repairing the portable anchor only in accordance with the manufacturer's instructions.

(6) Keeping the user instructions/information after they are separated from the portable anchor and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.

(7) Referring to the user instructions/information before and after each use.

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.19.2.3 The manufacturer shall provide information for the user that additional information regarding portable anchors can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.19.2.4 The manufacturer of portable anchor that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the portable anchor and a list of items that the records need to contain.

5.19.2.5 The manufacturer of portable anchors shall provide information for the user that indicates the actual configuration of the device when meeting the breaking strength requirement, including the height, attachment points, and angular configuration of the legs, such that the user can set up the equipment in the same configuration as tested.

5.20 PULLEYS.

5.20.1 Pulley Label Requirements.

5.20.1.1 Each pulley shall have a product label.

5.20.1.2 Each pulley shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.1.5.2.1 through 5.1.5.2.5.

5.20.1.2.1 Each pulley shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)."

5.20.1.2.2 Each pulley shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.20.1.2.3 Each pulley shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.20.1.2.4 Each pulley shall display a "G" for general use items or "T" for technical use items. The designation "G" or "T" shall be designated in accordance with 6.20.2.

5.20.1.3 The product label for the portions of the product label information not specified in 5.20.1.2.1 through 5.20.1.2.4 shall be permitted to be a hang tag affixed to each individual pulley or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the pulley.

5.20.1.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.20.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.20.1.6 All worded portions of the required product label shall at least be in English.

5.20.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.20.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.20.1.9 Each pulley shall have the following compliance statement on the product label.

"MEETS THE PULLEY REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2017 EDITION."

5.20.1.10 In addition to the compliance statement specified in 5.20.1.9, at least the information required in 5.20.1.2.3 and 5.20.1.2.4 shall also be provided on the printed product label.

5.20.1.11 In addition to the compliance and information statements in 5.20.1.9 and 5.20.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.20.2 Pulley User Information.

5.20.2.1 The manufacturer of pulley that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.20.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the pulley periodically according to the manufacturer's inspection procedure.

(2) Removing the pulley from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

(3) Maintaining the pulley in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning pulley to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.

(5) Repairing the pulley only in accordance with the manufacturer's instructions.

(6) Keeping the user instructions/information after they are separated from the pulley and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.

(7) Referring to the user instructions/information before and after each use.

(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.20.2.3 The manufacturer shall provide information for the user that additional information regarding pulleys can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.20.2.4 The manufacturer of pulley that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the pulley and a list of items that the records need to contain.

5.21 ROPE GRABS AND ASCENDING DEVICES.

5.21.1 Rope Grab and Ascending Devices Label Requirements.

5.21.1.1 Each rope grab and ascending device shall have a product label.

5.21.1.2 Each rope grab and ascending device shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.21.1.2.1 through 5.21.1.2.4.

5.21.1.2.1 Each rope grab and ascending device shall have the following compliance statement:
"MEETS NFPA 1983 (2017 ED)."

5.21.1.2.2 Each rope grab and ascending device shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.21.1.2.3 Each rope grab and ascending device shall display a "G" for general use or "T" for technical use. The designation "G" or "T" shall be designated in accordance with 6.21.2.

5.21.1.2.4 Each rope grab and ascending device shall also display the range of rope diameters with which the device is intended to be used.

5.21.1.3 The product label for the portions of the product label information not specified in 5.21.1.2.1 through 5.21.1.2.4 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the rope grab or ascending device.

5.21.1.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.21.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.21.1.6 All worded portions of the required product label shall at least be in English.

5.21.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.21.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.21.1.9 Each rope grab and ascending device shall have the following compliance statement on the product label.
"MEETS THE [insert ROPE GRAB OR ASCENDING DEVICE here] REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2017 EDITION."

5.21.1.10 In addition to the compliance statement specified in 5.21.1.9, at least the information required in 5.21.1.2.3 and 5.21.1.2.4 shall also be provided on the printed product label.

5.21.1.11 In addition to the compliance and information statements in 5.21.1.9 and 5.21.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.21.2 Rope Grab and Ascending Devices User Information.

5.21.2.1 The manufacturer of rope grab or ascending device that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.21.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the rope grab or ascending device periodically according to the manufacturer's inspection procedure.

(2) Removing the rope grab or ascending device from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

(3) Maintaining the rope grab or ascending device in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.
(4) Returning rope grab or ascending device to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.
(5) Repairing the rope grab or ascending device only in accordance with the manufacturer's instructions.
(6) Keeping the user instructions/information after they are separated from the rope grab or ascending device and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.
(7) Referring to the user instructions/information before and after each use.
(8) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.21.2.3 The manufacturer shall provide information for the user that additional information regarding rope grabs and ascending devices can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.21.2.4 The manufacturer of rope grab or ascending device that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the rope grab or ascending device and a list of items that the records need to contain.

5.21.2.5* Because rope grab or ascending device is tested with a rope, the following statement shall be provided in the user instructions:

"THIS [insert ROPE GRAB OR ASCENDING DEVICE here] HAS PASSED THE MANNER OF FUNCTION TEST USING THE FOLLOWING ROPE: [insert rope manufacturer name, designation, part number, and diameter here]."

5.21.2.6 Where the rope grab or ascending device has been tested with multiple ropes, each rope shall be listed in the user instructions.

5.1.5 Other Auxiliary Equipment. (renumber 5.22 and rest of section accordingly**)**

5.22.1 Other Auxiliary Equipment Label Requirements

5.1.5.1 Each auxiliary equipment item shall have a product label.

5.1.5.2 Each load-bearing hardware auxiliary equipment item shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.21.1.2.1 through 5.21.1.2.4.

5.1.5.2.1 Each load-bearing hardware auxiliary equipment item shall have the following compliance statement: **"MEETS NFPA 1983 (2017 ED)."**

5.1.5.2.2 Each load-bearing hardware auxiliary equipment shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.1.5.2.3 Each load-bearing hardware auxiliary equipment shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.1.5.2.4 Each load-bearing hardware auxiliary equipment shall display a "G" for general use items, a "T" for technical use items, or an "E" for escape use items. The designation "G," "T," or "E" shall be designated in accordance with 6.22.2.

5.1.5.3 The product label for the portions of the product label information not specified in 5.21.1.2.1 through 5.21.1.2.4 shall be permitted to be a hang tag affixed to each individual auxiliary equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the auxiliary equipment item.

5.1.5.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.5.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.5.6 All worded portions of the required product label shall at least be in English.

5.1.5.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).
5.1.5.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.
5.1.5.9 Each auxiliary equipment item shall have the following compliance statement on the product label.
"THIS [insert name of equipment item here] MEETS THE AUXILIARY EQUIPMENT REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2017 EDITION."
5.1.5.10 In addition to the compliance statement specified in 5.22.1.9, at least the information required in 5.22.1.2.3 through 5.22.1.2.5 shall also be provided on the printed product label.
5.1.5.13 In addition to the compliance and information statements in 5.22.1.9 and 5.22.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.1.5.14 Where detachable components must be used with the auxiliary equipment item in order for the auxiliary equipment item to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the item. All letters shall be at least 2 mm (5⁄64 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS [insert type of auxiliary equipment here]:"
[The detachable component(s) shall be listed here.]

5.2.5 Other Auxiliary Equipment User Information. (renumber to 5.22.2 and rest of section accordingly**)**
5.2.5.1 The manufacturer of auxiliary equipment that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.
5.2.5.2 The manufacturer shall provide information for the user regarding at least the following issues:
(1) Inspecting the auxiliary equipment periodically according to the manufacturer's inspection procedure.
(2) Removing the auxiliary equipment from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.
(3) Maintaining the auxiliary equipment in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.
(4) Returning auxiliary equipment to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.
(5) Not exposing the software auxiliary equipment to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature.
(6) Repairing the auxiliary equipment only in accordance with the manufacturer's instructions.
(7) Keeping the user instructions/information after they are separated from the auxiliary equipment and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.
(8) Referring to the user instructions/information before and after each use.

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.2.5.3 The manufacturer shall provide information for the user that additional information regarding auxiliary equipment can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.2.5.4 The manufacturer of auxiliary equipment that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the auxiliary equipment and a list of items that the records need to contain.

5.1.11 Escape Systems. (renumber 5.23 and rest of section accordingly**)**

5.23.1 Escape Systems Label Requirements

5.1.11.1 Each escape system shall have a product label.

5.1.11.2 Each escape system load-bearing hardware item shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.23.1.2.1 through 5.23.1.2.5.

5.1.11.2.1 Each load-bearing escape system component shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)"

5.1.11.2.2 Each load-bearing hardware escape system component shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.1.11.2.3 Each load-bearing hardware escape system component shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.1.11.2.4 Each load-bearing escape system component shall display an "E" for escape use items. The designation "E" shall be designated in accordance with 6.23.2.

5.1.11.2.5 Each system device, rope grab device, and descent control device shall also display the range of rope diameters with which the device is intended to be used.

5.1.11.3 The product label for the portions of the product label information not specified in 5.23.1.2.1 shall be permitted to be a hang tag affixed to each individual equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the escape system.

5.1.11.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.1.11.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.1.11.6 All worded portions of the required product label shall be at least in English.

5.1.11.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.1.11.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.1.11.9 Each escape system shall have the following compliance statement on the product label:

"MEETS THE ESCAPE SYSTEM REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION."

5.23.1.10 In addition to the compliance statement specified in 5.23.1.9, at least the information required in 5.23.1.2.3 through 5.23.1.2.5 shall also be provided on the printed product label.

5.1.11.10 In addition to the compliance and information statements in 5.23.1.9 and5.23.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.1.11.11 Where detachable components must be used with the escape system item in order for the escape system to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the item. All letters shall be at least 2.5 mm (3⁄32 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS [insert type of escape system here]:"
[The detachable component(s) shall be listed here.]

5.23.2 Escape Systems User Information.
5.23.2.1 The manufacturer of escape system that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.
5.23.2.2 The manufacturer shall provide information for the user regarding at least the following issues:
(1) Inspecting the escape system periodically according to the manufacturer's inspection procedure.
(2) Removing the escape system from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.
(3) Maintaining the escape system in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.
(4) Returning escape system to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.
(5) Not exposing the software auxiliary equipment to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature.
(6) Repairing escape system only in accordance with the manufacturer's instructions.
(7) Keeping the user instructions/information after they are separated from the escape system and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.

(8) Referring to the user instructions/information before and after each use.
(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.23.2.3 The manufacturer shall provide information for the user that additional information regarding escape systems can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.23.2.4 The manufacturer of escape system that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the escape system and a list of items that the records need to contain.

5.23.2.5 The compliant configuration(s) used in the Payout Test shall be described.

5.24 FIRE ESCAPE SYSTEMS.

5.24.1 Fire Escape Systems Label Requirements.

5.24.1.1 Each fire escape system shall have a product label.

5.24.1.2 Each fire escape system load-bearing hardware item shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.1.11.2.1 through 5.11.2.5.

5.24.1.2.1 Each load-bearing fire escape system component shall have the following compliance statement:

"MEETS NFPA 1983 (2017 ED)"

5.24.1.2.2 Each load-bearing hardware fire escape system component shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.24.1.2.3 Each load-bearing hardware fire escape system component shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.24.1.2.4 Each load-bearing fire escape system component shall display an "E" for escape use items. The designation "E" shall be designated in accordance with 6.24.2.

5.24.1.2.5 Each system device, rope grab device, and descent control device shall also display the range of rope diameters with which the device is intended to be used.

5.24.1.3 The product label for the portions of the product label information not specified in 5.1.5.2.1 shall be permitted to be a hang tag affixed to each individual equipment item or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the escape system.

5.24.1.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.24.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.24.1.6 All worded portions of the required product label shall be at least in English.

5.24.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.24.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2.5 mm (3⁄32 in.) high.

5.24.1.9 Each fire escape system shall have the following compliance statement on the product label:

"MEETS THE FIRE ESCAPE SYSTEM REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES,* 2017 EDITION."

5.24.1.10 In addition to the compliance statement specified in 5.24.1.9, at least the information required in 5.24.1.2.3 through 5.24.1.2.5 shall also be provided on the printed product label.

5.24.1.11 In addition to the compliance and information statements in 5.24.1.9 and 5.24.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.24.1.12 Where detachable components must be used with the fire escape system item in order for the fire escape system to be compliant with this standard, at least the following statement and information shall also be printed legibly on the product label of the item. All letters shall be at least 2.5 mm (3⁄32 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS FIRE ESCAPE SYSTEM:"

[The detachable component(s) shall be listed here.]

5.24.2 Fire Escape Systems User Information.

5.24.2 The manufacturer of fire escape system that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.24.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the fire escape system periodically according to the manufacturer's inspection procedure.

(2) Removing the fire escape system from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

(3) Maintaining the fire escape system in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning fire escape system to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.

(5) Not exposing the software auxiliary equipment to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature.

(6) Repairing fire escape system only in accordance with the manufacturer's instructions.

(7) Keeping the user instructions/information after they are separated from the fire escape system and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.
(8) Referring to the user instructions/information before and after each use.
(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.24.2.3 The manufacturer shall provide information for the user that additional information regarding fire escape systems can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.24.2.4 The manufacturer of fire escape system that is certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the fire escape system and a list of items that the records need to contain.

5.24.2.5 The compliant configuration(s) used in the Payout Test shall be described.

5.25 MANUFACTURED SYSTEMS.

5.25.1 Manufactured Systems Label Requirements.

5.25.1.1 Each manufactured system shall have a product label.

5.25.1.2 Each manufactured system load-bearing hardware item shall have a product label stamped, engraved, or otherwise permanently marked with the portions of the product label information specified in 5.25.1.2.1 through 5.25.1.2.5.

5.25.1.2.1 Each manufactured system load-bearing component shall have the following compliance statement: **"MEETS NFPA 1983 (2017 ED)."**

5.25.1.2.2 Each load-bearing hardware manufactured system component shall display the mark or logo of the certification organization and the manufacturer's name or identifying mark.

5.25.1.2.3 Each load-bearing hardware manufactured system component shall display at least the minimum rated breaking strength prefaced by the letters "MBS." The minimum breaking strength value stated on the product label shall be permitted to be any value greater than the actual "pass" requirement value determined by the certification testing, but shall not be greater than the calculated minimum breaking strength.

5.25.1.2.4 Each load-bearing hardware manufactured system component shall display a "G" for general use items, a "T" for technical use items, or an "E" for escape use items. The designation "G," "T," or "E" shall be designated in accordance with 6.25.2.

5.25.1.2.5 Each manufactured system ascending device, rope grab device, and descent control device shall also display the range of rope diameters with which the device is intended to be used.

5.25.1.3 The product label for the portions of the product label information not specified in 5.25.1.2.1 through 5.25.1.2.5 shall be permitted to be a hang tag affixed to each manufacturer system or shall be permitted to be printed on a sheet that is inserted and sealed in the packaging that immediately contains the manufactured system.

5.25.1.4 All letters shall be at least 2 mm (5⁄64 in.) high.

5.25.1.5 Multiple label pieces shall be permitted in order to carry all statements and information required to be on the product label; however, all label pieces comprising the entire product label shall be located adjacent to each other.

5.25.1.6 All worded portions of the required product label shall at least be in English.

5.25.1.7 Symbols and other pictorial graphic representations shall be permitted to be used to supplement worded statements on the product label(s).

5.25.1.8 The certification organization's label, symbol, or identifying mark shall be legibly printed on the product label. All letters shall be at least 2 mm (5⁄64 in.) high.

5.25.1.9 Each manufactured system shall have the following compliance statement on the product label. **"MEETS THE MANUFACTURED SYSTEM REQUIREMENTS OF NFPA 1983, *STANDARD ON LIFE SAFETY ROPE AND EQUIPMENT FOR EMERGENCY SERVICES*, 2017 EDITION."**

5.25.1.10 In addition to the compliance statement specified in 5.25.1.9, at least the information required in 5.25.1.2.1 through 5.25.1.2.5 shall also be provided on the printed product label.

5.25.1.11 In addition to the compliance and information statements in 5.25.1.9 and 5.25.1.10, at least the following information shall also be printed legibly on the product label(s). All letters shall be at least 2 mm (5⁄64 in.) high.

(1) Manufacturer's name, identification, or designation

(2) Manufacturer's address

(3) Country of manufacture

(4) Manufacturer's product identification

(5) Model, style, lot, or serial number

5.25.1.12 Where detachable components must be used with the manufactured system in order for the manufactured system to be compliance with this standard, at least the following statement and information shall also be printed legibly on the product label of the item. All letters shall be at least 2 mm (5⁄64 in.) high. The detachable component(s) shall be listed following the statement by type, identification, and how properly used.

"TO BE COMPLIANT WITH NFPA 1983, THE FOLLOWING ADDITIONAL COMPONENTS MUST BE USED IN CONJUNCTION WITH THIS MANUFACTURED SYSTEM:"

[The detachable component(s) shall be listed here.]

5.25.2 Manufactured Systems User Information.

5.25.2.1 The manufacturer of manufactured system that is certified as being compliant with this standard shall furnish the purchaser with at least use criteria, inspection procedures, maintenance procedures, and retirement criteria for the product.

5.25.2.2 The manufacturer shall provide information for the user regarding at least the following issues:

(1) Inspecting the manufactured system periodically according to the manufacturer's inspection procedure.

(2) Removing the manufactured system from service if the equipment does not pass inspection or if there is any doubt about the safety or serviceability of the equipment.

(3) Maintaining the manufactured system in accordance with the manufacturer's instructions where metal components are subjected to corrosion or deterioration.

(4) Returning manufactured system to the manufacturer or to a qualified inspection person/center if the equipment is dropped or impact-loaded.

(5) Not exposing the software components of the manufactured system to flame or high temperature and carrying the equipment where it will be protected as it could melt or burn and fail if exposed to flame or high temperature.

(6) Repairing the manufactured system only in accordance with the manufacturer's instructions.

(7) Keeping the user instructions/information after they are separated from the manufactured system and retaining them in a permanent record; copying the user instructions/information and keeping the copy with the equipment.

(8) Referring to the user instructions/information before and after each use.

(9) Cautioning that, if the instructions/information are not followed, the user could suffer serious consequences.

5.25.2.3 The manufacturer shall provide information for the user that additional information regarding manufactured systems can be found in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*.

5.25.2.4 The manufacturer of manufactured systems certified as being compliant with this standard shall furnish the purchaser with a sample of suggested records to be maintained by the purchaser or user of the manufactured system auxiliary equipment.

A.5.2.1.1 When escape line is purchased, the purchaser or the AHJ should ensure that a product label with the information as specified in 5.2.1 and 5.2.2 is attached and remains with the rope until placed in service. This label should be retained either in the AHJ's rope records or with the user of the rope for reference.

Escape line is intended only for emergency self-rescue situations and cannot be used for other rope rescue situations. Escape line is designed for one emergency use only and should be destroyed after use. This does not include use for training where ropes or webbing are not subjected to excessive conditions such as stress, impact loading situations, abrasion, kinking, heat, and exposure to chemicals and other products.

First Revision No. 4-NFPA 1983-2015 [Chapter 6]

Chapter 6 Design and Construction Requirements

6.1 Life Safety Rope.

6.1.1 Life Safety Rope Design Requirements.

6.1.1.1* Life safety rope shall be constructed of virgin fiber.

6.1.1.2 Life safety rope shall be of block creel construction.

6.1.1.3 Primary load-bearing elements of life safety rope shall be constructed of continuous filament fiber.

6.1.1.4 Where life safety rope is a component of equipment with electric-current carrying capabilities, the equipment including the life safety rope shall meet the requirements of ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division I, Hazardous (Classified) Locations,* for Class I, Division I, Groups A, B, C, and D and Class II, Division 1, Groups E, F, and G hazardous locations.

6.2 Escape Rope.

6.2.1 Escape Rope Design Requirements .

6.2.1.1 Escape rope shall be constructed of virgin fiber.

6.2.1.2 Escape rope shall be of block creel construction.

6.2.1.3 Primary load-bearing elements of escape rope shall be constructed of continuous filament fiber.

6.3 Escape Webbing.

6.3.1 Escape Webbing Design Requirements.

6.3.1.1 Escape webbing shall be constructed of virgin fiber.

6.3.1.2 Escape webbing shall be of block creel construction.

6.3.1.3 Primary load-bearing elements of escape webbing shall be constructed of continuous filament fiber.

6.4 Fire Escape Rope.

6.4.1* Fire Escape Rope Design Requirements.

6.4.1.1 Fire escape rope shall be constructed of virgin fiber.

6.4.1.2 Fire escape rope shall be of block creel construction.

6.4.1.3 Primary load-bearing elements of fire escape rope shall be constructed of continuous filament fiber.

6.5 Fire Escape Webbing.

6.5.1 Fire Escape Webbing Design Requirements

6.5.1.1* Fire escape webbing shall be constructed of virgin fiber.

6.5.1.2 Fire escape webbing shall be of block creel construction.

6.5.1.3 Primary load-bearing elements of fire escape webbing shall be constructed of continuous filament fiber.

6.6 Throwlines.

6.6.1 Throwline Design Requirements .

6.6.1.1*

Throwlines shall be constructed of virgin fiber.

6.6.1.2

Throwlines shall be of block creel construction.

6.6.1.3

Throwline load-bearing elements shall be constructed of continuous filament fiber.

6.7 Moderate Elongation Laid Life-Saving Rope.

6.7.1 Moderate Elongation Laid Life-Saving Rope Design Requirements .

6.7.1.1*

Moderate elongation laid life-saving rope shall be constructed of virgin fiber.

6.7.1.2

Moderate elongation laid life-saving rope shall be of block creel construction.

6.7.1.3

Primary load-bearing elements of moderate elongation laid life-saving rope shall be constructed of continuous filament fiber.

6.7.1.4

Where moderate elongation laid life-saving rope is a component of equipment with electric-current carrying capabilities, the equipment, including the moderate elongation laid life-saving rope, shall meet the requirements of ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division I, Hazardous (Classified) Locations,* for Class I, Division I, Groups A, B, C, and D and Class II, Division 1, Groups E, F, and G hazardous locations.

6.8 Manufacturer-Supplied Eye Termination.

6.8.1 Manufacturer-Supplied Eye Termination Design Requirements .

6.8.1.1

Manufacturer-supplied eye termination shall include rope or escape webbing that has been tested to and certified to the requirements of rope or escape webbing as specified in this standard.

6.8.1.2

All thread utilized in the construction of manufacturer-supplied eye termination shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.).

6.9 Life Safety Harnesses.

6.9.1 Life Safety Harness Design Requirements .

6.9.1.1

Life safety harnesses shall be designed and designated in accordance with the requirements for either Class II or Class III.

6.9.1.1.1 Class II.

6.9.1.1.1.1

A harness that fastens around the waist and around thighs or under buttocks and is designed for rescue with a design load of 2.67 kN (600 lbf) shall be designated as a Class II life safety harness.

6.9.1.1.1.2

Class II life safety harness shall be permitted to consist of one or more parts.

6.9.1.1.2 Class III.

6.9.1.1.2.1

A harness that fastens around the waist, around thighs, or under buttocks, and over shoulders and is designed for rescue with a design load of 2.67 kN (600 lbf) shall be designated as a Class III life safety harness.

6.9.1.1.2.2

Class III life safety harnesses shall be permitted to consist of one or more parts.

6.9.1.2*

Life safety harnesses shall be permitted to be adjustable within a range of sizes, provided in a range of sizes, or custom-fitted for individuals.

6.9.1.3*

Load-bearing textile materials used in the construction of life safety harnesses shall be made from virgin, synthetic, ~~continuous~~ continuous- filament fiber.

6.9.1.4*

All webbing ends shall be secured by heat sealing or by another method that prevents unraveling.

6.9.1.5*

All thread utilized in the construction of life safety harnesses shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

6.9.1.6

Life safety harnesses shall have at least one load-bearing attachment point located at the front waist or sternal location of the harness.

6.9.1.7

Load-bearing hardware components of life safety harnesses shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.9.1.7.1

Castings shall meet Class I, Grade A requirements of SAE ~~STD~~ AMS -2175A, *Castings, Classification and Inspection of*.

6.9.1.8

Where a buckle is an integral part of a life safety harness, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

6.9.2 Optional Requirements for Flame-Resistant Life Safety Harnesses.

Sewing thread utilized in the construction of life safety harnesses shall be made of inherently flame-resistant fiber.

6.10 Belt .

6.10.1 Belt Design Requirements .

6.10.1.1

Belts shall be designed and designated in accordance with one of the types in 6.10.1.1~~6.10.1.1.1~~ or 6.10.1.1.2.

6.10.1.1.1

A belt that fastens only around the waist, includes at least one positioning attachment point, and is a positioning device for a person on a ladder shall be designated as a ladder belt.

6.10.1.1.2

A belt that fastens only around the waist, includes at least one load-bearing attachment point, and is intended for use by the wearer as an emergency self-rescue device shall be designated as an escape belt.

6.10.1.2*

All belts shall be permitted to be adjustable within a range of sizes, provided in a range of sizes, or custom-fitted for individuals.

6.10.1.3*

Load-bearing textile materials used in the construction of all belts shall be made from virgin, synthetic, continuous-filament fiber.

6.10.1.4*

All belts shall have webbing ends secured by heat sealing or by another method that prevents unraveling.

6.10.1.5*

All thread utilized in the construction of all belts shall allow for ease of inspection by the unaided eye with 20/20 vision, or vision corrected to 20/20, at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

6.10.1.6

Ladder belts shall include a tether or device that connects the wearer to a ladder. The tether or device shall not extend greater than 610 mm (24 in.) in total length, including connection hardware on each end, when measured from the surface of the belt to the inside of the connector device at the greatest distance from the belt.

6.10.1.7

Load-bearing hardware components of belts shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.10.1.7.1

Castings shall meet Class I, Grade A requirements of SAE ~~STD~~ AMS -2175A, *Castings, Classification and Inspection of*.

6.10.1.8

Where a buckle is an integral part of a belt, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

6.10.2 Optional Requirements for Flame-Resistant Belts.

Sewing thread utilized in the construction of belts shall be made of inherently flame-resistant fiber.

6.11 Victim Extrication Devices.

6.11.1 Victim Extrication Device Design Requirements.

Victim extrication devices shall be designed and designated in accordance with the requirements for either Class II or Class III.

6.11.1.1 Class II Victim Extrication Device.

A device that secures around the waist and around the thighs or under the buttocks to be used for victim extrication in an upright position shall be designated as a Class II victim extrication device.

6.11.1.2 Class III Victim Extrication Device.

A device that secures around the waist, around the thighs, or under the buttocks, and over the shoulders or that otherwise encapsulates a body to be used for victim extrication in an upright or horizontal configuration shall be designated as a Class III victim extrication device.

6.11.2

Victim extrication devices shall be permitted to consist of one or more parts.

6.11.3

Load-bearing textile materials used in the construction of victim extrication devices shall be made from virgin, synthetic, continuous- filament fiber.

6.11.4

All webbing ends shall be secured by heat sealing or by another method that prevents unraveling.

6.11.5

All thread used in the construction of victim extrication devices shall allow for ease of inspection by the unaided eye with 20/20 vision at nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

6.11.6

Victim extrication devices shall have at least one load-bearing attachment point as identified by manufacturer's instructions.

6.11.7

Load-bearing hardware components of victim extrication devices shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.11.7.1

Castings shall meet Class I, Grade A requirements of SAE ~~STD~~ AMS -2175A, *Castings Classifications and Inspection of*.

6.11.8

Where a buckle is an integral part of a victim extrication device, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

6.12 End-to-End Straps.

6.12.1 End-to-End Strap Design Requirements.

6.12.1.1

End-to-end straps shall not be designed or constructed in a manner that allows self-destructive action.

6.12.1.2

End-to-end straps shall be designed by the manufacturer for its intended use and design load as either technical use or general use.

6.12.1.3

Load-bearing hardware auxiliary equipment shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.12.1.3.1

Castings shall meet Class I, Grade A requirements of SAE AMS-2175A, *Castings, Classification and Inspection of* .

6.12.1.4

Where a buckle is an integral part of the strap, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

6.12.1.5

Webbing used to construct strap shall be constructed of virgin, synthetic, continuous filament fiber.

6.12.1.6

All webbing ends used to construct straps shall be secured by heat sealing or by another method that prevents unraveling.

6.12.1.7

All thread utilized to construct straps shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

6.13 Multiple Configuration Straps.

6.13.1 Multiple Configuration Strap Design Requirements.

6.13.1.1

Multiple configuration straps shall not be designed or constructed in a manner that allows self-destructive action.

6.13.1.2

Multiple configuration straps shall be designed by the manufacturer for its intended use and design load as either technical use or general use.

6.13.1.3

Load-bearing hardware auxiliary equipment shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.13.1.3.1

Castings shall meet Class I, Grade A requirements of SAE AMS-2175A, *Castings, Classification and Inspection of* .

6.13.1.4

Where a buckle is an integral part of the strap, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

6.13.1.5

Webbing used to construct strap shall be constructed of virgin, synthetic, continuous filament fiber.

6.13.1.6

All webbing ends used to construct straps shall be secured by heat sealing or by another method that prevents unraveling.

6.13.1.7

All thread utilized to construct straps shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

6.14 Belay Devices.

6.14.1 Belay Device Design Requirements.

6.14.1.1

Belay devices shall not be designed or constructed in a manner that allows self-destructive action.

6.14.1.2

Belay devices shall be designated as being designed for either technical use or general use.

6.14.1.3

Load-bearing hardware shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.14.1.3.1

Castings shall meet Class I, Grade A requirements of SAE AMS-2175A, *Castings, Classification and Inspection of* .

6.15 Carabiners and Snap Links.

6.15.1 Carabiner and Snap Link Design Requirements.

6.15.1.1

Carabiners and snap links shall not be designed or constructed in a manner that allows self-destructive action.

6.15.1.2

Carabiners and snap links shall be designated as being designed for either technical use or general use.

6.15.1.3
Load-bearing hardware shall be constructed of forged, machined, stamped, extruded, or cast metal.
6.15.1.4
Castings shall meet Class I, Grade A requirements of SAE AMS-2175A, *Castings, Classification and Inspection of* .
6.15.1.5
Snap link and carabiner gates shall be self-closing and of a locking design.
6.16 Descent Control Devices.
6.16.1 Descent Control Device Design Requirements.
6.16.1.1
Descent control devices shall not be designed or constructed in a manner that allows self-destructive action.
6.16.1.2
Descent control devices shall be designated by the manufacturer for its intended use and design load as either escape use, technical use, or general use.
6.16.1.2.1
The designation of escape use shall apply to descent control devices intended for the sole use of the rescuer for personal escape or self-rescue.
6.16.1.3
Load-bearing hardware shall be constructed of forged, machined, stamped, extruded, or cast metal.
6.16.1.3.1
Castings shall meet Class I, Grade A requirements of SAE AMS-2175A, *Castings, Classification and Inspection of* .
6.16.1.4
All descent control devices shall be classified by type in accordance with Section 3.2.1 of ISO 22159, *Personal equipment for protection against falls — descending devices* .
6.17 Escape Anchors.
6.17.1 Escape Anchor Design Requirements.
6.17.1.1
Escape anchors shall not be designed or constructed in a manner that allows self-destructive action.
6.17.1.2
Escape anchors are intended for the sole use of the rescuer for personal escape or self-rescue.
6.17.1.3
Load-bearing hardware shall be constructed of forged, machined, stamped, extruded, or cast metal.
6.17.1.4
Castings shall meet Class I, Grade A requirements of SAE AMS-2175A, *Castings, Classification and Inspection of* .
6.18 Litters .
6.18.1 Litters Design Requirements .
6.18.1.1
Litters shall not be designed or constructed in a manner that allows self-destructive action.
6.18.1.2
Litters designed to split apart shall have an integral connection system.
6.19 Portable Anchors.
6.19.1 Portable Anchor Design Requirements.
6.19.1.1
Portable anchors shall not be designed or constructed in a manner that allows self-destructive action.
6.19.1.2
Portable anchors shall be designated as being designed for either technical use or general use.
6.19.1.3
Load-bearing hardware shall be constructed of forged, machined, stamped, extruded, or cast metal.
6.19.1.3.1
Castings shall meet Class I, Grade A requirements of SAE AMS-2175A, *Castings, Classification and Inspection of* .

6.20 Pulleys.

6.20.1 Pulley Design Requirements.

6.20.1.1

Pulleys shall not be designed or constructed in a manner that allows self-destructive action.

6.20.1.2

Pulleys shall be designated by the manufacturer for their intended use and design load as either technical use or general use.

6.20.1.3

Load-bearing hardware shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.20.1.3.1

Castings shall meet Class I, Grade A requirements of SAE AMS-2175A, *Castings, Classification and Inspection of* .

6.21 Rope Grabs and Ascending Devices.

6.21.1 Rope Grab and Ascending Device Design Requirements.

6.21.1.1

Rope grab and ascending devices shall not be designed or constructed in a manner that allows self-destructive action.

6.21.1.2

Rope grab and ascending devices shall be designated as being designed for either technical use or general use.

6.21.1.3

Load-bearing hardware auxiliary equipment shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.21.1.3.1

Castings shall meet Class I, Grade A requirements of SAE AMS-2175A, *Castings, Classification and Inspection of* .

6.22 Other Auxiliary Equipment.

6.22.1 Other Auxiliary Equipment ~~System Component~~ Design Requirements .

6.22.1.1

Auxiliary equipment shall not be designed or constructed in a manner that allows self-destructive action.

6.22.1.2

Auxiliary equipment~~, other than rope grab devices as specified in 6.5.2.2~~ , shall be designated by the manufacturer for its intended use and design load as either escape use , technical use, or general use.

6.22.1.2.1

The designation of escape shall apply to auxiliary equipment intended for the sole use of the rescuer for personal escape or self-rescue.

~~**6.22.2.2**~~

~~Rope grab devices shall be designated as being designed for either technical use or for general use.~~

6.22.1.3

Load-bearing hardware auxiliary equipment shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.22.1.3.1

Castings shall meet Class I, Grade A requirements of SAE ~~STD~~ AMS -2175A, *Castings, Classification and Inspection of*.

6.22.1.4

Where a buckle is an integral part of an auxiliary equipment system component, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

~~**6.22.5***~~

~~Snap-link and carabiner gates shall be self-closing and of a locking design.~~

6.22.1.5

Webbing used to construct auxiliary equipment software shall be constructed of virgin, synthetic, continuous- filament fiber.

6.22.1.6* All webbing ends used to construct auxiliary equipment software shall be secured by heat sealing or by another method that prevents unraveling.

6.22.1.7* All thread utilized to construct auxiliary equipment software shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

~~**6.22.9**~~

~~All descent control devices shall be classified by type in accordance with Section 3.2.1 of ISO 22159, *Personal equipment for protection against falls — descending devices* .~~

~~**6.9** Throwline.~~

~~**6.9.1***~~

~~Throwline shall be constructed of virgin fiber.~~

~~**6.9.2**~~

~~Throwline shall be of block creel construction.~~

~~**6.9.3**~~

~~Throwline load-bearing elements shall be constructed of continuous filament fiber.~~

~~**6.12** Victim Extrication Devices.~~

~~**6.12.1**~~

~~Victim extrication devices shall be designed and designated in accordance with the requirements for either Class II or Class III.~~

~~**6.12.1.1** Class II Victim Extrication Device.~~

~~A device that secures around the waist and around the thighs or under the buttocks to be used for victim extrication in an upright position shall be designated as a Class II victim extrication device.~~

~~**6.12.1.2** Class III Victim Extrication Device.~~

~~A device that secures around the waist, around the thighs, or under the buttocks, and over the shoulders or that otherwise encapsulates a body to be used for victim extrication in an upright or horizontal configuration shall be designated as a Class III victim extrication device.~~

~~**6.12.2**~~

~~Victim extrication devices shall be permitted to consist of one or more parts.~~

~~**6.12.3**~~

~~Load-bearing textile materials used in the construction of victim extrication devices shall be made from virgin, synthetic, continuous filament fiber.~~

~~**6.12.4**~~

~~All webbing ends shall be secured by heat sealing or by another method that prevents unraveling.~~

~~**6.12.5**~~

~~All thread used in the construction of victim extrication devices shall allow for ease of inspection by the unaided eye with 20/20 vision at nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).~~

~~**6.12.6**~~

~~Victim extrication devices shall have at least one load-bearing attachment point as identified by manufacturer's instructions.~~

~~**6.12.7**~~

~~Load-bearing hardware components of victim extrication devices shall be constructed of forged, machined, stamped, extruded, or cast metal.~~

~~**6.12.7.1**~~

~~Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings Classifications and Inspection of* .~~

~~**6.12.8**~~

~~Where a buckle is an integral part of a victim extrication device, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).~~

~~**6.19** Litters.~~

~~**6.19.1**~~

~~Litters shall not be designed or constructed in a manner that allows self-destructive action.~~

~~**6.19.2**~~

~~Litters designed to split apart shall have an integral connection system.~~

~~**6.9** Escape Webbing.~~

~~**6.9.1**~~

~~Escape webbing shall be constructed of virgin fiber.~~

~~**6.9.2**~~

~~Escape webbing shall be of block creel construction.~~

~~**6.9.3**~~

~~Primary load-bearing elements of escape webbing shall be constructed of continuous filament fiber.~~

~~**6.11** Fire Escape Webbing.~~

~~**6.11.1***~~

~~Fire escape webbing shall be constructed of virgin fiber.~~

~~**6.11.2**~~

~~Fire escape webbing shall be of block creel construction.~~

~~**6.11.3**~~

~~Primary load-bearing elements of fire escape webbing shall be constructed of continuous filament fiber.~~

6.23 Escape Systems.

6.23.1 Escape System Design Requirements .

6.23.1.1

The escape system shall be designed for escape or self-rescue.

6.23.1.2

The escape system shall comprise a flexible lifeline (e.g., rope/webbing/cable); a descent control device and a connector from the system to the user not to include the harness; and a means of attaching the system to an anchoring point (e.g., an escape anchor) that is capable of supporting human loads. The design and construction requirements of the escape system shall meet the requirements of the individual components.

6.24 Fire Escape Systems.

6.24.1 Fire Escape System Design Requirements.

6.24.1.1

The fire escape system shall be designed for the sole use of the rescuer for personal escape or self-rescue from an immediately hazardous environment involving elevated temperatures.

6.24.1.2

The fire escape system shall comprise a flexible lifeline; a descent control device and a connector from the system to the user not to include the harness; and a means of attaching the system to an anchoring point (e.g., an escape anchor) that is capable of supporting human loads. The design and construction requirements of the fire escape system shall meet the requirements of the individual components.

6.25 Manufactured Systems.

6.25.1 Manufactured System Design Requirements.

6.25.1.1

Manufactured systems shall not be designed or constructed in a manner that allows self-destructive action.

6.25.1.2

Manufactured systems shall be designated by the manufacturer for their intended use and design load as either technical use or general use.

6.25.1.3

Load-bearing hardware auxiliary equipment shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.25.1.3.1

Castings shall meet Class I, Grade A requirements of SAE AMS-2175A, *Castings, Classification and Inspection of* .

6.25.1.4

Where a buckle is an integral part a manufactured system, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

6.25.1.5

Webbing used to construct manufactured system software shall be constructed of virgin, synthetic, continuous filament fiber.

6.25.1.6

All webbing ends used to construct manufactured system software shall be secured by heat sealing or by another method that prevents unraveling.

6.25.1.7

All thread utilized to construct manufactured system software shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

~~**6.12 Fire Escape Rope.**~~

~~**6.12.1***~~

~~Fire escape rope shall be constructed of virgin fiber.~~

~~**6.12.2**~~

~~Fire escape rope shall be of block creel construction.~~

~~**6.12.3**~~

~~Primary load-bearing elements of fire escape rope shall be constructed of continuous filament fiber.~~

~~**6.14 Manufacturer-Supplied Eye Termination.**~~

~~**6.14.1**~~

~~Manufacturer-supplied eye termination shall include rope or escape webbing that has been tested to and certified to the requirements of rope or escape webbing as specified in this standard.~~

~~**6.14.2**~~

~~All thread utilized in the construction of manufacturer-supplied eye termination shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.).~~

~~**6.14 Moderate Elongation Laid Life Saving Rope.**~~

~~**6.14.1***~~

~~Moderate elongation laid life saving rope shall be constructed of virgin fiber.~~

~~**6.14.2**~~

~~Moderate elongation laid life saving rope shall be of block creel construction.~~

~~**6.14.3**~~

~~Primary load-bearing elements of moderate elongation laid life saving rope shall be constructed of continuous filament fiber.~~

~~**6.14.4**~~

~~Where moderate elongation laid life saving rope is a component of equipment with electric-current carrying capabilities, the equipment including the moderate elongation laid life saving rope shall meet the requirements of ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division I, Hazardous (Classified) Locations,* for Class I, Division I, Groups A, B, C, and D and Class II, Division 1, Groups E, F, and G hazardous locations.~~

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Public Input No. 61-NFPA 1983-2015 [Chapter 6]

Chapter 6 Design and Construction Requirements

6.1 Life Safety Rope Design Requirements.

6.1.1* Life safety rope shall be constructed of virgin fiber.

6.1.2 Life safety rope shall be of block creel construction.

6.1.3 Primary load-bearing elements of life safety rope shall be constructed of continuous filament fiber.

6.1.4 Where life safety rope is a component of equipment with electric-current carrying capabilities, the equipment including the life safety rope shall meet the requirements of ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division I, Hazardous (Classified) Locations,* for Class I, Division I, Groups A, B, C, and D and Class II, Division 1, Groups E, F, and G hazardous locations.

6.2 Escape Rope Design Requirements.

6.2.1 Escape rope shall be constructed of virgin fiber.

6.2.2 Escape rope shall be of block creel construction.

6.2.3 Primary load-bearing elements of escape rope shall be constructed of continuous filament fiber.

6.3 Escape Webbing Design Requirements.

6.3.1 Escape webbing shall be constructed of virgin fiber.

6.3.2 Escape webbing shall be of block creel construction.

6.3.3 Primary load-bearing elements of escape webbing shall be constructed of continuous filament fiber.

6.4 Fire Escape Rope Design Requirements.

6.4.1* Fire escape rope shall be constructed of virgin fiber.

6.4.2 Fire escape rope shall be of block creel construction.

6.4.3 Primary load-bearing elements of fire escape rope shall be constructed of continuous filament fiber.

6.5 Fire Escape Webbing Design Requirements.

6.5.1* Fire escape webbing shall be constructed of virgin fiber.

6.5.2 Fire escape webbing shall be of block creel construction.

6.5.3 Primary load-bearing elements of fire escape webbing shall be constructed of continuous filament fiber.

6.6 Throwline Design Requirements.

6.6.1* Throwline shall be constructed of virgin fiber.

6.6.2 Throwline shall be of block creel construction.

6.6.3 Throwline load-bearing elements shall be constructed of continuous filament fiber.

6.7 Moderate Elongation Laid Life Saving Rope Design Requirements.

6.7.1* Moderate elongation laid life saving rope shall be constructed of virgin fiber.

6.7.2 Moderate elongation laid life saving rope shall be of block creel construction.

6.7.3 Primary load-bearing elements of moderate elongation laid life saving rope shall be constructed of continuous filament fiber.

6.7.4 Where moderate elongation laid life saving rope is a component of equipment with electric-current carrying capabilities, the equipment including the moderate elongation laid life saving rope shall meet the requirements of ANSI/UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division I, Hazardous (Classified) Locations,* for Class I, Division I, Groups A, B, C, and D and Class II, Division 1, Groups E, F, and G hazardous locations.

6.8 Manufacturer-Supplied Eye Termination Design Requirements.

6.8.1 Manufacturer-supplied eye termination shall include rope or escape webbing that has been tested to and certified to the requirements of rope or escape webbing as specified in this standard.

6.8.2 All thread utilized in the construction of manufacturer-supplied eye termination shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.).

~~6.3~~ 6.9 **Life Safety Harness Design Requirements.**

~~6.3.1~~ 6.9.1 Life safety harness shall be designed and designated in accordance with the requirements for either Class II or Class III.

~~6.3.1.1~~ 6.9.1.1 **Class II.** A harness that fastens around the waist and around thighs or under buttocks and is designed for rescue with a design load of 2.67 kN (600 lbf) shall be designated as a Class II life safety harness.

~~6.3.1.1.1~~ 6.9.1.1.1 Class II life safety harness shall be permitted to consist of one or more parts.

~~6.3.1.2~~ 6.9.1.2 **Class III.**

~~6.3.1.2.1~~ 6.9.1.2.1 A harness that fastens around the waist, around thighs, or under buttocks, and over shoulders and is designed for rescue with a design load of 2.67 kN (600 lbf) shall be designated as Class III life safety harness.

~~6.3.1.2.2~~ 6.9.1.2.2 Class III life safety harness shall be permitted to consist of one or more parts.

~~6.3.2~~ 6.9.2* Life safety harness shall be permitted to be adjustable within a range of sizes, provided in a range of sizes, or custom-fitted for individuals.

~~6.3.3~~ 6.9.3* Load-bearing textile materials used in the construction of life safety harness shall be made from virgin, synthetic, continuous filament fiber.

~~6.3.4~~ 6.9.4* All webbing ends shall be secured by heat sealing or by another method that prevents unraveling.

~~6.3.5~~ 6.9.5* All thread utilized in the construction of life safety harness shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

~~6.3.6~~ 6.9.6 Life safety harness shall have at least one load-bearing attachment point located at the front waist or sternal location of the harness.

~~6.3.7~~ 6.9.7 Load-bearing hardware components of life safety harnesses shall be constructed of forged, machined, stamped, extruded, or cast metal.

~~6.3.7.1~~ 6.9.7.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

~~6.3.8~~ 6.9.8 Where a buckle is an integral part of a life safety harness, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

~~6.3.9~~ 6.9.9 **Optional Requirements for Flame-Resistant Life Safety Harnesses.** Sewing thread utilized in the construction of life safety harnesses shall be made of inherently flame-resistant fiber.

~~6.4~~ 6.10 **Belt Design Requirements.**

~~6.4.1~~ 6.10.1 Belts shall be designed and designated in accordance with one of the types in 6.4.1.1 or 6.4.1.2.

~~6.4.1.1~~ 6.10.1.1 A belt that fastens only around the waist, includes at least one positioning attachment point, and is a positioning device for a person on a ladder shall be designated as a ladder belt.

~~6.4.1.2~~ 6.10.1.2 A belt that fastens only around the waist, includes at least one load-bearing attachment point, and is intended for use by the wearer as an emergency self-rescue device shall be designated as an escape belt.

~~6.4.2~~ 6.10.2 * All belts shall be permitted to be adjustable within a range of sizes, provided in a range of sizes, or custom-fitted for individuals.

~~6.4.3~~ 6.10.3* Load-bearing textile materials used in the construction of all belts shall be made from virgin, synthetic, continuous filament fiber.

~~6.4.4~~ 6.10.4* All belts shall have webbing ends secured by heat sealing or by another method that prevents unraveling.

~~6.4.5~~ 6.10.5* All thread utilized in the construction of all belts shall allow for ease of inspection by the unaided eye with 20/20 vision, or vision corrected to 20/20, at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

~~6.4.6~~ 6.10.6 Ladder belts shall include a tether or device that connects the wearer to a ladder. The tether or device shall not extend greater than 610 mm (24 in.) in total length including connection hardware on each end when measured from the surface of the belt to the inside of the connector device at the greatest distance from the belt.

~~6.4.7~~ 6.10.7 Load-bearing hardware components of belts shall be constructed of forged, machined, stamped, extruded, or cast metal.

~~6.4.7.1~~ 6.10.7.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

~~6.4.8~~ 6.10.8 Where a buckle is an integral part of a belt, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

~~6.4.9~~ 6.10.9 **Optional Requirements for Flame-Resistant Belts.** Sewing thread utilized in the construction of belts shall be made of inherently flame-resistant fiber.

6.11 Victim Extrication Device Design Requirements.
6.1111.1 Victim extrication devices shall be designed and designated in accordance with the requirements for either Class II or Class III.

6.11.1.1 Class II Victim Extrication Device. A device that secures around the waist and around the thighs or under the buttocks to be used for victim extrication in an upright position shall be designated as a Class II victim extrication device.

6.11.1.2 Class III Victim Extrication Device. A device that secures around the waist, around the thighs, or under the buttocks, and over the shoulders or that otherwise encapsulates a body to be used for victim extrication in an upright or horizontal configuration shall be designated as a Class III victim extrication device.

6.11.2 Victim extrication devices shall be permitted to consist of one or more parts.

6.11.3 Load-bearing textile materials used in the construction of victim extrication devices shall be made from virgin, synthetic, continuous filament fiber.

6.11.4 All webbing ends shall be secured by heat sealing or by another method that prevents unraveling.

6.11.5 All thread used in the construction of victim extrication devices shall allow for ease of inspection by the unaided eye with 20/20 vision at nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

6.11.6 Victim extrication devices shall have at least one load-bearing attachment point as identified by manufacturer's instructions.

6.11.7 Load-bearing hardware components of victim extrication devices shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.11.7.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings Classifications and Inspection of*.

6.11.8 Where a buckle is an integral part of a victim extrication device, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

6.12 End-to-End Strap Design Requirements.

6.12.1 End-to-end straps shall not be designed or constructed in a manner that allows self-destructive action.

6.12.2 End-to-End straps shall be designed by the manufacturer for its intended use and design load as either technical use or general use.

6.12.3 Load-bearing hardware auxiliary equipment shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.12.3.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

6.12.4 Where a buckle is an integral part of the strap, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

6.12.5 Webbing used to construct strap shall be constructed of virgin, synthetic, continuous filament fiber.

6.12.6* All webbing ends used to construct straps shall be secured by heat sealing or by another method that prevents unraveling.

6.12.7* All thread utilized to construct straps shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

6.13 Multiple Configuration Strap Design Requirements.

6.13.1 Multiple configuration straps shall not be designed or constructed in a manner that allows self-destructive action.

6.13.2 Multiple configuration straps shall be designed by the manufacturer for its intended use and design load as either technical use or general use.

6.12.3 Load-bearing hardware auxiliary equipment shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.13.3.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

6.13.4 Where a buckle is an integral part of the strap, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

6.13.5 Webbing used to construct strap shall be constructed of virgin, synthetic, continuous filament fiber.

6.13.6* All webbing ends used to construct straps shall be secured by heat sealing or by another method that prevents unraveling.

6.13.7* All thread utilized to construct straps shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

6.14 Belay Device Design Requirements.

6.14.1 Belay devices shall not be designed or constructed in a manner that allows self-destructive action

6.14.2 Belay devices shall be designated as being designed for either technical use or for general use.

6.14.3 Load-bearing hardware ~~auxiliary equipment~~ shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.15.3.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

6.15 Carabiner and Snap-Link Design Requirements

6.15.1 Carabiners and snap-links shall not be designed or constructed in a manner that allows self-destructive action.

6.15.2 Carabiners and snap-links shall be designated as being designed for either technical use or for general use.

6.15.3 Load-bearing hardware ~~auxiliary equipment~~ shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.15.4 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

6.15.5* Snap-link and carabiner gates shall be self-closing and of a locking design.

6.16 Descent Control Device Design Requirements

6.16.1 Descent control devices shall not be designed or constructed in a manner that allows self-destructive action.

6.16.2 Descent control devices shall be designated by the manufacturer for its intended use and design load as either escape, technical use, or general use.

6.16.2.1 The designation of escape shall apply to descent control devices intended for the sole use of the rescuer for personal escape or self-rescue.

6.16.3 Load-bearing hardware ~~auxiliary equipment~~ shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.16.3.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

6.16.9 All descent control devices shall be classified by type in accordance with Section 3.2.1 of ISO 22159, *Personal equipment for protection against falls — descending devices*.

6.17 Escape Anchors Design Requirements

6.17.1 Escape anchors shall not be designed or constructed in a manner that allows self-destructive action.

6.17.2 Escape anchors are intended for the sole use of the rescuer for personal escape or self-rescue.

6.17.3 Load-bearing hardware ~~auxiliary equipment~~ shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.17.4 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

6.18 Litter Design Requirements.

6.18.1 Litters shall not be designed or constructed in a manner that allows self-destructive action.

6.18.2 Litters designed to split apart shall have an integral connection system.

6.19 Portable Anchor Design Requirements.

6.19.1 Portable anchors shall not be designed or constructed in a manner that allows self-destructive action

6.19.2 Portable anchors shall be designated as being designed for either technical use or for general use.

6.19.3 Load-bearing hardware ~~auxiliary equipment~~ shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.19.3.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

6.20 Pulley Design Requirements.

6.20.1 Pulleys shall not be designed or constructed in a manner that allows self-destructive action

6.20.2 Pulleys shall be designated by the manufacturer for its intended use and design load as either technical use or general use.

6.20.3 Load-bearing hardware ~~auxiliary equipment~~ shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.20.3.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

6.21 Rope Grab and Ascending Device Design Requirements.

6.21.1 Ascending and rope grab devices shall not be designed or constructed in a manner that allows self-destructive action

6.21.2 Ascending and rope grab devices shall be designated as being designed for either technical use or for general use.

6.21.3 Load-bearing hardware auxiliary equipment shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.21.3.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

~~6.5.9~~ **6.22** Other **Auxiliary Equipment Design Requirements** ~~**System Component**~~**.**

~~**6.5.1**~~ **6.22.1** Auxiliary equipment shall not be designed or constructed in a manner that allows self-destructive action.

~~**6.5.2**~~ **6.22.2** Auxiliary equipment, ~~other than rope grab devices as specified in 6.5.2.2,~~ shall be designated by the manufacturer for its intended use and design load as either escape, technical use, or general use.

~~**6.5.2.1**~~ **6.22.2.1** The designation of escape shall apply to auxiliary equipment intended for the sole use of the rescuer for personal escape or self-rescue.

6.5.2.2 ~~Rope grab devices shall be designated as being designed for either technical use or for general use.~~

~~**6.5.3**~~ **6.22.3** Load-bearing hardware auxiliary equipment shall be constructed of forged, machined, stamped, extruded, or cast metal.

~~**6.5.3.1**~~ **6.22.3.1** Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

~~**6.5.4**~~ **6.22.4** Where a buckle is an integral part of an auxiliary equipment system component, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

~~**6.5.5***~~ ~~Snap-link and carabiner gates shall be self-closing and of a locking design.~~

~~**6.5.6**~~ **6.22.5** Webbing used to construct auxiliary equipment software shall be constructed of virgin, synthetic, continuous filament fiber.

~~**6.5.7**~~ **6.22.6*** All webbing ends used to construct auxiliary equipment software shall be secured by heat sealing or by another method that prevents unraveling.

~~**6.5.8**~~ **6.22.7*** All thread utilized to construct auxiliary equipment software shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

~~**6.5.9** All descent control devices shall be classified by type in accordance with Section 3.2.1 of ISO 22159, *Personal equipment for protection against falls — descending devices.*~~

~~6.11~~ 6.23* Escape Systems Design Requirements.

6.23.1 The escape system shall be designed for escape or self-rescue

6.23.2 The escape system shall comprise a flexible lifeline (e.g., rope/webbing/cable); a descent control device and a connector from the system to the user not to include the harness; and a means of attaching the system to an anchoring point (e.g., an escape anchor) that is capable of supporting human loads. The design and construction requirements of the escape system shall meet the requirements of the individual components.

6.24* Fire Escape System Design Requirements.

6.24.1 The fire escape system shall be designed for the sole use of the rescuer for personal escape or self-rescue from an immediately hazardous environment involving elevated temperatures.

6.24.2 The fire escape system shall comprise a flexible lifeline; a descent control device and a connector from the system to the user not to include the harness; and a means of attaching the system to an anchoring point (e.g., an escape anchor) that is capable of supporting human loads. The design and construction requirements of the fire escape system shall meet the requirements of the individual components.

6.25 Manufactured System Design Requirements.

6.25.1 Manufactured systems shall not be designed or constructed in a manner that allows self-destructive action.

6.25.2 Manufactured Systems shall be designated by the manufacturer for its intended use and design load as either technical use or general use.

6.25.3 Load-bearing hardware auxiliary equipment shall be constructed of forged, machined, stamped, extruded, or cast metal.

6.25.3.1 Castings shall meet Class I, Grade A requirements of SAE-STD-2175A, *Castings, Classification and Inspection of*.

6.25.4 Where a buckle is an integral part a manufactured system, the buckle manufacturer shall provide written evidence that all load-bearing buckles have been proof-loaded to at least 11 kN (2473 lbf).

6.25.5 Webbing used to construct manufactured system software shall be constructed of virgin, synthetic, continuous filament fiber.

6.25.6* All webbing ends used to construct manufactured system software shall be secured by heat sealing or by another method that prevents unraveling.

6.25.7* All thread utilized to construct manufactured system software shall allow for ease of inspection by the unaided eye with 20/20 vision or vision corrected to 20/20 at a nominal distance of 305 mm (12 in.). All stitching breaks or ends shall be backtacked not less than 13 mm (½ in.).

First Revision No. 38-NFPA 1983-2015 [Chapter 7]

Chapter 7 Performance Requirements

7.1* Life Safety Rope Performance Requirements.

7.1.1*

Technical-use life safety rope shall be tested for breaking strength and elongation as specified in Section 8.2~~, Rope Breaking and Elongation Test~~ and shall have a minimum breaking strength of not less than 20 kN (4496 lbf), ~~the~~ a minimum elongation that shall not be less than 1 percent at 10 percent of breaking strength, and ~~the~~ a maximum elongation that shall not be more than 10 percent at 10 percent of breaking strength.

7.1.2*

General-use life safety rope shall be tested for breaking strength and elongation as specified in Section 8.2~~, Rope Breaking and Elongation Test~~ and shall have a minimum breaking strength of not less than 40 kN (8992 lbf), ~~the~~ a minimum elongation that shall not be less than 1 percent at 10 percent of breaking strength, and ~~the~~ a maximum elongation that shall not be more than 10 percent at 10 percent of breaking strength.

7.1.3*

Technical-use life safety rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope*, and shall have a diameter of 9.5 mm (⅜ in.) or greater but less than 12.5 mm (½ in.). For ~~the purpose of~~ reporting purposes , the calculated diameter of all new life safety rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.1.4*

General-use life safety rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope,* and shall have a diameter of 11 mm (7⁄16 in.) or greater but less than or equal to 16 mm (⅝ in.). For ~~the purpose of~~ reporting purposes , the calculated diameter of all new life safety rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.1.5*

Fiber utilized for all life safety rope shall be tested for melting as specified in ASTM ~~E 794~~ E794 , *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

7.1.6

Life safety rope product labels and identification tape shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.2* ~~Escape Rope.~~ Escape Rope Performance Requirements.

7.2.1*

Escape rope shall be tested for breaking strength and elongation as specified in Section 8.2~~, Rope Breaking and Elongation Test,~~ and shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf), the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength, and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength.

7.2.2*

Escape rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope,* and shall have a diameter of 7.5 mm (19⁄64 in.) or greater, but less than 9.5 mm (⅜ in.). For the purpose of reporting, the calculated diameter of all new escape rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.2.3*

Fiber utilized for all escape rope shall be tested for melting in accordance with ASTM ~~E 794~~ E794 , *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.2.4

Escape rope product labels and identification tape shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.3 Escape Webbing Performance Requirements.

7.3.1

~~Escape webbing shall meet the performance requirements specified in Section 7.2.1 , Escape Rope Performance Requirements, excluding 7.2.1.2 .~~ Escape webbing shall be tested for breaking strength and elongation as specified in Section 8.2 and shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf), the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength, and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength.

7.3.2

Escape webbing shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope,* and shall have a minimum perimeter of 25 mm (1 in). For the purpose of reporting, the perimeter of all new escape webbing shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.3.3

Fiber utilized for all escape webbing shall be tested for melting in accordance with ASTM E794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204°C (400°F).

7.3.4

Escape webbing product labels and identification tape shall be tested for legibility as specified in Section 8.10 and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.4* Fire Escape Rope Performance Requirements.

7.4.1*

Fire escape rope shall be tested for breaking strength and elongation as specified in Section 8.2~~, Rope Breaking and Elongation Test,~~ and shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf); the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength; and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength.

7.4.2*

Fire escape rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope*, and shall have a diameter of at least 7.5 mm (19⁄64 in.) but less than 9.5 mm (3⁄8 in.). For the purpose of reporting, the calculated diameter of all new fire escape rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.4.3*

Fiber utilized for all fire escape rope shall be tested for melting in accordance with ASTM ~~E 794~~ E794 , *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

7.4.4

Fire escape rope product labels and identification tape shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.4.5

Fire escape rope shall be tested for high-temperature exposure as specified in Section 8.15~~, Elevated Temperature Rope Test~~ . This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 300 lb and of 5 minutes at 400°C while holding 300 lb.

7.5 Fire Escape Webbing Performance Requirements.

7.5.1

~~Fire escape webbing shall meet the performance requirements specified in Section 7.12 , Fire Escape Rope Performance Requirements, excluding 7.12.2~~ Fire escape webbing shall be tested for breaking strength and elongation as specified in Section 8.2 and shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf), the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength, and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength. .

7.5.2

Fire escape webbing shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope*, and shall have a minimum perimeter of 25 mm (1. in). For the purpose of reporting, the perimeter of all new escape webbing shall be rounded to the nearest ½ mm (1⁄64 in.).

7.5.3

Fiber utilized for all fire escape rope shall be tested for melting in accordance with ~~ASTM E 794~~ ASTM E794 , *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204°C (400°F).

7.5.4

Fire escape webbing shall be tested for high temperature exposure as specified in Section 8.15 . This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 300 lb and of 5 minutes at 400°C while holding 300 lb.

7.5.5

Fire escape webbing shall be tested for high temperature exposure as specified in Section 8.15~~, Elevated Temperature Rope Test~~ . This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 300 lb and of 5 minutes at 400°C while holding 300 lb.

7.6 Throwline Performance Requirements.

7.6.1

Throwline shall be tested for minimum breaking strength as specified in Section 8.2~~, Rope Breaking and Elongation Test,~~ and shall have a minimum breaking strength of not less than 13 kN (2923 lbf).

7.6.2*

Throwlines shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope*, and shall have a diameter of 7 mm (19⁄64 in.) or greater, but less than 9.5 mm (3⁄8 in.). For the purpose of reporting, the calculated diameter of all new life safety rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.6.3

Throwlines shall be tested for the ability to float as specified in Section 8.9~~, Floatability Test,~~ and shall float.

7.6.4

Throwlines product labels and identification tape shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ and shall remain in place and shall be legible.

7.7 Moderate Elongation Laid Life-Saving Rope Performance Requirements.

7.7.1

Moderate elongation laid life saving rope shall be tested for breaking strength and elongation as specified in Section 8.2~~, Rope Breaking and Elongation Test,~~ and shall have a minimum breaking strength of not less than 40 kN (8992 lbf); the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength and the maximum elongation shall not be more than 25 percent at 10 percent of breaking strength.

7.7.2

Moderate elongation laid life saving rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1805, *3-Strand Life Safety Rope, Moderate Stretch,* and shall have a diameter of 11 mm (7⁄16 in.) or greater but less than or equal to 16 mm (5⁄8 in.). For the purpose of reporting, the calculated diameter of all new three-strand life saving rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.7.3*

Fiber utilized for all moderate elongation laid life saving rope shall be tested for melting as specified in ~~ASTM E 794~~ ASTM E794 , *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.7.4

Moderate elongation laid life saving rope product labels and identification tape shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.8 Manufacturer-Supplied Eye Termination.

7.8.1

Manufacturer-supplied eye termination shall be tested for breaking strength as specified in Section 8.2~~, Rope Breaking and Elongation Test,~~ and shall meet one of the following criteria:

(1) It shall have a minimum breaking strength of not less than 85 percent of the certified rope's calculated minimum breaking strength, as determined by the certifying organization.

(2) It shall have a minimum breaking strength of not less than 20 kN (4496 lbf) for technical use life safety rope.

(3) It shall have a minimum breaking strength of not less than 40 kN (8992 lbf) for general use life safety rope.

(4) It shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf) for escape rope.

(5) It shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf) for throwline.

(6) It shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf) for fire escape rope.

7.8.2

All thread used in the construction of manufacturer-supplied eye termination , except for fire escape rope and fire escape webbing, shall be tested for melting as specified in ~~ASTM E 794~~ ASTM E794 , *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204ºC (400ºF).

7.8.2.1

All thread used in the construction of fire escape rope manufacturer-supplied eye termination in fire escape webbing shall be tested for melting as specified in ASTM E794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* and shall have a melting point of not less than 260ºC (500ºF).

7.8.3

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion, including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.8.4

Manufacturer-supplied eye termination for fire escape rope and fire escape webbing shall be tested for high-temperature exposure as specified in Section 8.15 . This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 1.33 kN (300 lb) and 5 minutes at 400° C while holding 1.33 kN (300 lb).

7.9 Life Safety Harness Performance Requirements.

7.9.1 Class II Life Safety Harnesses .

7.9.1.1

Class II life safety harnesses shall be tested for strength as specified in Section 8.3~~, Static Test,~~ and shall not release from the test torso, the harnesses buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the harnesses shall show no visible signs of damage that would affect its function.

7.9.1.2

Class II life safety harnesses shall be tested for drop as specified in Section 8.4~~, Drop Test,~~ and the test torso shall not contact the ground during any of the test drops.

7.9.1.3

Where Class II life safety harnesses include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3~~, Static Test,~~ and shall show no visible signs of damage that would affect its function.

7.9.2 Class III Life Safety Harnesses .

7.9.2.1

Class III life safety harnesses shall be tested for strength as specified in Section 8.3~~, Static Test,~~ and shall not release from the test torso; the harnesses buckles and adjusting devices shall not slip more than 25 mm (1 in.); and the harness shall show no visible signs of damage that would affect its function.

7.9.2.2

Class III life safety harnesses shall be tested for drop as specified in Section 8.4~~, Drop Test,~~ and the test torso shall not contact the ground during any of the test drops.

7.9.2.3

Where Class III life safety harnesses include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3~~, Static Test,~~ and shall show no visible signs of damage that would affect its function.

7.9.3

All life safety harnesses product labels shall be tested for durability as specified in Section 8.10~~, Product Label Durability Test,~~ and shall be legible, and shall not be torn or otherwise damaged.

7.9.4

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturers' operating instructions.

7.9.5*

All fiber and thread used in load-bearing materials and thread used in the construction of Class II and Class III life safety harness shall be tested for melting as specified in ASTM E794 , *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.9.6 Optional Requirements for Flame-Resistant Life Safety Harnesses.

7.9.6.1

Where harnesses are represented as being flame-resistant, materials and hardware shall be tested individually for flame resistance as specified in Section 8.16~~, Flame Resistance Test,~~ and shall have an average char length of not more than 100 mm (4 in.), shall have an average afterflame of not more than 2.0 seconds, and shall not melt or drip.

7.9.6.2

Where harnesses are represented as being flame-resistant, materials, labels, and hardware shall be tested individually for heat resistance as specified in Section 8.16~~, Heat Resistance Test,~~ and shall not melt, drip, separate, or ignite; hardware items shall remain functional.

7.9.6.3

Where harnesses are represented as being flame-resistant, sewing thread utilized in the construction of harnesses shall be tested for heat resistance as specified in Section 8.18~~, Thread Heat Resistance Test,~~ and shall not melt.

~~**7.3** Throwline Performance Requirements.~~

~~**7.3.1**~~

~~Throwline shall be tested for minimum breaking strength as specified in Section 8.2 , Rope Breaking and Elongation Test, and shall have a minimum breaking strength of not less than 13 kN (2923 lbf).~~

~~**7.3.2***~~

~~Throwline shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope* , and shall have a diameter of 7 mm ($^{19}/_{64}$ in.) or greater, but less than 9.5 mm ($^{3}/_{8}$ in.). For the purpose of reporting, the calculated diameter of all new life safety rope shall be rounded to the nearest 0.5 mm ($^{1}/_{64}$ in.).~~

~~**7.3.3**~~

~~Throwline shall be tested for the ability to float as specified in Section 8.9 , Floatability Test, and shall float.~~

~~**7.3.4**~~

~~Throwline product labels and identification tape shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, and shall remain in place and shall be legible.~~

~~**7.4** Life Safety Harness Performance Requirements.~~

~~**7.4.1** Class II Life Safety Harness.~~

~~**7.4.1.1**~~

~~Class II life safety harness shall be tested for strength as specified in Section 8.3 , Static Test, and shall not release from the test torso, the harness buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the harness shall show no visible signs of damage that would affect its function.~~

~~**7.4.1.2**~~

~~Class II life safety harness shall be tested for drop as specified in Section 8.4 , Drop Test, and the test torso shall not contact the ground during any of the test drops.~~

~~**7.4.1.3**~~

~~Where Class II life safety harness include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3 , Static Test, and shall show no visible signs of damage that would affect its function.~~

~~**7.4.2** Class III Life Safety Harness.~~

~~**7.4.2.1**~~

~~Class III life safety harness shall be tested for strength as specified in Section 8.3 , Static Test, and shall not release from the test torso; the harness buckles and adjusting devices shall not slip more than 25 mm (1 in.); and the harness shall show no visible signs of damage that would affect its function.~~

~~**7.4.2.2**~~

~~Class III life safety harness shall be tested for drop as specified in Section 8.4 , Drop Test, and the test torso shall not contact the ground during any of the test drops.~~

~~**7.4.2.3**~~

~~Where Class III life safety harness include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3 , Static Test, and shall show no visible signs of damage that would affect its function.~~

~~**7.4.3**~~

~~All life safety harness product labels shall be tested for durability as specified in Section 8.10 , Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.~~

~~**7.4.4**~~

~~All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturers' operating instructions.~~

~~**7.4.5***~~

~~All fiber and thread used in load-bearing materials and thread used in the construction of Class II and Class III life safety harness shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).~~

~~**7.4.6** Optional Requirements for Flame-Resistant Life Safety Harnesses.~~

~~**7.4.6.1**~~

~~Where harnesses are represented as being flame-resistant, materials and hardware shall be tested individually for flame resistance as specified in Section 8.16 , Flame Resistance Test, and shall have an average char length of not more than 100 mm (4 in.), shall have an average afterflame of not more than 2.0 seconds, and shall not melt or drip.~~

~~**7.4.6.2**~~

~~Where harnesses are represented as being flame-resistant, materials, labels, and hardware shall be tested individually for heat resistance as specified in Section 8.16 , Heat Resistance Test, and shall not melt, drip, separate, or ignite; hardware items shall remain functional.~~

~~**7.4.6.3**~~

~~Where harnesses are represented as being flame-resistant, sewing thread utilized in the construction of harnesses shall be tested for heat resistance as specified in Section 8.18 , Thread Heat Resistance Test, and shall not melt.~~

7.10 Belt Performance Requirements.

7.10.1

Ladder belts shall be tested for strength as specified in Section 8.3~~, Static Test,~~ and shall not release from the test torso, shall not slip more than 25 mm (1 in.), and shall show no visible signs of damage that would affect their function.

7.10.1.1

Where ladder belts include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3~~, Static Test,~~ and shall show no visible signs of damage that would affect their function.

7.10.2

Escape belts shall be tested for strength as specified in Section 8.3~~, Static Test,~~ and shall not release from the test torso, shall not slip more than 25 mm (1 in.), and shall show no visible signs of damage that would affect their function.

7.10.2.1

Where escape belts include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3~~, Static Test,~~ and shall show no visible signs of damage that would affect their function.

7.10.3

Escape belts shall be tested for drop as specified in Section 8.4~~, Drop Test,~~ and the test torso shall not contact the ground during any of the test drops.

7.10.4

All belt product labels shall be tested for durability as specified in Section 8.10~~, Product Label Durability Test,~~ shall be legible, and shall not be torn or otherwise damaged.

7.10.5

Metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.10.6

All fiber and thread used in load-bearing materials and thread used in the construction of belts shall be tested for melting as specified in ASTM E794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204°C (400°F).

7.10.7 Optional Requirements for Flame-Resistant Belts.

7.10.7.1

Where belts are represented as being flame-resistant, ~~materials and~~ hardware shall be tested individually for flame resistance as specified in Section 8.16~~, Flame Resistance Test,~~ and shall have an average char length of not more than 100 mm (4 in.), shall have an average afterflame of not more than 2.0 seconds, and shall not melt or drip.

7.10.7.2

Where belts are represented as being flame-resistant, materials, labels, and hardware shall be tested individually for heat resistance as specified in Section 8.17~~, Heat Resistance Test,~~ and shall not melt, drip, separate, or ignite; and hardware items shall not ignite and shall remain functional.

7.10.7.3

Where belts are represented as being flame-resistant, sewing thread utilized in the construction of harnesses shall be tested for heat resistance as specified in Section 8.18~~, Thread Heat Resistance Test,~~ and shall not melt.

~~**7.13** Victim Extrication Device Performance Requirements.~~

~~**7.13.1** Class II Victim Extrication Devices.~~

~~**7.13.1.1**~~

~~Class II victim extrication devices shall be tested for strength as specified in Section 8.3, Static Test, and shall not release the test torso. The device buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the device shall show no visible signs of damage that would affect its function.~~

~~**7.13.1.2**~~

~~Where Class II victim extrication devices include alternate D-rings and attachment points designated by the manufacture's as alternate lifting points or configurations, these attachments shall be tested for strength as specified as in Section 8.3 , Static Test, and shall show no visual signs of damage that would affect its function.~~

~~**7.13.2** Class III Victim Extrication Device.~~

~~**7.13.2.1**~~

~~Class III Victim extrication devices shall be tested for strength as specified in Section 8.3 , Static Test, and shall not release the test torso. The device buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the device shall show no visible signs of damage that would affect its function.~~

7.13.2.2

Where Class III victim extrication devices include alternate D-rings and attachment points designated by the manufacture as alternate lifting points or configurations, these attachments shall be tested for strength as specified as in Section 8.3 , Static Test, and shall show no visual signs of damage that would affect its function.

7.13.3

All victim extrication device product labels shall be tested for durability as specified in Section 8.10 , Product Label Durability Test, and shall be legible and shall not be torn or otherwise damaged.

7.13.4

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.13.5

All fiber used in load-bearing materials and thread used in the construction of Class II and Class III victim extrication devices shall be tested for melting as specified ASTM 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.10.8 Manufactured Systems Performance Requirements.

7.10.8.1

Technical use manufactured systems shall be tested for deformation as specified in Section 8.7 , Breaking Strength Test, Procedure A, and shall have no permanent damage to the system or its component parts or visible deformation to the general shape of the system or components.

7.10.8.2

Technical use manufactured systems shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 22 kN (4946 lbf) without failure.

7.10.8.3

General use manufactured systems shall be tested for deformation as specified in Section 8.7 , Breaking Strength Test, Procedure A, and shall have no permanent damage to the system or its component parts or visible deformation to the general shape of the system or components.

7.10.8.4

General use manufactured systems shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 36 kN (8093 lbf) without failure.

7.10.8.5

Permanently attached manufactured system product labels shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.10.8.6

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturers' operating instructions.

7.10.8.7

Where a manufactured system contains a life safety harness subcomponent, the life safety harness shall be individually tested, labeled, and certified to meet the appropriate requirements specified in Section 7.3 , Throwline Performance Requirements, and 7.4 , Life Safety Harness Performance Requirements, in addition to the manufactured system requirements of 7.5.7.1 through 7.5.7.6 as applicable.

7.10.8.8

Where a manufactured system contains a belt subcomponent, the belt shall be individually tested, labeled, and certified to meet the appropriate requirements specified in Section 7.5 , Belt Performance Requirements, in addition to the manufactured system requirements of 7.5.7.1 through 7.5.7.6 as applicable.

7.5.7.9

Where a manufactured system contains an ascending device, rope grab device, or descent control device, the system shall be tested for deformation as specified in Section 8.6 , Manner of Function Tensile Test, Procedure A, and shall not show any permanent damage or visible deformation to the general shape of the device and shall not show any damage to the rope.

7.5.7.10

Where the manufactured system incorporates an escape descent control device that incorporates a passive or active breaking feature that creates friction between the device and the rope, the system shall be tested for maximum payout force as specified in Section 8.13 , Payout Test, shall not release the test torso, and shall not exceed 90 N (20 lb).

7.10.8.9

All fiber and thread used in load-bearing materials and thread used in the construction of manufactured systems shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204°C (400°F).

7.6.8 Throwline Performance Requirements.

7.6.8.1

Throwline shall be tested for minimum breaking strength as specified in Section 8.2 , Rope Breaking and Elongation Test, and shall have a minimum breaking strength of not less than 13 kN (2923 lbf).

7.6.8.2*

Throwline shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope* , and shall have a diameter of 7 mm ($^{19}/_{64}$ in.) or greater, but less than 9.5 mm ($^{3}/_{8}$ in.). For the purpose of reporting, the calculated diameter of all new life safety rope shall be rounded to the nearest 0.5 mm ($^{1}/_{64}$ in.).

7.6.8.3

Throwline shall be tested for the ability to float as specified in Section 8.9 , Floatability Test, and shall float.

7.6.8.4

Throwline product labels and identification tape shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, and shall remain in place and shall be legible.

7.10.8 End-to-End and Multiple Configuration Strap Performance Requirements.

7.5.8.1

Technical use multiple configuration straps shall be tested for breaking strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum breaking strength of at least 32 kN (7194 lbf) without failure.

7.5.8.1.1

Where the strap includes an adjustment device, the adjustment device shall not slip more than 50 mm (2 in.).

7.5.8.2

General use multiple configuration straps shall be tested for breaking strength as specified in Section 8.7 , Breaking Strength Test, and shall have a minimum breaking strength of at least 45 kN (10,120 lbf) without failure.

7.5.8.2.1

Where the strap includes an adjustment device the adjustment device shall not slip more than 50 mm (2 in.).

7.10.8.1

Technical use end-to-end straps shall be tested for breaking strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum breaking strength of at least 20 11 kN (4500 lbf) without failure.

7.10.8.1.1

Where the strap includes an adjustment device, the adjustment device shall not slip more than 50 mm (2 in.).

7.10.8.2

General use end-to-end straps shall be tested for breaking strength as specified Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum breaking strength of at least 27 22 kN (6070 lbf) without failure.

~~**7.10.8.2.1**~~

~~Where the strap includes an adjustment device, the adjustment device shall not slip more than 50 mm (2 in.).~~

~~**7.10.8.3**~~

~~Permanently attached end-to-end and multiple configuration strap product labels shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.~~

~~**7.10.8.4**~~

~~All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.~~

~~**7.10.8.5***~~

~~All fiber and thread used for end-to-end and multiple configuration straps shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).~~

~~**7.10.9** Other Auxiliary Equipment Performance Requirements.~~

~~**7.10.9.1**~~

~~Other technical use auxiliary equipment shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 22 kN (4946 lbf) without failure.~~

~~**7.10.9.2**~~

~~Other general use auxiliary equipment shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 36 kN (8093 lbf)~~

~~**7.10.9.3**~~

~~All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.~~

~~**7.10.9.4***~~

~~All fiber and thread utilized in the construction of all auxiliary equipment systems and system components shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204°C (400°F).~~

~~**7.10.9.5**~~

~~All auxiliary equipment systems and system component product labels shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.~~

~~**7.10.8***~~

~~All fiber and thread used in the construction of all belts shall be tested for melting as specified in ASTM E794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204°C (400°F).~~

~~**7.10.9**~~

~~All fiber and thread used in load-bearing materials and thread used in the construction of belts shall be tested for melting as specified in ASTM E794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204°C (400°F).~~

7.11 Victim Extrication Device Performance Requirements.

7.11.1 Class II Victim Extrication Devices.

7.11.1.1

Class II victim extrication devices shall be tested for strength as specified in Section 8.3~~, Static Test,~~ and shall not release the test torso. The device buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the device shall show no visible signs of damage that would affect its function.

7.11.1.2

Where Class II victim extrication devices include alternate D-rings and attachment points designated by the manufacture's as alternate lifting points or configurations, these attachments shall be tested for strength as specified as in Section 8.3~~, Static Test,~~ and shall show no visual signs of damage that would affect its function.

7.11.2 Class III Victim Extrication Device.

7.11.2.1

Class III Victim extrication devices shall be tested for strength as specified in Section 8.3~~, Static Test,~~ and shall not release the test torso. The device buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the device shall show no visible signs of damage that would affect its function.

7.11.2.2

Where Class III victim extrication devices include alternate D-rings and attachment points designated by the manufacture as alternate lifting points or configurations, these attachments shall be tested for strength as specified as in Section 8.3~~, Static Test,~~ and shall show no visual signs of damage that would affect its function.

7.11.3

All victim extrication device product labels shall be tested for durability as specified in Section 8.10~~, Product Label Durability Test,~~ and shall be legible and shall not be torn or otherwise damaged.

7.11.4

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.11.5

All fiber used in load-bearing materials and thread used in the construction of Class II and Class III victim extrication devices shall be tested for melting as specified ASTM E794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.12 End-to-End ~~and Multiple Configuration~~ Strap Performance Requirements.

~~**7.5.8.1**~~

~~Technical use multiple configuration straps shall be tested for breaking strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum breaking strength of at least 32 kN (7194 lbf) without failure.~~

~~**7.5.8.1.1**~~

~~Where the strap includes an adjustment device, the adjustment device shall not slip more than 50 mm (2 in.).~~

~~**7.5.8.2**~~

~~General use multiple configuration straps shall be tested for breaking strength as specified in Section 8.7 , Breaking Strength Test, and shall have a minimum breaking strength of at least 45 kN (10,120 lbf) without failure.~~

~~**7.5.8.2.1**~~

~~Where the strap includes an adjustment device the adjustment device shall not slip more than 50 mm (2 in.).~~

7.12.1

Technical use end-to-end straps shall be tested for breaking strength as specified in Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall have a minimum breaking strength of at least ~~20~~ 11 kN (4500 lbf) without failure.

7.12.1.1

Where the strap includes an adjustment device, the adjustment device shall not slip more than 50 mm (2 in.).

7.12.2

General use end-to-end straps shall be tested for breaking strength as specified Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall have a minimum breaking strength of at least ~~27~~ 22 kN (6070 lbf) without failure.

7.12.2.1

Where the strap includes an adjustment device, the adjustment device shall not slip more than 50 mm (2 in.).

7.12.3

Permanently attached end-to-end and multiple configuration strap product labels shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ shall be legible, and shall not be torn or otherwise damaged.

7.12.4

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.12.5*

All fiber and thread used for end-to-end and multiple configuration straps shall be tested for melting as specified in ASTM E794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.13 Multiple Configuration Strap Performance Requirements.

7.13.1

Technical use multiple configuration straps shall be tested for breaking strength as specified in Section 8.7 and shall have a minimum breaking strength of at least 22 kN (7194 lbf) without failure.

7.13.1.1

Where the strap includes an adjustment device, the adjustment device shall not slip more than 50 mm (2 in.).

7.13.2

General use multiple configuration straps shall be tested for breaking strength as specified in Section 8.7 and shall have a minimum breaking strength of at least 22 kN (7194 lbf) without failure.

7.13.2.1

Where the strap includes an adjustment device the adjustment device shall not slip more than 50 mm (2 in.).

7.13.3

Permanently attached end-to-end and multiple configuration strap product labels shall be tested for legibility as specified in Section 8.10 shall be legible, and shall not be torn or otherwise damaged.

7.13.4

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.13.5

All fiber and thread used for end-to-end and multiple configuration straps shall be tested for melting as specified in ASTM E794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204°C (400°F).

7.14 Belay Device Performance Requirements.

7.14.1

Technical use belay devices shall be tested for ~~breaking strength~~ manner of function as specified in Section 8.6~~. Manner of Function Tensile Test, Procedure C~~ without failure of the device or failure of the rope.

7.14.2

General use belay devices shall be tested for ~~breaking strength~~ manner of function as specified in Section 8.6~~, Manner of Function Tensile Test, Procedure C,~~ without failure of the device or failure of the rope, with a belay system extension of less than 1 m, and with an impact force of less than 15 kN (3372 lbf).

7.14.3

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.14.4

All auxiliary equipment systems and system component product labels shall be tested for legibility as specified in Section 8.10 shall be legible, and shall not be torn or otherwise damaged.

7.15 Carabiners and Snap-Link Performance Requirements.

7.15.1

Technical use carabiners and snap-links shall be tested for strength as specified in Section 8.5, ~~Carabiner and Snap-Link Tensile Test,~~ and shall, with the gate closed, have a major axis minimum breaking strength of at least ~~27~~ 22 kN (6069 lbf).

7.15.2

Technical use carabiners and snap-links shall be tested for strength as specified in Section 8.5, ~~Carabiner and Snap-Link Tensile Test,~~ and shall, with the gate open, have a major axis minimum breaking strength of at least 7 kN (1574 lbf).

7.15.3

Technical use carabiners and snap-links shall be tested for strength as specified in Section 8.5, ~~Carabiner and Snap-Link Tensile Test,~~ and shall have a minor axis minimum breaking strength of at least 7 kN (1574 lbf).

7.15.4

General use carabiners and snap-links shall be tested for breaking strength as specified in Section 8.5, ~~Carabiner and Snap-Link Tensile Test,~~ and shall, with the gate closed, have a major axis minimum breaking strength of at least 40 kN (8992 lbf).

7.15.5

General use carabiners and snap-links shall be tested for breaking strength as specified in Section 8.5, ~~Carabiner and Snap-Link Tensile Test,~~ and shall, with the gate open, have a major axis minimum breaking strength of at least 11 kN (2473 lbf).

7.15.6

General use carabiners and snap-links shall be tested for breaking strength as specified in Section 8.5, ~~Carabiner and Snap-Link Tensile Test,~~ and shall have a minor axis minimum breaking strength of at least 11 kN (2473 lbf).

7.15.7

Permanently attached carabiner and snap-link product labels shall be tested for legibility as specified in Section 8.10 ~~, Product Label Durability Test,~~ and shall be legible, and shall not be torn or otherwise damaged.

7.15.8

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 ~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturers' operating instructions.

~~**7.11.2** Rope Grab and Ascending Devices Performance Requirements.~~

~~**7.11.2.1**~~

~~Technical use rope grab and ascending devices shall be tested for deformation as specified in Section 8.6 , Manner of Function Tensile Test, Procedure A, and shall show no permanent damage to the device or damage to the rope.~~

~~**7.11.2.2**~~

~~General use rope grab and ascending devices shall be tested for deformation as specified in Section 8.6 , Manner of Function Tensile Test, Procedure A, and shall show no permanent damage to the device or damage to the rope.~~

~~**7.11.2.3**~~

~~Permanently attached rope grab and ascending device product labels shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.~~

7.11.2.4

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface-type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.6.3 Descent Control Device Performance Requirements.

7.6.3.1

Escape descent control devices shall be tested for deformation as specified in Section 8.6 , Manner of Function Tensile Test, Procedure A, and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.

7.6.3.2

Escape descent control devices shall be tested for breaking strength as specified in Section 8.6 , Manner of Function Tensile Test, Procedure B, and shall have a minimum breaking strength of at least 13.5 kN (3034 lbf).

7.6.3.3

Technical use descent control devices shall be tested for deformation as specified in Section 8.6 , Manner of Function Tensile Test, Procedure A, and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.

7.6.3.4

General use descent control devices shall be tested for deformation as specified in Section 8.6 , Manner of Function Tensile Test, Procedure A, and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.

7.6.3.5

General use descent control devices shall be tested for breaking strength as specified in Section 8.6 , Manner of Function Tensile Test, Procedure B, and shall have a minimum breaking strength of at least 22 kN (4946 lbf).

7.6.3.5.1

Where the descent control device is designed to slip under high load, general use descent control devices shall be tested for slippage as specified in Section 8.6 , Manner of Function Tensile Test, Procedure B, and shall not slip under a test load of 9 kN (2023 lbf).

7.6.3.6

ISO 22159, *Personal equipment for protection against falls — Descending devices* , Type 2, 3, and 4 descent control devices with a hands-free locking element shall be tested in accordance with Section 8.11 , Holding Test, and shall meet the requirements in 4.6.1 of ISO 22159.

7.6.3.6.1

ISO 22159 Type 2 and 3 descent control devices with a panic-locking element shall be tested in accordance with Section 8.11 , Holding Test, and shall meet the requirements in 4.6.2 of ISO 22159.

7.6.3.6.2

ISO 22159 Type 5 and 6 descent control devices shall be tested in accordance with Section 8.11 , Holding Test, and shall meet the requirements in 4.6.3 of ISO 22159.

7.6.3.7

Permanently attached descent control device product labels shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.

7.6.3.8

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface-type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.6.3.9

Where the escape descent control device incorporates a passive or active breaking feature that creates friction between the device and the rope, the maximum force required to pay a specific type of rope through the descent control device shall be tested as specified in Section 8.13 , Payout Test, and shall not exceed 90 N (20 lb).

7.6.3.10 System Level Drop Test.

Escape systems shall be tested for maximum impact force as specified in Section 8.14 , Escape Descent Control Device and Systems Drop Test, and shall have the maximum impact force not exceed 8.0 kN (1798.5 lbf), shall not damage the rope or device, and shall remain functional.

7.11.3 Portable Anchor Performance Requirements.

7.11.3.1

Technical use portable anchor devices shall be tested for deformation as specified in Section 8.7 , Breaking Strength Test, Procedure A, and all adjustments or moving parts shall remain functional, and shall exhibit no condition that would cause the safety of the user to be compromised.

7.11.3.2

General use portable anchor devices shall be tested for deformation as specified in Section 8.7 , Breaking Strength Test, Procedure A, and all adjustments or moving parts shall remain functional, and shall exhibit no condition that would cause the safety of the user to be compromised.

7.11.3.3

Technical use portable anchor devices shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall withstand a minimum load of at least 22 kN (4946 lbf) without failure.

7.11.3.4

General use portable anchor devices shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall withstand a minimum load of at least 36 kN (8093 lbf) without failure.

7.11.3.5

Permanently attached portable anchor product labels shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

7.11.3.6

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface-type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.11.3 Pulley Performance Requirements.

7.11.3.1

Technical use pulleys shall be tested for deformation as specified in Section 8.7 , Breaking Strength Test, Procedure A, and shall show no permanent damage to the device or damage to the rope.

7.11.3.2

Technical use pulleys shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 22 kN (4946 lbf) without failure.

7.11.3.3

General use pulleys shall be tested for deformation as specified in Section 8.7 , Breaking Strength Test, Procedure A, and shall show no permanent damage to the device or damage to the rope.

7.11.3.4

General use pulleys shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 36 kN (8093 lbf) without failure.

7.11.3.5

The becket on technical use pulleys shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 12 kN (2698 lbf) without failure.

7.11.3.6

The becket on general use pulleys shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 19.5 kN (4383 lbf) without failure.

7.11.3.7

Permanently attached pulley product labels shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.

~~7.11.3.8~~

~~All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.~~

~~7.13 Victim Extrication Device Performance Requirements.~~

~~7.13.1 Class II Victim Extrication Devices.~~

~~7.13.1.1~~

~~Class II victim extrication devices shall be tested for strength as specified in Section 8.3, Static Test, and shall not release the test torso. The device buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the device shall show no visible signs of damage that would affect its function.~~

~~7.13.1.2~~

~~Where Class II victim extrication devices include alternate D-rings and attachment points designated by the manufacture's as alternate lifting points or configurations, these attachments shall be tested for strength as specified as in Section 8.3 , Static Test, and shall show no visual signs of damage that would affect its function.~~

~~7.13.2 Class III Victim Extrication Device.~~

~~7.13.2.1~~

~~Class III Victim extrication devices shall be tested for strength as specified in Section 8.3 , Static Test, and shall not release the test torso. The device buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the device shall show no visible signs of damage that would affect its function.~~

~~7.13.2.2~~

~~Where Class III victim extrication devices include alternate D-rings and attachment points designated by the manufacture as alternate lifting points or configurations, these attachments shall be tested for strength as specified as in Section 8.3 , Static Test, and shall show no visual signs of damage that would affect its function.~~

~~7.13.3~~

~~All victim extrication device product labels shall be tested for durability as specified in Section 8.10 , Product Label Durability Test, and shall be legible and shall not be torn or otherwise damaged.~~

~~7.13.4~~

~~All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.~~

~~7.13.5~~

~~All fiber used in load-bearing materials and thread used in the construction of Class II and Class III victim extrication devices shall be tested for melting as specified ASTM 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).~~

~~7.14 Litter Performance Requirements.~~

~~Litters shall be tested for strength and deformation as specified in Section 8.12 , Litter Strength Test, and shall withstand a minimum load of 11 kN (2473 lbf) without failure or deformation of the structural element of more than 50 mm ± 5 mm (2 in. ± 0.2 in.).~~

~~7.13 Life Safety Harness Performance Requirements.~~

~~7.13.1 Class II Life Safety Harness.~~

~~7.13.1.1~~

~~Class II life safety harness shall be tested for strength as specified in Section 8.3 , Static Test, and shall not release from the test torso, the harness buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the harness shall show no visible signs of damage that would affect its function.~~

~~7.13.1.2~~

~~Class II life safety harness shall be tested for drop as specified in Section 8.4 , Drop Test, and the test torso shall not contact the ground during any of the test drops.~~

7.13.1.3

Where Class II life safety harness include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3 , Static Test, and shall show no visible signs of damage that would affect its function.

7.13.2 Class III Life Safety Harness.

7.13.2.1

Class III life safety harness shall be tested for strength as specified in Section 8.3 , Static Test, and shall not release from the test torso; the harness buckles and adjusting devices shall not slip more than 25 mm (1 in.); and the harness shall show no visible signs of damage that would affect its function.

7.13.2.2

Class III life safety harness shall be tested for drop as specified in Section 8.4 , Drop Test, and the test torso shall not contact the ground during any of the test drops.

7.13.2.3

Where Class III life safety harness include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3 , Static Test, and shall show no visible signs of damage that would affect its function.

7.13.3

All life safety harness product labels shall be tested for durability as specified in Section 8.10 , Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.

7.13.4

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturers' operating instructions.

7.13.5*

All fiber and thread used in load-bearing materials and thread used in the construction of Class II and Class III life safety harness shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.13.6 Optional Requirements for Flame-Resistant Life Safety Harnesses.

7.13.6.1

Where harnesses are represented as being flame-resistant, materials and hardware shall be tested individually for flame resistance as specified in Section 8.16 , Flame Resistance Test, and shall have an average char length of not more than 100 mm (4 in.), shall have an average afterflame of not more than 2.0 seconds, and shall not melt or drip.

7.13.6.2

Where harnesses are represented as being flame-resistant, materials, labels, and hardware shall be tested individually for heat resistance as specified in Section 8.16 , Heat Resistance Test, and shall not melt, drip, separate, or ignite; hardware items shall remain functional.

7.13.6.3

Where harnesses are represented as being flame-resistant, sewing thread utilized in the construction of harnesses shall be tested for heat resistance as specified in Section 8.18 , Thread Heat Resistance Test, and shall not melt.

7.8 Escape Webbing Performance Requirements.

7.8.1

Escape webbing shall meet the performance requirements specified in Section 7.2.1 , Escape Rope Performance Requirements, excluding 7.2.1.2 .

7.8.2

Escape webbing shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope,* and shall have a minimum perimeter of 25 mm (1 in). For the purpose of reporting, the perimeter of all new escape webbing shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.10 Fire Escape Webbing Performance Requirements.

7.10.1

Fire escape webbing shall meet the performance requirements specified in Section 7.12 , Fire Escape Rope Performance Requirements, excluding 7.12.2 Fire escape webbing shall be tested for breaking strength and elongation as specified in Section 8.2 and shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf), the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength, and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength..

7.10.2

Fire escape webbing shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope* , and shall have a minimum perimeter of 25 mm (1. in). For the purpose of reporting, the perimeter of all new escape webbing shall be rounded to the nearest 1/2 mm (1/64 in.).

7.10.3

Fiber utilized for all fire escape rope shall be tested for melting in accordance with ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204°C (400°F).

7.10.4

Fire escape webbing shall be tested for high temperature exposure as specified in Section 8.15. This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 300 lb and of 5 minutes at 400°C while holding 300 lb.

7.10.5

Fire escape webbing shall be tested for high temperature exposure as specified in Section 8.15 , Elevated Temperature Rope Test. This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 300 lb and of 5 minutes at 400°C while holding 300 lb.

7.15 Escape System Performance Requirements.

7.15.1

Escape systems shall be tested for strength as specified in Section 8.7 , Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 13.5 kN (3034 lbf) without failure.

7.15.2

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface-type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.15.3

All fiber and thread utilized in the construction of the escape systems and system components shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.15.4

All escape system equipment and system component product labels shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

7.15.5

Where the escape descent control device used in the escape system incorporates a passive or active breaking feature that creates friction between the device and the rope, the system shall be tested for maximumaverage payout force as specified in Section 8.13 , Payout Test, and shall not release the test torso and shall not exceed 90 N (20 lb).

7.11.6

Where an escape system is designated as a fire escape system, additional tests as specified in 7.11.6.1 and 7.11.6.2 shall be conducted.

7.11.6.1

Fire escape system rope shall be tested for high-temperature exposure as specified in Section 8.15 , Elevated Temperature Rope Test. This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 300 lb and of 5 minutes at 400°C while holding 300 lb.

~~7.11.6.2~~

~~Where escape anchors are represented as being flame-resistant, materials, labels, and hardware shall be tested individually for heat resistance as specified in Section 8.17 , Heat Resistance Test, and shall not melt, drip, separate, or ignite; hardware items shall remain functional.~~

~~7.11 * Fire Escape Rope Performance Requirements.~~

~~7.11.1 *~~

~~Fire escape rope shall be tested for breaking strength and elongation as specified in Section 8.2 , Rope Breaking and Elongation Test, and shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf); the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength; and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength.~~

~~7.11.2 *~~

~~Fire escape rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope* , and shall have a diameter of at least 7.5 mm (19⁄64 in.) but less than 9.5 mm (3⁄8 in.). For the purpose of reporting, the calculated diameter of all new fire escape rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).~~

~~7.11.3 *~~

~~Fiber utilized for all fire escape rope shall be tested for melting in accordance with ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204°C (400°F).~~

~~7.11.4~~

~~Fire escape rope product labels and identification tape shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.~~

~~7.11.5~~

~~Fire escape rope shall be tested for high-temperature exposure as specified in Section 8.15 , Elevated Temperature Rope Test. This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 300 lb and of 5 minutes at 400°C while holding 300 lb.~~

~~7.14 Manufacturer-Supplied Eye Termination.~~

~~7.14.1~~

~~Manufacturer-supplied eye termination shall be tested for breaking strength as specified in Section 8.2 , Rope Breaking and Elongation Test, and shall meet one of the following criteria:~~

- ~~It shall have a minimum breaking strength of not less than 85 percent of the certified rope's calculated minimum breaking strength, as determined by the certifying organization.~~
- ~~It shall have a minimum breaking strength of not less than 20 kN (4496 lbf) for technical use life safety rope.~~
- ~~It shall have a minimum breaking strength of not less than 40 kN (8992 lbf) for general use life safety rope.~~
- ~~It shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf) for escape rope.~~
- ~~It shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf) for throwline.~~
- ~~It shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf) for fire escape rope.~~

~~7.14.2~~

~~All thread used in the construction of manufacturer-supplied eye termination , except for fire escape rope and fire escape webbing, shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* , and shall have a melting point of not less than 204ºC (400ºF).~~

~~7.14.2.1~~

~~All thread used in the construction of fire escape rope manufacturer-supplied eye termination in fire escape webbing shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* and shall have a melting point of not less than 260 C (500 F).~~

~~**7.14.3**~~

~~All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 , Corrosion Resistance Test, and metals inherently resistant to corrosion, including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.~~

~~**7.14.4**~~

~~Manufacturer-supplied eye termination for fire escape rope and fire escape webbing shall be tested for high-temperature exposure as specified in Section 8.15. This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 1.33 kN (300 lb) and 5 minutes at 400° C while holding 1.33 kN (300 lb).~~

~~**7.14** Moderate Elongation Laid Life Saving Rope Performance Requirements.~~

~~**7.14.1**~~

~~Moderate elongation laid life saving rope shall be tested for breaking strength and elongation as specified in Section 8.2 , Rope Breaking and Elongation Test, and shall have a minimum breaking strength of not less than 40 kN (8992 lbf); the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength and the maximum elongation shall not be more than 25 percent at 10 percent of breaking strength.~~

~~**7.14.2**~~

~~Moderate elongation laid life saving rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1805, *3-Strand Life Safety Rope, Moderate Stretch,* and shall have a diameter of 11 mm ($\frac{7}{16}$ in.) or greater but less than or equal to 16 mm ($\frac{5}{8}$ in.). For the purpose of reporting, the calculated diameter of all new three-strand life saving rope shall be rounded to the nearest 0.5 mm ($\frac{1}{64}$ in.).~~

~~**7.14.3***~~

~~Fiber utilized for all moderate elongation laid life saving rope shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).~~

~~**7.14.4**~~

~~Moderate elongation laid life saving rope product labels and identification tape shall be tested for legibility as specified in Section 8.10 , Product Label Durability Test, and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.~~

~~**7.16** Belay Device Performance Requirements.~~

~~**7.16.1**~~

~~Technical use belay devices shall be tested for breaking strengthmanner of function as specified in Section 8.6 .Manner of Function Tensile Test, Procedure C without failure of the device or failure of the rope.~~

~~**7.16.2**~~

~~General use belay devices shall be tested for breaking strengthmanner of function as specified in Section 8.6 , Manner of Function Tensile Test, Procedure C, without failure of the device or failure of the rope, with a belay system extension of less than 1 m, and with an impact force of less than 15 kN (3372 lbf).~~

~~**7.16.3**~~

~~All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.~~

~~**7.16.4**~~

~~All auxiliary equipment systems and system component product labels shall be tested for legibility as specified in Section 8.10 shall be legible, and shall not be torn or otherwise damaged.~~

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7.16 Descent Control Device Performance Requirements.

7.16.1

Escape descent control devices shall be tested for deformation as specified in Section 8.6 ~~, Manner of Function Tensile Test, Procedure A,~~ and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.

7.16.2

Escape descent control devices shall be tested for maximum impact force as specified in Section 8.14 and shall have the maximum impact force not exceed 8 kN (1798.5 lbf), shall not damage the device or rope, and shall remain functional.

~~**7.6.3.2**~~

~~Escape descent control devices shall be tested for breaking strength as specified in Section 8.6 , Manner of Function Tensile Test, Procedure B, and shall have a minimum breaking strength of at least 13.5 kN (3034 lbf).~~

7.16.3

Technical use descent control devices shall be tested for deformation as specified in Section 8.6 , ~~Manner of Function Tensile Test, Procedure A,~~ and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.

7.16.4

General use descent control devices shall be tested for deformation as specified in Section 8.6 , ~~Manner of Function Tensile Test, Procedure A,~~ and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.

~~**7.6.3.5**~~

~~General use descent control devices shall be tested for breaking strength as specified in Section 8.6 , Manner of Function Tensile Test, Procedure B, and shall have a minimum breaking strength of at least 22 kN (4946 lbf).~~

~~**7.6.3.5.1**~~

~~Where the descent control device is designed to slip under high load, general use descent control devices shall be tested for slippage as specified in Section 8.6 , Manner of Function Tensile Test, Procedure B, and shall not slip under a test load of 9 kN (2023 lbf).~~

7.16.5

ISO 22159, *Personal equipment for protection against falls — Descending devices*, Type 2, 3, and 4 descent control devices with a hands-free locking element shall be tested in accordance with Section 8.11 ~~, Holding Test,~~ and shall meet the requirements in 4.6.1 of ISO 22159.

7.16.5.1

ISO 22159 Type 2 and 3 descent control devices with a panic-locking element shall be tested in accordance with Section 8.11 ~~, Holding Test~~ , and shall meet the requirements in 4.6.2 of ISO 22159.

7.16.5.2

ISO 22159 Type 5 and 6 descent control devices shall be tested in accordance with Section 8.11 , ~~Holding Test,~~ and shall meet the requirements in 4.6.3 of ISO 22159.

7.16.6

Permanently attached descent control device product labels shall be tested for legibility as specified in Section 8.10 ~~, Product Label Durability Test,~~ and shall be legible, and shall not be torn or otherwise damaged.

7.16.7

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 ~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

~~**7.6.3.9**~~

~~Where the escape descent control device incorporates a passive or active breaking feature that creates friction between the device and the rope, the maximum force required to pay a specific type of rope through the descent control device shall be tested as specified in Section 8.13 , Payout Test, and shall not exceed 90 N (20 lb).~~

~~**7.6.3.10** System Level Drop Test.~~

~~Escape systems shall be tested for maximum impact force as specified in Section 8.14 , Escape Descent Control Device and Systems Drop Test, and shall have the maximum impact force not exceed 8.0 kN (1798.5 lbf), shall not damage the rope or device, and shall remain functional.~~

7.17 Escape Anchor Device Performance Requirements.

7.17.1

Escape anchor devices shall be tested for strength as specified in Section 8.7 ~~, Breaking Strength Test, Procedure B,~~ and shall have a minimum tensile strength of at least 13.5 kN (3034 lbf).

7.17.2

Permanently attached escape anchor device product labels shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ shall be legible, and shall not be torn or otherwise damaged.

7.17.3

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~. Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.17.4

Escape anchor devices constructed of nonmetallic materials shall be tested for heat resistance as specified in Section 8.17~~, Heat Resistance Test,~~ and shall not melt, drip, separate, or ignite; hardware items shall remain functional.

7.18 Litter Performance Requirements.

7.18.1

Litters shall be tested for strength and deformation as specified in Section 8.12 and shall withstand a minimum load of 11 kN (2473 lbf) without failure or deformation of the structural element of more than 50 mm ± 5 mm (2 in. ± 0.2 in.).

7.18.2

All litter product labels shall be tested for legibility as specified in Section 8.10 shall be legible, and shall not be torn or otherwise damaged.

7.19 Portable Anchor Performance Requirements.

7.19.1

Technical use portable anchor devices shall be tested for deformation as specified in Section 8.7~~, Breaking Strength Test, Procedure A,~~ and all adjustments or moving parts shall remain functional, and shall exhibit no condition that would cause the safety of the user to be compromised.

7.19.2

General use portable anchor devices shall be tested for deformation as specified in Section 8.7~~, Breaking Strength Test, Procedure A,~~ and all adjustments or moving parts shall remain functional, and shall exhibit no condition that would cause the safety of the user to be compromised.

7.19.3

Technical use portable anchor devices shall be tested for strength as specified in Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall withstand a minimum load of at least ~~22~~ 18 kN (4946 lbf) without failure.

7.19.4

General use portable anchor devices shall be tested for strength as specified in Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall withstand a minimum load of at least 36 kN (8093 lbf) without failure.

7.19.5

Permanently attached portable anchor product labels shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ shall be legible, and shall not be torn or otherwise damaged.

7.19.6

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.20 Pulley Performance Requirements.

7.20.1

Technical use pulleys shall be tested for deformation as specified in Section 8.7~~, Breaking Strength Test, Procedure A,~~ and shall show no permanent damage to the device or damage to the rope.

7.20.2

Technical use pulleys shall be tested for strength as specified in Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall have a minimum tensile strength of at least ~~22~~ 18 kN (4946 lbf) without failure.

7.20.3

General use pulleys shall be tested for deformation as specified in Section 8.7~~, Breaking Strength Test, Procedure A,~~ and shall show no permanent damage to the device or damage to the rope.

7.20.4

General use pulleys shall be tested for strength as specified in Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall have a minimum tensile strength of at least 36 kN (8093 lbf) without failure.

7.20.5

The becket on technical use pulleys shall be tested for strength as specified in Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall have a minimum tensile strength of at least ~~12~~ 11 kN (2698 lbf) without failure.

7.20.6

The becket on general use pulleys shall be tested for strength as specified in Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall have a minimum tensile strength of at least ~~19.5~~ 22 kN (4383 lbf) without failure.

7.20.7

Permanently attached pulley product labels shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ and shall be legible, and shall not be torn or otherwise damaged.

7.20.8

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.21 Rope Grab and Ascending Devices Performance Requirements.

7.21.1

Technical use rope grab and ascending devices shall be tested for deformation as specified in Section 8.6~~, Manner of Function Tensile Test, Procedure A,~~ and shall show no permanent damage to the device or damage to the rope.

7.21.2

General use rope grab and ascending devices shall be tested for deformation as specified in Section 8.6~~, Manner of Function Tensile Test, Procedure A,~~ and shall show no permanent damage to the device or damage to the rope.

7.21.3

Permanently attached rope grab and ascending device product labels shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ and shall be legible, and shall not be torn or otherwise damaged.

7.21.4

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.22 Other Auxiliary Equipment Performance Requirements.

7.22.1

Other technical use auxiliary equipment shall be tested for strength as specified in Section 8.7, ~~Breaking Strength Test, Procedure B,~~ and shall have a minimum tensile strength of at least 22 kN (4946 lbf) without failure.

7.22.2

Other general use auxiliary equipment shall be tested for strength as specified in Section 8.7, ~~Breaking Strength Test, Procedure B,~~ and shall have a minimum tensile strength of at least 36 kN (8093 lbf)

7.22.3

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, ~~Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.22.4*

All fiber and thread utilized in the construction of all auxiliary equipment systems and system components shall be tested for melting as specified in ASTM E794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

7.22.5

All auxiliary equipment systems and system component product labels shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ shall be legible, and shall not be torn or otherwise damaged.

7.23 Escape System Performance Requirements.

7.23.1

Escape systems shall be tested for strength as specified in Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall have a minimum tensile strength of at least 13.5 kN (3034 lbf) without failure.

7.23.2

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.23.3

All fiber and thread utilized in the construction of the escape systems and system components shall be tested for melting as specified in ~~ASTM E 794~~ ASTM E794 , *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.23.4

All escape system equipment and system component product labels shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ shall be legible, and shall not be torn or otherwise damaged.

7.23.5

Where the escape descent control device used in the escape system incorporates a passive or active breaking feature that creates friction between the device and the rope, the system shall be tested for ~~maximum~~ average payout force as specified in Section 8.13~~, Payout Test,~~ and shall not release the test torso and shall not exceed 90 N (20 lb).

7.23.6

Escape systems shall be tested for maximum impact force as specified in Section 8.14 and shall have the maximum impact force not exceed 8.0 kN (1798.5 lbf), shall not damage the rope or device, and shall remain functional.

~~**7.11.6**~~

~~Where an escape system is designated as a fire escape system, additional tests as specified in 7.11.6.1 and 7.11.6.2 shall be conducted.~~

~~**7.11.6.1**~~

~~Fire escape system rope shall be tested for high-temperature exposure as specified in Section 8.15 , Elevated Temperature Rope Test. This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 300 lb and of 5 minutes at 400°C while holding 300 lb.~~

~~**7.11.6.2**~~

~~Where escape anchors are represented as being flame-resistant, materials, labels, and hardware shall be tested individually for heat resistance as specified in Section 8.17 , Heat Resistance Test, and shall not melt, drip, separate, or ignite; hardware items shall remain functional.~~

7.24 Fire Escape System Performance Requirements.

7.24.1

Fire escape systems shall be tested for strength as specified in Section 8.7 and shall have a minimum tensile strength of at least 13.5 kN (3034 lbf) without failure.

7.24.2

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8 and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.24.3

All escape system equipment and system component product labels shall be tested for legibility as specified in Section 8.10 shall be legible, and shall not be torn or otherwise damaged.

7.24.4

Where the escape descent control device used in the fire escape system incorporates a passive or active breaking feature that creates friction between the device and the rope, the system shall be tested for average payout force as specified in Section 8.13 and shall not release the test torso and shall not exceed 90 N (20 lb).

7.24.5

Fire escape system rope and the manufactured supplied eye termination with fire escape rope shall be tested for high-temperature exposure as specified in Section 8.15 . This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 1.33 kN (300 lb) and of 5 minutes at 400°C while holding 1.33 kN (300 lb).

7.24.6

Fire escape system materials, labels, and hardware shall be tested individually for heat resistance as specified in Section 8.17 and shall not melt, drip, separate, or ignite; hardware items shall remain functional.

7.24.7

Sewing thread utilized in the construction of fire escape systems shall be tested for heat resistance as specific in Section 8.18 and shall not melt at or below a temperature of 260°C (500°F).

7.24.8

Escape systems shall be tested for maximum impact force as specified in Section 8.14 and shall have the maximum impact force not exceed 8.0 kN (1798.5 lbf), shall not damage the rope or device, and shall remain functional.

7.25 Manufactured Systems Performance Requirements.

7.25.1

Technical use manufactured systems shall be tested for deformation as specified in Section 8.7~~, Breaking Strength Test, Procedure A,~~ and shall have no permanent damage to the system or its component parts or visible deformation to the general shape of the system or components.

7.25.2

Technical use manufactured systems shall be tested for strength as specified in Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall have a minimum tensile strength of at least ~~22~~ 18 kN (4946 lbf) without failure.

7.25.3

General use manufactured systems shall be tested for deformation as specified in Section 8.7~~, Breaking Strength Test, Procedure A,~~ and shall have no permanent damage to the system or its component parts or visible deformation to the general shape of the system or components.

7.25.4

General use manufactured systems shall be tested for strength as specified in Section 8.7~~, Breaking Strength Test, Procedure B,~~ and shall have a minimum tensile strength of at least 36 kN (8093 lbf) without failure.

7.25.5

Permanently attached manufactured system product labels shall be tested for legibility as specified in Section 8.10~~, Product Label Durability Test,~~ and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.25.6

All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8~~, Corrosion Resistance Test,~~ and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturers' operating instructions.

7.25.7

Where a manufactured system contains a life safety harness subcomponent, the life safety harness shall be individually tested, labeled, and certified to meet the appropriate requirements specified in Section 7.3 ~~, Throwline Performance Requirements, and~~ 7.9~~7.97.4~~ ~~, Life Safety Harness Performance Requirements,~~ in addition to the manufactured system requirements of 7.25.1~~7.24.17.5.7.1~~ through 7.25.6~~7.24.67.5.7.6~~ as applicable.

7.25.8

Where a manufactured system contains a belt subcomponent, the belt shall be individually tested, labeled, and certified to meet the appropriate requirements specified in Section 7.10 in addition to the manufactured system requirements of 7.25.1~~7.24.1~~ through 7.25.6~~7.24.6~~ as applicable.

~~**7.5.7.9**~~

~~Where a manufactured system contains an ascending device, rope grab device, or descent control device, the system shall be tested for deformation as specified in Section 8.6 , Manner of Function Tensile Test, Procedure A, and shall not show any permanent damage or visible deformation to the general shape of the device and shall not show any damage to the rope.~~

~~**7.5.7.10**~~

~~Where the manufactured system incorporates an escape descent control device that incorporates a passive or active breaking feature that creates friction between the device and the rope, the system shall be tested for maximum payout force as specified in Section 8.13 , Payout Test, shall not release the test torso, and shall not exceed 90 N (20 lb).~~

7.25.9

All fiber and thread used in load-bearing materials and thread used in the construction of manufactured systems shall be tested for melting as specified in ~~ASTM E 794~~ ASTM E794 , *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

Supplemental Information

File Name	Description
Ch._7_complete.docx	

Submitter Information Verification

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Committee Statement

Committee Statement: Changes made to reflect standard reorganization.

The committee identified and corrected several discrepancies involving ratios between required MBS values throughout Technical and General use categories. Specifically, the ratio of strengths assigned to various components were inconsistent with the intended use and potential forces of each of these two types of systems. Using rope as the foundation element, adjustments were made to better align MBS values of other equipment based on more consistent ratios.

These changes maintain the General Use category as a more robust solution for users with a basic level of understanding with regard to rope and equipment use, while aligning Technical use components with other accepted industry standards pertaining to specialized technical rescue, as well as industry best practice for more technically adept rescuers.

In 7.8.4, correcting a previous omission for manufactured eye termination testing.

Changes in 7.11 (new 7.24) to align with the new requirements in Ch 8 Payout Test.

Response Message:

Public Input No. 10-NFPA 1983-2013 [Section No. 7.11.6]
Public Input No. 11-NFPA 1983-2013 [Sections 7.15.1, 7.15.2]
Public Input No. 12-NFPA 1983-2013 [Section No. 7.17]
Public Input No. 13-NFPA 1983-2013 [New Section after 7.11.6.2]
Public Input No. 62-NFPA 1983-2015 [Chapter 7]
Public Input No. 6-NFPA 1983-2013 [Section No. 7.5.7.10]
Public Input No. 4-NFPA 1983-2013 [Section No. 7.4.6.1]
Public Input No. 5-NFPA 1983-2013 [Section No. 7.5.6.1]

7.1* Life Safety Rope Performance Requirements.

7.1.1* Technical use life safety rope shall be tested for breaking strength and elongation as specified in Section 8.2, Rope Breaking and Elongation Test and shall have a minimum breaking strength of not less than 20 kN (4496 lbf), the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength; and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength.

7.1.2* General use life safety rope shall be tested for breaking strength and elongation as specified in Section 8.2, Rope Breaking and Elongation Test and shall have a minimum breaking strength of not less than 40 kN (8992 lbf); the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength; and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength.

7.1.3* Technical use life safety rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope*, and shall have a diameter of 9.5 mm (3⁄8 in.) or greater but less than 12.5 mm (½ in.). For the purpose of reporting, the calculated diameter of all new life safety rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.1.4* General use life safety rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope,* and shall have a diameter of 11 mm (7⁄16 in.) or greater but less than or equal to 16 mm (5⁄8 in.). For the purpose of reporting, the calculated diameter of all new life safety rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.1.5* Fiber utilized for all life safety rope shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

7.1.6 Life safety rope product labels and identification tape shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.2* Escape Rope Performance Requirements.

7.2.1* Escape rope shall be tested for breaking strength and elongation as specified in Section 8.2, Rope Breaking and Elongation Test, and shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf), the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength, and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength.

7.2.2* Escape rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope,* and shall have a diameter of 7.5 mm (19⁄64 in.) or greater, but less than 9.5 mm (3⁄8 in.). For the purpose of reporting, the calculated diameter of all new escape rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.2.3* Fiber utilized for all escape rope shall be tested for melting in accordance with ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.2.4 Escape rope product labels and identification tape shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.6 Throwline Performance Requirements.

7.6.1 Throwline shall be tested for minimum breaking strength as specified in Section 8.2, Rope Breaking and Elongation Test, and shall have a minimum breaking strength of not less than 13 kN (2923 lbf).

7.6.2* Throwline shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope*, and shall have a diameter of 7 mm (19⁄64 in.) or greater, but less than 9.5 mm (3⁄8 in.). For the purpose of reporting, the calculated diameter of all new life safety rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.6.3 Throwline shall be tested for the ability to float as specified in Section 8.9, Floatability Test, and shall float.

7.6.4 Throwline product labels and identification tape shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall remain in place and shall be legible.

~~7.4~~ 7.9 Life Safety Harness Performance Requirements.

~~7.4.1~~ 7.9.1 Class II Life Safety Harness.

~~7.4.1.1~~ 7.9.1.1 Class II life safety harness shall be tested for strength as specified in Section 8.3, Static Test, and shall not release from the test torso, the harness buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the harness shall show no visible signs of damage that would affect its function.

~~7.4.1.2~~ 7.9.1.2 Class II life safety harness shall be tested for drop as specified in Section 8.4, Drop Test, and the test torso shall not contact the ground during any of the test drops.

~~7.4.1.3~~ 7.9.1.3 Where Class II life safety harness include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3, Static Test, and shall show no visible signs of damage that would affect its function.

~~7.4.2~~ 7.9.2 Class III Life Safety Harness.

~~7.4.2.1~~ 7.9.2.1 Class III life safety harness shall be tested for strength as specified in Section 8.3, Static Test, and shall not release from the test torso; the harness buckles and adjusting devices shall not slip more than 25 mm (1 in.); and the harness shall show no visible signs of damage that would affect its function.

~~7.4.2.2~~ 7.9.2.2 Class III life safety harness shall be tested for drop as specified in Section 8.4, Drop Test, and the test torso shall not contact the ground during any of the test drops.

~~7.4.2.3~~ 7.9.2.3 Where Class III life safety harness include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3, Static Test, and shall show no visible signs of damage that would affect its function.

~~7.4.3~~ 7.9.3 All life safety harness product labels shall be tested for durability as specified in Section 8.10, Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.

~~7.4.4~~ 7.9.4 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturers' operating instructions.

~~7.4.5~~ 7.9.5 * All fiber and thread used in load-bearing materials and thread used in the construction of Class II and Class III life safety harness shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

~~7.4.6~~ 7.9.6 Optional Requirements for Flame-Resistant Life Safety Harnesses.

~~7.4.6.1~~ 7.9.6.1 Where harnesses are represented as being flame-resistant, materials ~~and hardware~~ shall be tested individually for flame resistance as specified in Section 8.16, Flame Resistance Test, and shall have an average char length of not more than 100 mm (4 in.), shall have an average afterflame of not more than 2.0 seconds, and shall not melt or drip.

~~7.4.6.2~~ 7.9.6.2 Where harnesses are represented as being flame-resistant, materials, labels, and hardware shall be tested individually for heat resistance as specified in Section 8.1~~6~~7, Heat Resistance Test, and shall not melt, drip, separate, or ignite; hardware items shall remain functional.

~~7.4.6.3~~ **7.9.6.3** Where harnesses are represented as being flame-resistant, sewing thread utilized in the construction of harnesses shall be tested for heat resistance as specified in Section 8.18, Thread Heat Resistance Test, and shall not melt.

~~7.5~~ 7.10 Belt Performance Requirements.

~~**7.5.1**~~ **7.10.1** Ladder belts shall be tested for strength as specified in Section 8.3, Static Test, and shall not release from the test torso, shall not slip more than 25 mm (1 in.), and shall show no visible signs of damage that would affect their function.

~~**7.5.1.1**~~ **7.10.1.1** Where ladder belts include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3, Static Test, and shall show no visible signs of damage that would affect their function.

~~**7.5.2**~~ **7.10.2** Escape belts shall be tested for strength as specified in Section 8.3, Static Test, and shall not release from the test torso, shall not slip more than 25 mm (1 in.), and shall show no visible signs of damage that would affect their function.

~~**7.5.2.1**~~ **7.10.2.1** Where escape belts include side D-rings and attachment points designated by the manufacturer as positioning attachments only, these attachments shall be tested for strength as specified in Section 8.3, Static Test, and shall show no visible signs of damage that would affect their function.

~~**7.5.3**~~ **7.10.3** Escape belts shall be tested for drop as specified in Section 8.4, Drop Test, and the test torso shall not contact the ground during any of the test drops.

~~**7.5.4**~~ **7.10.4** All belt product labels shall be tested for durability as specified in Section 8.10, Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

~~**7.5.5**~~ **7.10.5** Metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.10.6 All fiber and thread used in load-bearing materials and thread used in the construction of belts shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

~~7.5.6~~ 7.10.7 Optional Requirements for Flame-Resistant Belts.

~~**7.5.6.1**~~ **7.10.7.1** Where belts are represented as being flame-resistant, ~~materials and~~ hardware shall be tested individually for flame resistance as specified in Section 8.16, Flame Resistance Test, and shall have an average char length of not more than 100 mm (4 in.), shall have an average afterflame of not more than 2.0 seconds, and shall not melt or drip.

~~**7.5.6.2**~~ **7.10.7.2** Where belts are represented as being flame-resistant, materials, labels, and hardware shall be tested individually for heat resistance as specified in Section 8.17, Heat Resistance Test, and shall not melt, drip, separate, or ignite; and hardware items shall not ignite and shall remain functional.

~~**7.5.6.3**~~ **7.10.7.3** Where belts are represented as being flame-resistant, sewing thread utilized in the construction of harnesses shall be tested for heat resistance as specified in Section 8.18, Thread Heat Resistance Test, and shall not melt.

7.25 Manufactured Systems Performance Requirements.

7.25.1 Technical use manufactured systems shall be tested for deformation as specified in Section 8.7, Breaking Strength Test, Procedure A, and shall have no permanent damage to the system or its component parts or visible deformation to the general shape of the system or components.

7.25.2 Technical use manufactured systems shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 18 kN (4946 lbf) without failure.

7.25.3 General use manufactured systems shall be tested for deformation as specified in Section 8.7, Breaking Strength Test, Procedure A, and shall have no permanent damage to the system or its component parts or visible deformation to the general shape of the system or components.

7.25.4 General use manufactured systems shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 36 kN (8093 lbf) without failure.

7.25.5 Permanently attached manufactured system product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.25.6 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturers' operating instructions.

.25.7 Where a manufactured system contains a life safety harness subcomponent, the life safety harness shall be individually tested, labeled, and certified to meet the appropriate requirements specified in Section and 7.4, Life Safety Harness Performance Requirements, in addition to the manufactured system requirements of 7.5.7.1 through 7.5.7.6as applicable.

7.25.8 Where a manufactured system contains a belt subcomponent, the belt shall be individually tested, labeled, and certified to meet the appropriate requirements specified in Section 7.5, Belt Performance Requirements, in addition to the manufactured system requirements of 7.5.7.1 through 7.5.7.6 as applicable.

7.25.9 All fiber and thread used in load-bearing materials and thread used in the construction of manufactured systems shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

7.12 End-to-End Strap Performance Requirements.

7.12.1 Technical use end-to-end straps shall be tested for breaking strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum breaking strength of at least 11 kN (4500 lbf) without failure.

7.12.1.1 Where the strap includes an adjustment device, the adjustment device shall not slip more than 50 mm (2 in.).

7.12.2 General use end-to-end straps shall be tested for breaking strength as specified Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum breaking strength of at least 22 kN (6070 lbf) without failure.

7.12.2.2 Where the strap includes an adjustment device, the adjustment device shall not slip more than 50 mm (2 in.).

7.12.3 Permanently attached end-to-end and multiple configuration strap product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

7.12.4 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.12.5* All fiber and thread used for end-to-end and multiple configuration straps shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

7.13 Multiple Configuration Strap Performance Requirements.

7.13.1 Technical use multiple configuration straps shall be tested for breaking strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum breaking strength of at least 22 kN (7194 lbf) without failure.

7.13.1.1 Where the strap includes an adjustment device, the adjustment device shall not slip more than 50 mm (2 in.).

7.13.2 General use multiple configuration straps shall be tested for breaking strength as specified in Section 8.7, Breaking Strength Test, and shall have a minimum breaking strength of at least 45 kN (10,120 lbf) without failure.

7.13.2.1 Where the strap includes an adjustment device the adjustment device shall not slip more than 50 mm (2 in.).

7.13.3 Permanently attached end-to-end and multiple configuration strap product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

7.13.4 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.13.5* All fiber and thread used for end-to-end and multiple configuration straps shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.22 Other Auxiliary Equipment Performance Requirements.

7.22.1 Other technical use auxiliary equipment shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 22 kN (4946 lbf) without failure.

7.22.2 Other general use auxiliary equipment shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 36 kN (8093 lbf)

7.22.3 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion

including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.22.4* All fiber and thread utilized in the construction of all auxiliary equipment systems and system components shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

7.22.5 All auxiliary equipment systems and system component product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

7.15 Carabiners and Snap-Link Performance Requirements.

7.15.1 Technical use carabiners and snap-links shall be tested for strength as specified in Section 8.5, Carabiner and Snap-Link Tensile Test, and shall, with the gate closed, have a major axis minimum breaking strength of at least 22 kN (6069 lbf).

7.15.2 Technical use carabiners and snap-links shall be tested for strength as specified in Section 8.5, Carabiner and Snap-Link Tensile Test, and shall, with the gate open, have a major axis minimum breaking strength of at least 7 kN (1574 lbf).

7.15.3 Technical use carabiners and snap-links shall be tested for strength as specified in Section 8.5, Carabiner and Snap-Link Tensile Test, and shall have a minor axis minimum breaking strength of at least 7 kN (1574 lbf).

7.15.4 General use carabiners and snap-links shall be tested for breaking strength as specified in Section 8.5, Carabiner and Snap-Link Tensile Test, and shall, with the gate closed, have a major axis minimum breaking strength of at least 40 kN (8992 lbf).

7.15.5 General use carabiners and snap-links shall be tested for breaking strength as specified in Section 8.5, Carabiner and Snap-Link Tensile Test, and shall, with the gate open, have a major axis minimum breaking strength of at least 11 kN (2473 lbf).

7.15.6 General use carabiners and snap-links shall be tested for breaking strength as specified in Section 8.5, Carabiner and Snap-Link Tensile Test, and shall have a minor axis minimum breaking strength of at least 11 kN (2473 lbf).

7.15.7 Permanently attached carabiner and snap-link product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.

7.15.8 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturers' operating instructions.

7.21 Rope Grab and Ascending Devices Performance Requirements.

7.21.1 Technical use rope grab and ascending devices shall be tested for deformation as specified in Section 8.6, Manner of Function Tensile Test, Procedure A, and shall show no permanent damage to the device or damage to the rope.

7.21.2 General use rope grab and ascending devices shall be tested for deformation as specified in Section 8.6, Manner of Function Tensile Test, Procedure A, and shall show no permanent damage to the device or damage to the rope.

7.21.3 Permanently attached rope grab and ascending device product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.

7.21.4 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.6.3 Descent Control Device Performance Requirements.

7.6.3.1 Escape descent control devices shall be tested for deformation as specified in Section 8.6, Manner of Function Tensile Test, Procedure A, and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.

7.6.3.2 Escape descent control devices shall be tested for breaking strength as specified in Section 8.6, Manner of Function Tensile Test, Procedure B, and shall have a minimum breaking strength of at least 13.5 kN (3034 lbf).

7.6.3.3 Technical use descent control devices shall be tested for deformation as specified in Section 8.6, Manner of Function Tensile Test, Procedure A, and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.

7.6.3.4 General use descent control devices shall be tested for deformation as specified in Section 8.6, Manner of Function Tensile Test, Procedure A, and shall show no permanent damage or visible deformation to the general shape of the device or damage to the rope.

7.6.3.5 General use descent control devices shall be tested for breaking strength as specified in Section 8.6, Manner of Function Tensile Test, Procedure B, and shall have a minimum breaking strength of at least 22 kN (4946 lbf).

7.6.3.5.1 Where the descent control device is designed to slip under high load, general use descent control devices shall be tested for slippage as specified in Section 8.6, Manner of Function Tensile Test, Procedure B, and shall not slip under a test load of 9 kN (2023 lbf).

7.6.3.6 ISO 22159, *Personal equipment for protection against falls — Descending devices*, Type 2, 3, and 4 descent control devices with a hands-free locking element shall be tested in accordance with Section 8.11, Holding Test, and shall meet the requirements in 4.6.1 of ISO 22159.

7.6.3.6.1 ISO 22159 Type 2 and 3 descent control devices with a panic-locking element shall be tested in accordance with Section 8.11, Holding Test, and shall meet the requirements in 4.6.2 of ISO 22159.

7.6.3.6.2 ISO 22159 Type 5 and 6 descent control devices shall be tested in accordance with Section 8.11, Holding Test, and shall meet the requirements in 4.6.3 of ISO 22159.

7.6.3.7 Permanently attached descent control device product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.

7.6.3.8 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.6.3.9 Where the escape descent control device incorporates a passive or active breaking feature that creates friction between the device and the rope, the maximum force required to pay a specific type of rope through the descent control device shall be tested as specified in Section 8.13, Payout Test, and shall not exceed 90 N (20 lb).

7.6.3.10 System Level Drop Test. Escape systems shall be tested for maximum impact force as specified in Section 8.14, Escape Descent Control Device and Systems Drop Test, and shall have the maximum impact force not exceed 8.0 kN (1798.5 lbf), shall not damage the rope or device, and shall remain functional.

7.19 Portable Anchor Performance Requirements.

7.19.1 Technical use portable anchor devices shall be tested for deformation as specified in Section 8.7, Breaking Strength Test, Procedure A, and all adjustments or moving parts shall remain functional, and shall exhibit no condition that would cause the safety of the user to be compromised.

7.19.2 General use portable anchor devices shall be tested for deformation as specified in Section 8.7, Breaking Strength Test, Procedure A, and all adjustments or moving parts shall remain functional, and shall exhibit no condition that would cause the safety of the user to be compromised.

7.19.3 Technical use portable anchor devices shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall withstand a minimum load of at least 18 kN (4946 lbf) without failure.

7.19.4 General use portable anchor devices shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall withstand a minimum load of at least 36 kN (8093 lbf) without failure.

7.19.5 Permanently attached portable anchor product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

7.19.6 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.20 Pulley Performance Requirements.

7.20.1 Technical use pulleys shall be tested for deformation as specified in Section 8.7, Breaking Strength Test, Procedure A, and shall show no permanent damage to the device or damage to the rope.

7.20.2 Technical use pulleys shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 18 kN (4946 lbf) without failure.

7.20.3 General use pulleys shall be tested for deformation as specified in Section 8.7, Breaking Strength Test, Procedure A, and shall show no permanent damage to the device or damage to the rope.

7.20.4 General use pulleys shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 36 kN (8093 lbf) without failure.

7.20.5 The becket on technical use pulleys shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 11 kN (2698 lbf) without failure.

7.20.6 The becket on general use pulleys shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 22 kN (4383 lbf) without failure.

7.20.7 Permanently attached pulley product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, and shall not be torn or otherwise damaged.

7.20.8 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.11 Victim Extrication Device Performance Requirements.

7.11.1 Class II Victim Extrication Devices.

7.11.1.1 Class II victim extrication devices shall be tested for strength as specified in Section 8.3, Static Test, and shall not release the test torso. The device buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the device shall show no visible signs of damage that would affect its function.

7.11.1.2 Where Class II victim extrication devices include alternate D-rings and attachment points designated by the manufacture's as alternate lifting points or configurations, these attachments shall be tested for strength as specified as in Section 8.3, Static Test, and shall show no visual signs of damage that would affect its function.

7.11.2 Class III Victim Extrication Device.

7.11.2.1 Class III Victim extrication devices shall be tested for strength as specified in Section 8.3, Static Test, and shall not release the test torso. The device buckles and adjusting devices shall not slip more than 25 mm (1 in.), and the device shall show no visible signs of damage that would affect its function.

7.11.2.2 Where Class III victim extrication devices include alternate D-rings and attachment points designated by the manufacture as alternate lifting points or configurations, these attachments shall be tested for strength as specified as in Section 8.3, Static Test, and shall show no visual signs of damage that would affect its function.

7.11.3 All victim extrication device product labels shall be tested for durability as specified in Section 8.10, Product Label Durability Test, and shall be legible and shall not be torn or otherwise damaged.

7.11.4 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion

or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.11.5 All fiber used in load-bearing materials and thread used in the construction of Class II and Class III victim extrication devices shall be tested for melting as specified ASTM 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.18 Litter Performance Requirements.

7.18.1 Litters shall be tested for strength and deformation as specified in Section 8.12, Litter Strength Test, and shall withstand a minimum load of 11 kN (2473 lbf) without failure or deformation of the structural element of more than 50 mm ± 5 mm (2 in. ± 0.2 in.).

7.18.2 All litter product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

7.3 Escape Webbing Performance Requirements. (renumber 7.3 and rest of section accordingly**)**

7.3.1 Escape webbing shall be tested for breaking strength and elongation as specified in Section 8.2, Rope Breaking and Elongation Test, and shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf), the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength, and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength.

7.3.2 Escape webbing shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope,* and shall have a minimum perimeter of 25 mm (1 in). For the purpose of reporting, the perimeter of all new escape webbing shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.3.3* Fiber utilized for all escape webbing shall be tested for melting in accordance with ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.3.4 Escape webbing product labels and identification tape shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.5 Fire Escape Webbing Performance Requirements.

.5.1 Fire escape webbing shall be tested for breaking strength and elongation as specified in Section 8.2, Rope Breaking and Elongation Test, and shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf), the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength, and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength.

7.5.2 Fire escape webbing shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope*, and shall have a minimum perimeter of 25 mm (1. in). For the purpose of reporting, the perimeter of all new escape webbing shall be rounded to the nearest ½ mm (1⁄64 in.).

7.5.3* Fiber utilized for all fire escape rope shall be tested for melting in accordance with ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

7.5.4 Fire escape webbing product labels and identification tape shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.5.5 Fire escape webbing shall be tested for high temperature exposure as specified in Section 8.15, Elevated Temperature Rope Test. This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 300 lb and of 5 minutes at 400°C while holding 300 lb.

7.23 Escape System Performance Requirements.

7.23.1 Escape systems shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 13.5 kN (3034 lbf) without failure.

7.23.2 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.23.3 All fiber and thread utilized in the construction of the escape systems and system components shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

7.23.4 All escape system equipment and system component product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

7.23.5 Where the escape descent control device used in the escape system incorporates a passive or active breaking feature that creates friction between the device and the rope, the system shall be tested for average payout force as specified in Section 8.13, Payout Test, and shall not release the test torso and shall not exceed 90 N (20 lb).

7.23.6 Escape systems shall be tested for maximum impact force as specified in Section 8.14, Escape Descent Control Device and Systems Drop Test, and shall have the maximum impact force not exceed 8.0 kN (1798.5 lbf), shall not damage the rope or device, and shall remain functional.

7.4* Fire Escape Rope Performance Requirements.

7.4.1* Fire escape rope shall be tested for breaking strength and elongation as specified in Section 8.2, Rope Breaking and Elongation Test, and shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf); the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength; and the maximum elongation shall not be more than 10 percent at 10 percent of breaking strength.

7.4.2* Fire escape rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope*, and shall have a diameter of at least 7.5 mm (19⁄64 in.) but less than 9.5 mm (3⁄8 in.). For the purpose of reporting, the calculated diameter of all new fire escape rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.4.3* Fiber utilized for all fire escape rope shall be tested for melting in accordance with ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).

7.4.4 Fire escape rope product labels and identification tape shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.4.5 Fire escape rope shall be tested for high-temperature exposure as specified in Section 8.15, Elevated Temperature Rope Test. This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 300 lb and of 5 minutes at 400°C while holding 300 lb.

7.8 Manufacturer-Supplied Eye Termination.

7.8.1 Manufacturer-supplied eye termination shall be tested for breaking strength as specified in Section 8.2, Rope Breaking and Elongation Test, and shall meet one of the following criteria:

(1) It shall have a minimum breaking strength of not less than 85 percent of the certified rope's calculated minimum breaking strength, as determined by the certifying organization.

(2) It shall have a minimum breaking strength of not less than 20 kN (4496 lbf) for technical use life safety rope.

(3) It shall have a minimum breaking strength of not less than 40 kN (8992 lbf) for general use life safety rope.

(4) It shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf) for escape rope.

(5) It shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf) for throwline.

(6) It shall have a minimum breaking strength of not less than 13.5 kN (3034 lbf) for fire escape rope.

7.8.2 All thread used in the construction of manufacturer-supplied eye termination, except for fire escape rope and fire escape webbing, shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204ºC (400ºF).

7.8.2.1 All thread used in the construction of fire escape rope manufacturer-supplied eye termination in fire escape webbing shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis* and shall have a melting point of not less than 260 C (500 F).

7.8.3 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion, including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.8.4 Manufacturer-supplied eye termination for fire escape rope and fire escape webbing shall be tested for high-temperature exposure as specified in Section 8.15. This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 1.33 kN (300 lb) and 5 minutes at 400° C while holding 1.33 kN (300 lb).

7.7 Moderate Elongation Laid Life Saving Rope Performance Requirements.

7.7.1 Moderate elongation laid life saving rope shall be tested for breaking strength and elongation as specified in Section 8.2, Rope Breaking and Elongation Test, and shall have a minimum breaking strength of not less than 40 kN (8992 lbf); the minimum elongation shall not be less than 1 percent at 10 percent of breaking strength and the maximum elongation shall not be more than 25 percent at 10 percent of breaking strength.

7.7.2 Moderate elongation laid life saving rope shall be tested for size as specified in Section 9.1 of Cordage Institute Standard CI 1805, *3-Strand Life Safety Rope, Moderate Stretch,* and shall have a diameter of 11 mm (7⁄16 in.) or greater

but less than or equal to 16 mm (5⁄8 in.). For the purpose of reporting, the calculated diameter of all new three-strand life saving rope shall be rounded to the nearest 0.5 mm (1⁄64 in.).

7.7.3* Fiber utilized for all moderate elongation laid life saving rope shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis,* and shall have a melting point of not less than 204°C (400°F).

7.7.4 Moderate elongation laid life saving rope product labels and identification tape shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, and shall be legible, shall remain in place, and shall not be torn or otherwise damaged.

7.14 Belay Device Performance Requirements.

7.14.1 Technical use belay devices shall be tested for manner of function as specified in Section 8.6. Manner of Function Tensile Test, Procedure C without failure of the device or failure of the rope.

7.14.2 General use belay devices shall be tested for manner of function as specified in Section 8.6, Manner of Function Tensile Test, Procedure C, without failure of the device or failure of the rope, with a belay system extension of less than 1 m, and with an impact force of less than 15 kN (3372 lbf).

7.14.3 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.14.4 All auxiliary equipment systems and system component product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

7.17 Escape Anchor Device Performance Requirements.

7.17.1 Escape anchor devices shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 13.5 kN (3034 lbf).

7.17.2 Permanently attached escape anchor device product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

7.17.3 All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8. Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

7.17.4 Escape anchor devices constructed of nonmetallic materials shall be tested for heat resistance as specified in Section 8.17, Heat Resistance Test, and shall not melt, drip, separate, or ignite; hardware items shall remain functional.

~~7.11~~ 7.24 Fire Escape System Performance Requirements.

~~**7.11.1**~~ **7.24.1** Fire escape systems shall be tested for strength as specified in Section 8.7, Breaking Strength Test, Procedure B, and shall have a minimum tensile strength of at least 13.5 kN (3034 lbf) without failure.

~~**7.11.2**~~ **7.24.2** All metal hardware and hardware that includes metal parts shall be tested for corrosion resistance as specified in Section 8.8, Corrosion Resistance Test, and metals inherently resistant to corrosion including but not limited to stainless steel, brass, copper, aluminum, and zinc shall show no more than light surface–type corrosion or oxidation. Ferrous metals shall show no corrosion of the base metal. All hardware shall remain functional as specified in the manufacturer's operating instructions.

~~**7.11.3** All fiber and thread utilized in the construction of the escape systems and system components shall be tested for melting as specified in ASTM E 794, *Standard Test Method for Melting and Crystallization Temperatures by Thermal Analysis*, and shall have a melting point of not less than 204°C (400°F).~~

~~**7.11.4**~~ **7.24.3** All escape system equipment and system component product labels shall be tested for legibility as specified in Section 8.10, Product Label Durability Test, shall be legible, and shall not be torn or otherwise damaged.

~~**7.11.5**~~ **7.24.4** Where the escape descent control device used in the fire escape system incorporates a passive or active breaking feature that creates friction between the device and the rope, the system shall be tested for average payout force as specified in Section 8.13, Payout Test, and shall not release the test torso and shall not exceed 90 N (20 lb).

~~**7.11.6** Where an escape system is designated as a fire escape system, additional tests as specified in 7.11.6.1, and 7.11.6.2, and 7.11.6.3 shall be conducted.~~

~~**7.11.6.1**~~ **7.24.5** Fire escape system rope and the manufactured supplied eye termination with fire escape rope shall be tested for high-temperature exposure as specified in Section 8.15, Elevated Temperature Rope Test. This test shall be conducted at two independent conditions and shall have a minimum time to failure of 45 seconds at 600°C while holding 1.33 kN (300 lb) and of 5 minutes at 400°C while holding 1.33 kN (300 lb).

~~**7.11.6.2**~~ **7.24.6** ~~Where escape anchors are represented as being flame-resistant,~~ Fire escape system materials, labels, and hardware shall be tested individually for heat resistance as specified in Section 8.17, Heat Resistance Test, and shall not melt, drip, separate, or ignite; hardware items shall remain functional.

~~7.11.6.3~~ **7.24.7** Sewing thread utilized in the construction of fire escape systems shall be tested for heat resistance as specific in Section 8.18, Thread Heat Resistance, and shall not melt at or below a temperature of 260°C (500°F).

~~**7.11.7**~~ **7.24.8** Escape systems shall be tested for maximum impact force as specified in Section 8.14, Escape Descent Control Device and Systems Drop Test, and shall have the maximum impact force not exceed 8.0 kN (1798.5 lbf), shall not damage the rope or device, and shall remain functional.

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8.6 Manner of Function Tensile Test.

8.6.1 Application.

8.6.1.1

This test shall apply to ascending devices, rope grab devices, descent control devices, and belay devices.

8.6.1.2

Modifications to this test method for testing ascending devices and rope grab devices shall be as specified in 8.6.7.

8.6.1.3

Modifications to this test method for testing descent control devices shall be as specified in 8.6.8.

8.6.1.4

Modifications to this test method for testing belay devices shall be as specified in 8.6.4.5.

8.6.2 Samples.

8.6.2.1

Samples for conditioning shall be whole items.

8.6.2.2

Samples shall be conditioned as specified in 8.1.2.

8.6.2.3

Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model to be tested.

8.6.3 Specimens.

8.6.3.1

Specimens shall be whole items.

8.6.3.2

A total of five specimens shall be tested.

8.6.3.3

Each specimen shall be tested to both Procedure A and Procedure B.

8.6.4 Procedure.

8.6.4.1

Testing shall be conducted in the “manner of function” for the item being tested.

8.6.4.2

Testing shall be conducted using both the smallest and largest diameter life safety rope specified by the device manufacturer for testing.

8.6.4.2.1

Testing shall be conducted using a rope with the same NFPA designation as the device being tested, unless such rope is outside of the range of ropes that the manufacturer specifies for the safe and critical function of the device.

8.6.4.2.2

The rope used for testing shall meet the static rope requirements of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope.*

8.6.4.2.3

The device shall be attached to the rope according to the manufacturer's instructions.

8.6.4.3 Procedure A.

8.6.4.3.1

One end of the rope shall be anchored on to a tensile testing machine and the device shall be anchored to the other end of the rope. The specified deformation force shall be applied to the device at the normal attachment point at a rate of 25 mm/min ± 5 mm/min (1 in./min ± ¼ in./min).

8.6.4.3.2

The specified deformation force shall be held for 30 seconds +1/-0 second, and then the tension shall be completely released over a maximum of 1 minute.

8.6.4.3.3

The device shall then be inspected for damage to the device or to the rope used for testing.

8.6.4.4 Procedure B.

8.6.4.4.1

Using the same item and test set up as in Procedure A, the load shall then be re-applied to the device until the breaking point of the device.

8.6.4.4.2

The force shall be applied at a rate of 25 mm/min ± 5 mm/min (1 in./min ± ¼ in./min).

8.6.4.4.3*

In the case of items that are designed to slip under high load, the rope shall be knotted or the device otherwise blocked to prevent slippage. ~~once the device has held at least 5 kN (1124 lbf) for technical use items and 9 kN (2023 lbf) for general use items.~~

8.6.4.5 Procedure C.

8.6.4.5.1

The belay device shall be tested for function according to ASTM F2436, *Standard Test Method for Measuring the Performance of Synthetic Rope Rescue Belay Systems Using a Drop Test*, as modified for this standard.

8.6.4.5.2

A rope that is 300 cm ± 0.5 cm shall be used between the bowline test–block contact and the most distal point of the gripping portion of the belay assembly.

8.6.4.5.3

The attachment point of the sample on the test mass shall be raised to and released from a point no more than 305 mm (12 in.) horizontally from the anchorage.

8.6.4.5.4

A drop height of 60 cm ± 0.5 cm ~~main~~ shall be used.

8.6.4.5.5

The test mass for a technical-use belay device shall be 136 kg (300 lb).

8.6.4.5.6

The test mass for a general-use belay device shall be 200 kg (617 lb).

8.6.4.5.7

The parameters specified in 8.6.4.5.7.1~~8.6.4.5.7.1~~ ~~8.6.4.5.6.1~~ and 8.6.4.5.7.2~~8.6.4.5.7.2~~ ~~8.6.4.5.6.2~~ shall be evaluated to determine pass/fail.

8.6.4.5.7.1

Maximum extension of the belay system shall be no more than 1 m ± 5 cm.

8.6.4.5.7.2*

The device shall be able to release the load in a controlled manner.

8.6.5 Report.

8.6.5.1

The condition of the item and the rope shall be recorded after the deformation load has been applied.

8.6.5.2

The minimum breaking strength shall be determined by subtracting three standard deviations from the mean results of samples from the same production lot and shall be reported to the nearest 1.0 kN (230 lbf). The minimum breaking strength shall be provided on the product label as specified in Section 5.1~~, Product Label Requirements~~ .

8.6.5.3

The standard deviation shall be calculated using the formula in 8.2.5.2.

8.6.5.3.1

Where the minimum breaking strength exceeds 111 kN (25,000 lbf) without failure, the average breaking strength shall be reported as >111 kN (>25,000 lbf). The product label required in 5.6.1.9 shall also indicate the minimum breaking strength as >111 kN (>25,000 lbf).

8.6.5.4

For Procedure C, the device shall be reported as technical use or general use.

8.6.5.4.1

The extension of the belay system shall be recorded.

8.6.5.4.2

Any damage to the rope, the belay device, or system components shall be recorded.

8.6.6 Interpretation.

One or more specimens failing this test shall constitute failing performance for the item being tested.

8.6.6.1

Failure of the rope at a load less than the specified rope minimum breaking strength shall constitute failing performance.

8.6.7 Specific Requirements for Testing Ascent Devices~~,~~ and Rope Grab Devices. ~~, and Escape Manufactured Systems.~~

8.6.7.1*

Technical-use ascent devices and rope grab devices~~, and escape manufactured systems~~ shall be tested at a load of 5 kN (1124 lbf) for Procedure A.

8.6.7.2

General-use ~~ascending~~ ascent devices and rope grab devices shall be tested at a load of 11 kN (2500 lbf) for Procedure A.

8.6.8 Specific Requirements for Testing Descent Control Devices.

8.6.8.1

Escape- and technical-use descent control devices shall be tested at a load of 5 kN (1124 lbf) for Procedure A.

8.6.8.2

The device shall be attached to the rope according to the manufacturer's instructions in the locked-off mode of attachment.

8.6.8.3

General- use descent control devices shall be tested at a load of 11 kN (2500 lbf) for Procedure A.

8.7 Breaking Strength Test.

8.7.1 Application.

8.7.1.1

This test shall apply to portable anchor devices, ~~other auxiliary equipment,~~ escape systems, manufactured systems, ~~pick-off straps, anchor straps,~~ end-to-end straps, multiple-configuration, ~~and~~ escape ~~anchor~~ anchors ~~devices~~ , pulleys, and other auxiliary equipment .

8.7.1.2

Specific requirements for testing portable anchors shall be as specified in 8.7.8.

8.7.1.3

Specific requirements for testing pulleys shall be as specified in 8.7.9.

8.7.1.4

Specific requirements for testing auxiliary equipment systems, system components, escape systems, and manufactured systems shall be as specified in 8.7.10.

8.7.1.5

Specific requirements for testing end-to-end straps shall be as specified in 8.7.11.

8.7.1.6

Specific requirements for testing escape anchor devices shall be as specified in 8.7.13.

8.7.1.7

Specific requirements for testing multiple-configuration shall be as specified in 8.7.12.

8.7.2 Samples.

8.7.2.1

Samples for conditioning shall be whole items or systems.

8.7.2.2

Samples shall be conditioned as specified in 8.1.2.

8.7.2.3

Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model being tested.

8.7.3 Specimens.

8.7.3.1

Specimens shall be whole items or systems.

8.7.3.2

A total of five specimens shall be tested.

8.7.4 Procedure A.

8.7.4.1*

The device shall be positioned as required for the type of device being tested in the lowest strength configuration of the device as specified by the manufacturer.

8.7.4.2

A force shall be applied to the device, increasing to the load specified at a rate of 25 mm/min ± 5 mm/min (1 in./min ± ¼ in./min).

8.7.4.3

The force shall be held for 30 seconds, ± 1.0 second, and then the tension shall be completely released over a maximum of 1 minute.

8.7.4.4

The force shall be reapplied immediately and shall be increased to the same maximum force as previously exerted and held for 1 minute +15/-0 seconds before release.

8.7.4.5

At the conclusion of Procedure A, the specimen device shall be inspected for deformation.

8.7.5 Procedure B.

8.7.5.1*

Using a new specimen and the test set up as in Procedure A, the load shall be reapplied to the lowest strength configuration of the device as specified by the manufacturer until the breaking point of the device.

8.7.5.2

The force shall be applied at a rate of 25 mm/min ± 5 mm/min (1 in./min ± ¼ in./min).

8.7.5.3

During testing, where the rope breaks before the device and that breaking strength exceeds the designated use rating required for escape use , technical use, or general use, then pins shall be permitted to be used to determine minimum breaking strength.

8.7.6 Report.

8.7.6.1

The minimum breaking strength shall be determined by subtracting three standard deviations from the mean results of five samples from the same production lot and shall be reported to the nearest 0.1 kN (23 lbf). The minimum breaking strength shall be provided on the product label as specified in Section 5.1.

8.7.6.2

The standard deviation shall be calculated using the formula in 8.2.5.2.

8.7.6.3

The deflection of the load-bearing members from their original position shall be recorded.

8.7.6.4

The functionality of adjustment and moving parts shall be recorded.

8.7.6.5

Where applicable, the movement of all base contact points from their original positions shall be recorded.

8.7.6.6

Any condition that would cause the safety of the user to be compromised shall be recorded.

8.7.6.7

Any fracture of the load-bearing members, collapse, or other condition that would cause the user to be dropped shall be reported.

8.7.6.8*

The configuration of the attachment of the device to the testing machine shall be recorded and reported.

8.7.7 Interpretation.

One or more specimens failing this test shall constitute failing performance for the item being tested.

8.7.8 Specific Requirements for Testing Portable Anchors.

8.7.8.1

Two specimens shall be tested.

8.7.8.2

Where there are multiple load-bearing attachment points, Procedure A and Procedure B shall be repeated for each combination of load-bearing attachment points specified in the manufacturer's instructions.

8.7.8.3

The device shall be attached to the test machine at the load-bearing attachment point, in accordance with the manufacturer's instructions for use, with a suitable locking carabiner.

8.7.8.4

Before testing, the device shall be positioned with all surface contact points securely seated on a flat, unfinished concrete surface in the manner described by the manufacturer's instructions.

8.7.8.5*

Where portable anchor devices are designed to be affixed to a base that is not part of the device, the manufacturer shall provide a test base that most closely resembles the structural element to which the device is designed to be affixed.

8.7.8.5.1

The test base shall be completely stable and shall be permitted to be bolted down to prevent movement during the test.

8.7.8.6

The portable anchor device shall be accompanied by all adjuncts required for use as described by the manufacturer's instructions for use.

8.7.8.6.1

Devices shall not be bolted to, tied off, or affixed to the test base in any way unless required to be by the manufacturer for normal use.

8.7.8.6.2

All adjuncts designed by the manufacturer to be used in conjunction with the device, including but not limited to ropes, chains, webbing, rope grabs, and bolts, shall be in place during the test.

8.7.8.7

For Procedure B, each point of contact with the test surface shall be marked in some manner to allow the ability to assess movement of the base during the test.

8.7.8.7.1

For Procedure B, the force specified in 7.19.3 for technical use and 7.19.4 for general use shall be applied and held for 2 minutes +15/-0 seconds, using the lower of the actual to pass/fail.

8.7.8.8

The test load used for Procedure A shall be 5 kN (1124 lbf) for technical-use portable anchors and 13 kN (2923 lbf) for general-use portable anchors.

8.7.8.9

For the report, breaking strength shall be the strength specified in 7.19.3 for technical use and 7.19.4 for general use.

8.7.9 Specific Requirements for Testing Pulleys.

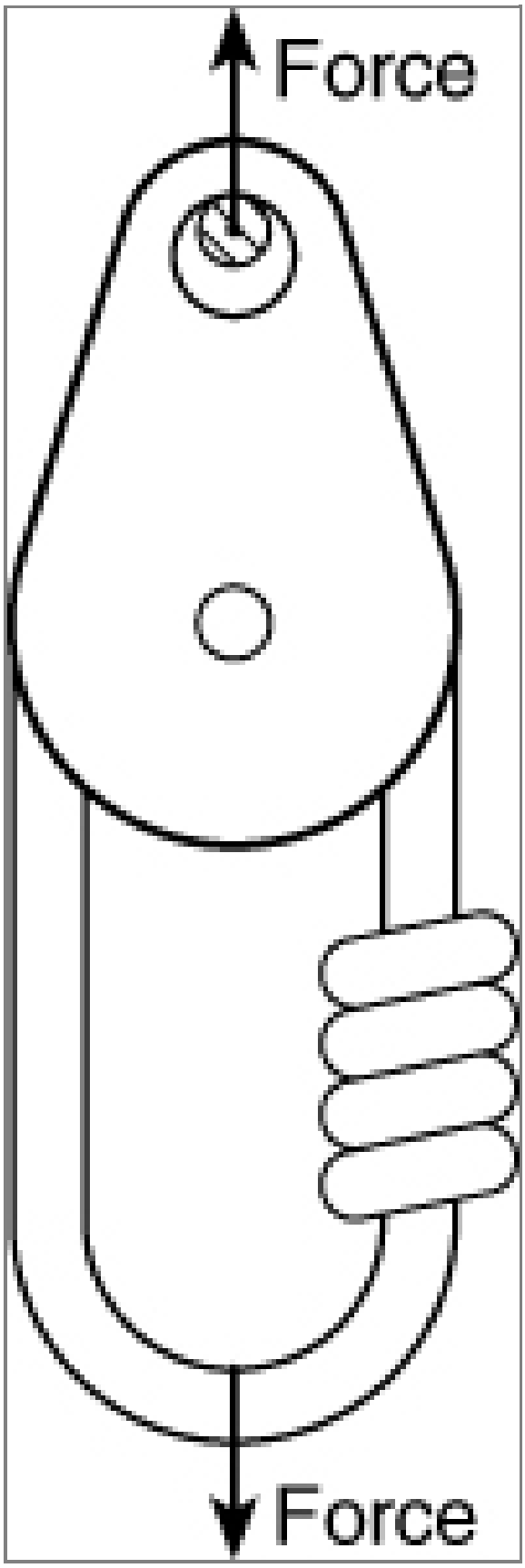
8.7.9.1

Pulleys shall be tested using a wire rope with a diameter equal to or less than the maximum size of rope specified for the pulley and of sufficient strength. The wire rope shall include a swaged loop that fits the pulley being tested.

8.7.9.2

Tension shall be applied between the wire rope loop and a 12.5 mm (½ in.) pin through the pulley carabiner hole as specified in Figure 8.7.9.2 until failure.

Figure 8.7.9.2 Pulley Tensile Test.



8.7.9.3

Fixture design and device placement in fixture shall not allow the fixture to interfere with the pulley during the test.

8.7.9.4

Pulleys with two or more sheaves shall have a single rope looped around all sheaves and the load applied to each loop.

8.7.9.5

Pulleys that include a becket at the bottom of the pulley shall have the becket tested by applying a load longitudinally between the carabiner hole and the becket.

8.7.9.6

The test load used for Procedure A shall be 5 kN (1124 lbf) for technical-use pulleys and 22 kN (4946 lbf) for general-use pulleys.

8.7.10 Specific Requirements for Auxiliary Equipment Systems, System Components, and Manufactured Systems.

8.7.10.1

Only Procedure B shall be conducted on auxiliary equipment systems, system components, and manufactured systems.

8.7.10.2

Auxiliary equipment and manufactured systems shall be tested using a rope with a diameter of the smallest and largest size specified by the auxiliary equipment manufacturer.

8.7.10.3

Where there are multiple load-bearing attachment points, Procedure B shall be repeated for each combination of load-bearing attachment points specified in the manufacturer's instructions.

8.7.10.4

The device shall be attached to the test machine at the load-bearing connecting point, in accordance with the manufacturer's instructions for use.

8.7.10.5

For all tests, the device shall be accompanied by all equipment required for use as described by the manufacturer's instructions for use.

8.7.10.6

Only the requirements specified in 8.7.6.1 shall be reported.

8.7.11 Specific Requirements for Testing End-to-End Straps.

8.7.11.1

Only Procedure B shall be conducted on end-to-end straps.

8.7.11.2*

Testing shall be conducted using 13 mm ± 1 mm (½ in. ± ⅛ in.) pins, bolts, or shackles. ~~The test fixture shall be designed such that the strap is free to locate itself on the test pins when the force is applied.~~

8.7.11.3

A test pin cross section shall be permitted to be other than round. Any cross section necessary to prevent test pin failure or any design to prevent test pin rotation shall be permitted, as long as the contact point between the test pin and strap attachment point has the specified radius, material type, hardness, and surface roughness as per Section 6.2.1 of ASTM F1956, *Standard Specification for Rescue Carabiners* ~~Section 5.2.1~~ .

8.7.11.4

The test fixture shall be designed to prevent the test pins from rotating such that the strap is free to locate itself on the test pins when force is applied.

8.7.11.5

Where the strap is adjustable in length, the strap shall be tested in the shortest length that places the adjustment device free of any interference of the test fixture.

8.7.11.6

Technical-use and general-use end-to-end ~~and load-releasing~~ straps shall be individually tested in the end-to-end configuration.

8.7.11.7

Where the strap is adjustable in length, the slippage of the adjustment device shall be measured and reported upon completion of the test.

8.7.12 Specific Requirements for Testing Multiple-Configuration.

8.7.12.1

Only Procedure B shall be conducted on multiple-configuration.

8.7.12.2*

Testing shall be conducted using 13 mm ± 1 mm (½ in. ± ⅛ in.) pins, bolts, or shackles. ~~The test fixture shall be designed such that the strap is free to locate itself on the test pins when the force is applied.~~

8.7.12.3

Test pin cross section shall be permitted to be other than round. Any cross section necessary to prevent test pin failure or any design to prevent test pin rotation shall be permitted as long as the contact point between the test pin and strap attachment point has the specified radius, material type, hardness, and surface roughness as per Section 6.2.1 of ASTM F1956, *Standard Specification for Rescue Carabiners* ~~Section 5.2.1~~ .

8.7.12.4

The test fixture shall be designed to prevent the test pins from rotating such that the strap is free to locate itself on the test pins when force is applied.

8.7.12.5

Where the strap is adjustable in length, the strap shall be tested in the shortest length that places the adjustment device free of any interference of the test fixture.

8.7.12.6

Technical- use and general- use multiple-configuration shall be individually tested in the basket (U) configuration, the end-to-end configuration, and the choker configuration.

8.7.12.7

For technical-use and general-use multiple-configuration, all configuration values shall be reported on the product label. Only the basket (U) configuration value shall be utilized to determine pass/fail.

8.7.13 Specific Requirements for Escape Anchor Devices.

8.7.13.1 Only Procedure B shall be conducted on escape anchor devices.

8.7.13.2

Escape anchor devices with a single point of contact shall be supported to prevent twisting ~~when~~ where loaded in such a way that the load is applied in the weakest configuration where used in accordance with the manufacturer's instructions . The support shall not prevent the device from deforming under load or from releasing from the structure due to deformation or breaking.

8.7.13.3

Escape anchor devices that use two or more points of contact shall have the load applied in the weakest configuration ~~when~~ where used in accordance with the manufacturer's instructions.

8.7.13.4

The escape anchor device shall fail the Procedure B test if the device breaks or deforms such that it releases from the supporting structure.

8.7.13.5

Only the requirements specified in 8.7.6.1 shall be reported.

Supplemental Information

File Name	Description
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Submitter Information Verification

Submitter Full Name: Chris Farrell
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Committee Statement

Committee Statement: PI 41: The holding forces specified in Procedure B are not necessary because this is a requirement of Procedure A which is required to be performed prior to Procedure B on the same samples. The 12 inch horizontal distance is consistent with all other drop tests in this standard and ANSI/ASSE Z359. Editorial change removing the word "main" from 8.6.4.5.3.

PI 49, 50, 51, 57: Correction to strap type designation and removing redundancy and correcting reference. Clarifies that the specimen is to be tested in weakest configuration as specified by the manufacturer. Makes language consistent with 8.7.13.3.

Response Message:

Public Input No. 51-NFPA 1983-2014 [Section No. 8.7.11.6]
Public Input No. 41-NFPA 1983-2014 [Section No. 8.6]
Public Input No. 49-NFPA 1983-2014 [Sections 8.7.11.2, 8.7.11.3]
Public Input No. 57-NFPA 1983-2015 [Section No. 8.7.13.2]
Public Input No. 50-NFPA 1983-2014 [Sections 8.7.12.2, 8.7.12.3]

8.6 Manner of Function Tensile Test.

8.6.1 Application.

8.6.1.1 This test shall apply to ascending devices, rope grab devices, descent control devices, and belay devices.

8.6.1.2 Modifications to this test method for testing ascending devices and rope grab devices shall be as specified in 8.6.7.

8.6.1.3 Modifications to this test method for testing descent control devices shall be as specified in 8.6.8.

8.6.1.4 Modifications to this test method for testing belay devices shall be as specified in 8.6.4.5.

8.6.2 Samples.

8.6.2.1 Samples for conditioning shall be whole items.

8.6.2.2 Samples shall be conditioned as specified in 8.1.2.

8.6.2.3 Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model to be tested.

8.6.3 Specimens.

8.6.3.1 Specimens shall be whole items.

8.6.3.2 A total of five specimens shall be tested.

8.6.3.3 Each specimen shall be tested to both Procedure A and Procedure B.

8.6.4 Procedure.

8.6.4.1 Testing shall be conducted in the "manner of function" for the item being tested.

8.6.4.2 Testing shall be conducted using both the smallest and largest diameter life safety rope specified by the device manufacturer for testing.

8.6.4.2.1 Testing shall be conducted using a rope with the same NFPA designation as the device being tested, unless such rope is outside of the range of ropes that the manufacturer specifies for the safe and critical function of the device.

8.6.4.2.2 The rope used for testing shall meet the static rope requirements of Cordage Institute Standard CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope.*

8.6.4.2.3 The device shall be attached to the rope according to the manufacturer's instructions.

8.6.4.3 Procedure A.

8.6.4.3.1 One end of the rope shall be anchored on to a tensile testing machine and the device shall be anchored to the other end of the rope. The specified deformation force shall be applied to

the device at the normal attachment point at a rate of 25 mm/min ± 5 mm/min (1 in./min ± ¼ in./min).

8.6.4.3.2 The specified deformation force shall be held for 30 seconds +1/−0 second, and then the tension shall be completely released over a maximum of 1 minute.

8.6.4.3.3 The device shall then be inspected for damage to the device or to the rope used for testing.

8.6.4.4 Procedure B.

8.6.4.4.1 Using the same item and test set up as in Procedure A, the load shall then be re-applied to the device until the breaking point of the device.

8.6.4.4.2 The force shall be applied at a rate of 25 mm/min ± 5 mm/min (1 in./min ± ¼ in./min).

8.6.4.4.3* In the case of items that are designed to slip under high load, the rope shall be knotted or the device otherwise blocked to prevent slippage ~~once the device has held at least 5 kN (1124 lbf) for technical use items and 9 kN (2023 lbf) for general use items.~~

8.6.4.5 Procedure C.

8.6.4.5.1 The belay device shall be tested for function according to ASTM F 2436, *Standard Test Method for Measuring the Performance of Synthetic Rope Rescue Belay Systems Using a Drop Test*, as modified for this standard.

8.6.4.5.2 A rope that is 300 cm ± 0.5 cm shall be used between the bowline test–block contact and the most distal point of the gripping portion of the belay assembly.

8.6.4.5.3

The attachment point of the sample on the test mass shall be raised to and released from a point no more than 305mm (12 in.) horizontally from the anchorage.

8.6.4.5.4 A drop height of 60 cm ± 0.5 cm ~~main~~ shall be used.

8.6.4.5.5 The test mass for a technical use belay device shall be 136 kg (300 lb).

8.6.4.5.6 The test mass for a general use belay device shall be 200 kg (617 lb).

8.6.4.5.7 The parameters specified in 8.6.4.5.6.1 and 8.6.4.5.6.2 shall be evaluated to determine pass/fail.

8.6.4.5.7.1 Maximum extension of the belay system shall be no more than 1 m ± 5 cm.

8.6.4.5.7.2* The device shall be able to release the load in a controlled manner.

8.6.5 Report.

8.6.5.1 The condition of the item and the rope shall be recorded after the deformation load has been applied.

8.6.5.2 The minimum breaking strength shall be determined by subtracting three standard deviations from the mean results of samples from the same production lot and shall be reported to the nearest 1.0 kN (230 lbf). The minimum breaking strength shall be provided on the product label as specified in Section 5.1, Product Label Requirements.

8.6.5.3 The standard deviation shall be calculated using the formula in 8.2.5.2.

8.6.5.3.1 Where the minimum breaking strength exceeds 111 kN (25,000 lbf) without failure, the average breaking strength shall be reported as >111 kN (>25,000 lbf). The product label required in 5.1.6.9 shall also indicate the minimum breaking strength as >111 kN (>25,000 lbf).

8.6.5.4 For Procedure C, the device shall be reported as technical use or general use.

8.6.5.4.1 The extension of the belay system shall be recorded.

8.6.5.4.2 Any damage to the rope, the belay device, or system components shall be recorded.

8.6.6 Interpretation. One or more specimens failing this test shall constitute failing performance for the item being tested.

8.6.6.1 Failure of the rope at a load less than the specified rope minimum breaking strength shall constitute failing performance.

8.6.7 Specific Requirements for Testing Ascent Devices~~,~~ and Rope Grab Devices~~, and Escape Manufactured Systems.~~

8.6.7.1* Technical use ascent devices~~,~~ and rope grab devices~~, and escape manufactured systems~~ shall be tested at a load of 5 kN (1124 lbf) for Procedure A.

8.6.7.2 General use ascend~~ing~~ devices and rope grab devices shall be tested at a load of 11 kN (2500 lbf) for Procedure A.

8.6.8 Specific Requirements for Testing Descent Control Devices.

8.6.8.1 Escape and technical use descent control devices shall be tested at a load of 5 kN (1124 lbf) for Procedure A.

8.6.8.2 The device shall be attached to the rope according to the manufacturer's instructions in the locked-off mode of attachment.

8.6.8.3 General use descent control devices shall be tested at a load of 11 kN (2500 lbf) for Procedure A.

8.7 Breaking Strength Test.

8.7.1 Application.

8.7.1.1 This test shall apply to portable anchor devices, escape systems, ~~other auxiliary equipment,~~ manufactured systems, end-to-end straps, ~~pick-off straps, anchor straps,~~ multiple configuration straps, ~~and~~ escape anchors ~~devices~~, pulleys, and other auxiliary equipment.

8.7.1.2 Specific requirements for testing portable anchors shall be as specified in 8.7.8.

8.7.1.3 Specific requirements for testing pulleys shall be as specified in 8.7.9.

8.7.1.4 Specific requirements for testing auxiliary equipment systems, system components, escape systems, and manufactured systems shall be as specified in 8.7.10.

8.7.1.5 Specific requirements for testing end-to-end straps shall be as specified in 8.7.11.

8.7.1.6 Specific requirements for testing escape anchor devices shall be as specified in 8.7.13.

8.7.1.7 Specific requirements for testing multiple configuration straps shall be as specified in 8.7.12.

8.7.2 Samples.

8.7.2.1 Samples for conditioning shall be whole items or systems.

8.7.2.2 Samples shall be conditioned as specified in 8.1.2.

8.7.2.3 Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model being tested.

8.7.3 Specimens.

8.7.3.1 Specimens shall be whole items or systems.

8.7.3.2 A total of five specimens shall be tested.

8.7.4 Procedure A.

8.7.4.1* The device shall be positioned as required for the type of device being tested in the lowest strength configuration of the device as specified by the manufacturer.

8.7.4.2 A force shall be applied to the device, increasing to the load specified at a rate of 25 mm/min ± 5 mm/min (1 in./min ± ¼ in./min).

8.7.4.3 The force shall be held for 30 seconds, ± 1.0 second, and then the tension shall be completely released over a maximum of 1 minute.

8.7.4.4 The force shall be reapplied immediately and shall be increased to the same maximum force as previously exerted and held for 1 minute +15/−0 seconds before release.

8.7.4.5 At the conclusion of Procedure A, the specimen device shall be inspected for deformation.

8.7.5 Procedure B.

8.7.5.1* Using a new specimen and the test set up as in Procedure A, the load shall be reapplied to the lowest strength configuration of the device as specified by the manufacturer until the breaking point of the device.

8.7.5.2 The force shall be applied at a rate of 25 mm/min ± 5 mm/min (1 in./min ± ¼ in./min).

8.7.5.3 During testing, where the rope breaks before the device and that breaking strength exceeds the designated use rating required for escape, technical use, or general use, then pins shall be permitted to be used to determine minimum breaking strength.

8.7.6 Report.

8.7.6.1 The minimum breaking strength shall be determined by subtracting three standard deviations from the mean results of five samples from the same production lot and shall be reported to the nearest 0.1 kN (23 lbf). The minimum breaking strength shall be provided on the product label as specified in Section 5.1.

8.7.6.2 The standard deviation shall be calculated using the formula in 8.2.5.2.

8.7.6.3 The deflection of the load-bearing members from their original position shall be recorded.

8.7.6.4 The functionality of adjustment and moving parts shall be recorded.

8.7.6.5 Where applicable, the movement of all base contact points from their original positions shall be recorded.

8.7.6.6 Any condition that would cause the safety of the user to be compromised shall be recorded.

8.7.6.7 Any fracture of the load-bearing members, collapse, or other condition that would cause the user to be dropped shall be reported.

8.7.6.8* The configuration of the attachment of the device to the testing machine shall be recorded and reported.

8.7.7 Interpretation. One or more specimens failing this test shall constitute failing performance for the item being tested.

8.7.8 Specific Requirements for Testing Portable Anchors.

8.7.8.1 Two specimens shall be tested.

8.7.8.2 Where there are multiple load-bearing attachment points, Procedure A and Procedure B shall be repeated for each combination of load-bearing attachment points specified in the manufacturer's instructions.

8.7.8.3 The device shall be attached to the test machine at the load-bearing attachment point, in accordance with the manufacturer's instructions for use, with a suitable locking carabiner.

8.7.8.4 Before testing, the device shall be positioned with all surface contact points securely seated on a flat, unfinished concrete surface in the manner described by the manufacturer's instructions.

8.7.8.5* Where portable anchor devices are designed to be affixed to a base that is not part of the device, the manufacturer shall provide a test base that most closely resembles the structural element to which the device is designed to be affixed.

8.7.8.5.1 The test base shall be completely stable and shall be permitted to be bolted down to prevent movement during the test.

8.7.8.6 The portable anchor device shall be accompanied by all adjuncts required for use as described by the manufacturer's instructions for use.

8.7.8.6.1 Devices shall not be bolted to, tied off, or affixed to the test base in any way unless required to be by the manufacturer for normal use.

8.7.8.6.2 All adjuncts designed by the manufacturer to be used in conjunction with the device, including but not limited to ropes, chains, webbing, rope grabs, and bolts, shall be in place during the test.

8.7.8.7 For Procedure B, each point of contact with the test surface shall be marked in some manner to allow the ability to assess movement of the base during the test.

8.7.8.7.1 For Procedure B, the force specified in 7.6.4.3 for technical use and 7.6.4.4 for general use shall be applied and held for 2 minutes +15/−0 seconds, using the lower of the actual to pass/fail.

8.7.8.8 The test load used for Procedure A shall be 5 kN (1124 lbf) for technical use portable anchors and 13 kN (2923 lbf) for general use portable anchors.

8.7.8.9 For the report, breaking strength shall be the strength specified in 7.6.4.3 for technical use and 7.6.4.4 for general use.

8.7.9 Specific Requirements for Testing Pulleys.

8.7.9.1 Pulleys shall be tested using a wire rope with a diameter equal to or less than the maximum size of rope specified for the pulley and of sufficient strength. The wire rope shall include a swaged loop that fits the pulley being tested.

8.7.9.2 Tension shall be applied between the wire rope loop and a 12.5 mm (½ in.) pin through the pulley carabiner hole as specified in Figure 8.7.9.2 until failure.

****INSERT FIGURE HERE****

FIGURE 8.7.9.2 Pulley Tensile Test.

8.7.9.3 Fixture design and device placement in fixture shall not allow the fixture to interfere with the pulley during the test.

8.7.9.4 Pulleys with two or more sheaves shall have a single rope looped around all sheaves and the load applied to each loop.

8.7.9.5 Pulleys that include a becket at the bottom of the pulley shall have the becket tested by applying a load longitudinally between the carabiner hole and the becket.

8.7.9.6 The test load used for Procedure A shall be 5 kN (1124 lbf) for technical use pulleys and 22 kN (4946 lbf) for general use pulleys.

8.7.10 Specific Requirements for Auxiliary Equipment Systems, System Components, and Manufactured Systems.

8.7.10.1 Only Procedure B shall be conducted on auxiliary equipment systems, system components, and manufactured systems.

8.7.10.2 Auxiliary equipment and manufactured systems shall be tested using a rope with a diameter of the smallest and largest size specified by the auxiliary equipment manufacturer.

8.7.10.3 Where there are multiple load-bearing attachment points, Procedure B shall be repeated for each combination of load-bearing attachment points specified in the manufacturer's instructions.

8.7.10.4 The device shall be attached to the test machine at the load-bearing connecting point, in accordance with the manufacturer's instructions for use.

8.7.10.5 For all tests, the device shall be accompanied by all equipment required for use as described by the manufacturer's instructions for use.

8.7.10.6 Only the requirements specified in 8.7.6.1 shall be reported.

8.7.11 Specific Requirements for Testing End-to-End Straps.

8.7.11.1 Only Procedure B shall be conducted on end-to-end straps.

8.7.11.2* Testing shall be conducted using 13 mm ± 1 mm (½ in. ± $\frac{1}{8}$ in.) pins, bolts, or shackles. ~~The test fixture shall be designed such that the strap is free to locate itself on the test pins when the force is applied.~~

8.7.11.3 A test pin cross section shall be permitted to be other than round. Any cross section necessary to prevent test pin failure or any design to prevent test pin rotation shall be permitted, as long as the contact point between the test pin and strap attachment point has the specified radius, material type, hardness, and surface roughness as per ASTM F 1956, *Standard Specification for Rescue Carabiners,* Section 6.2.1.

8.7.11.4 The test fixture shall be designed to prevent the test pins from rotating such that the strap is free to locate itself on the test pins when force is applied.

8.7.11.5 Where the strap is adjustable in length, the strap shall be tested in the shortest length that places the adjustment device free of any interference of the test fixture.

8.7.11.6 Technical use and general use end-to-end straps shall be individually tested in the end-to-end configuration.

8.7.11.7 Where the strap is adjustable in length, the slippage of the adjustment device shall be measured and reported upon completion of the test.

8.7.12 Specific Requirements for Testing Multiple Configuration Straps.

8.7.12.1 Only Procedure B shall be conducted on multiple configuration straps.

8.7.12.2* Testing shall be conducted using 13 mm ± 1 mm (½ in. ± $\frac{1}{8}$ in.) pins, bolts, or shackles.

8.7.12.3 Test pin cross section shall be permitted to be other than round. Any cross section necessary to prevent test pin failure or any design to prevent test pin rotation shall be permitted as long as the contact point between the test pin and strap attachment point has the specified radius, material type, hardness, and surface roughness as per ASTM F 1956, *Standard Specification for Rescue Carabiners*, Section 6.2.1.

8.7.12.4 The test fixture shall be designed to prevent the test pins from rotating such that the strap is free to locate itself on the test pins when force is applied.

8.7.12.5 Where the strap is adjustable in length, the strap shall be tested in the shortest length that places the adjustment device free of any interference of the test fixture.

8.7.12.6 Technical use and general use multiple configuration straps shall be individually tested in the basket (U) configuration, the end-to-end configuration, and the choker configuration.

8.7.12.7 For technical use and general use multiple configuration straps, all configuration values shall be reported on the product label. Only the basket (U) configuration value shall be utilized to determine pass/fail.

8.7.13 Specific Requirements for Escape Anchor Devices.

8.7.13.1 Only Procedure B shall be conducted on escape anchor devices.

8.7.13.2 Escape anchor devices with a single point of contact shall be supported to prevent twisting when loaded in such a way that the load is applied in the weakest configuration when used in accordance with the manufacturer's instructions. The support shall not prevent the device from deforming under load or from releasing from the structure due to deformation or breaking.

8.7.13.3 Escape anchor devices that use two or more points of contact shall have the load applied in the weakest configuration when used in accordance with the manufacturer's instructions.

8.7.13.4 The escape anchor device shall fail the Procedure B test if the device breaks or deforms such that it releases from the supporting structure.

8.7.13.5 Only the requirements specified in 8.7.6.1 shall be reported.

First Revision No. 33-NFPA 1983-2015 [Section No. 8.9.4.1]

8.9.4.1

Specimens shall be completely ~~immersed in~~ submerged to a minimum depth of 380 mm (15 in.) a sufficiently sized vessel of fresh water at a temperature of 21°C ± 3°C (70°F ± 5°F) for a period of 24 hours +1/−0 hour.

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Committee Statement

Committee Statement: Defining depth required for float test
Response Message:

Public Input No. 54-NFPA 1983-2014 [Section No. 8.9.4]
Public Input No. 42-NFPA 1983-2014 [Section No. 8.9.4.1]

First Revision No. 35-NFPA 1983-2015 [Section No. 8.13]

8.13 Payout Test.

8.13.1 Application.

8.13.1.1

This test shall apply to ~~descent control systems with passive and active braking systems, and~~ escape ~~manufactured~~ systems.

8.13.2 Samples.

8.13.2.1

Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model to be tested.

8.13.2.2

The rope length available for testing shall be at least 1.5 m (5 ft).

8.13.2.3

The descent control system shall be tested with each type of rope for its intended use.

8.13.2.4

If multiple-configurations are possible with the descent control device, it shall be tested in each configuration.

8.13.2.5

Samples for conditioning shall be whole items.

8.13.2.6

Samples shall be conditioned as specified in 8.1.2 .

8.13.3 Specimens.

8.13.3.1

Specimens shall be whole items.

8.13.3.2

A total of three specimens shall be tested and each test repeated 5 times.

8.13.4 Procedure.

8.13.4.1

Specimens shall be tested in a servohydraulic or screw-driven load frame with a controlled displacement rate of 100 mm/sec.

8.13.4.2

For descent control devices with the capability to vary friction with the rope, the device shall be locked open in the configuration the manufacturer recommends for actual use. The manner of locking the device shall not affect the load measurement during payout.

8.13.4.3

The rope shall be attached to a solid anchorage point and the descent control device attached to the moving crosshead of the load frame. The rope shall enter the descent device directly without creating additional friction throughout the test.

8.13.4.4

Each test shall require the rope to pass through the descent control device for ~~a minimum of~~ 100 mm (4 in.).

8.13.4.5

Load data shall be recorded at a minimum sampling rate of 1000 samples/sec.

8.13.5 Report.

The ~~maximum~~ average force encountered over the 100 mm (4 in.) payout shall be recorded from each test and the average and standard deviation calculated.

8.13.6 Interpretation.

8.13.6.1

Pass/fail performance shall be based on the ~~maximum~~ average force required to payout rope through the descent control device.

8.13.6.2

One or more specimens failing this test shall constitute a failing performance for the given rope type.

8.13.6.3

If multiple-configurations are possible with the descent control device, the pass/fail criteria shall be applied for each configuration.

8.13.6.4

The compliant configuration shall be listed in the user instructions.

Supplemental Information

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Committee Statement: Clarifies the language and should result in a more consistent test.
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Public Input No. 47-NFPA 1983-2014 [Section No. 8.13.6.4]

8.13 Payout Test.

8.13.1 Application.

8.13.1.1 This test shall apply to ~~descent control systems with passive and active braking systems, and~~ escape ~~manufactured~~ systems.

8.13.2 Samples.

8.13.2.1 Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model to be tested.

8.13.2.2 The rope length available for testing shall be at least 1.5 m (5 ft).

8.13.2.3 The descent control system shall be tested with each type of rope for its intended use.

8.13.2.4 If multiple configurations are possible with the descent control device, it shall be tested in each configuration.

8.13.2.5 Samples for conditioning shall be whole items.

8.13.2.6 Samples shall be conditioned as specified in 8.1.2.

8.13.3 Specimens.

8.13.3.1 Specimens shall be whole items.

8.13.3.2 A total of three specimens shall be tested and each test repeated 5 times.

8.13.4 Procedure.

8.13.4.1 Specimens shall be tested in a servohydraulic or screw-driven load frame with a controlled displacement rate of 100 mm/sec.

8.13.4.2 For descent control devices with the capability to vary friction with the rope, the device shall be locked open in the configuration the manufacturer recommends for actual use. The manner of locking the device shall not affect the load measurement during payout.

8.13.4.3 The rope shall be attached to a solid anchorage point and the descent control device attached to the moving crosshead of the load frame. The rope shall enter the descent device directly without creating additional friction throughout the test.

8.13.4.4 Each test shall require the rope to pass through the descent control device for 100 mm (4 in.).

8.13.4.5 Load data should be recorded at a minimum sampling rate of 1,000 samples/second

8.13.5 Report. The average force encountered over the 100 mm (4 in.) payout shall be recorded from each test and the average and standard deviation calculated.

8.13.6 Interpretation.

8.13.6.1 Pass/fail performance shall be based on the average force required to payout rope through the descent control device.

8.13.6.2 One or more specimens failing this test shall constitute a failing performance for the given rope type.

8.13.6.3 If multiple configurations are possible with the descent control device, the pass/fail criteria shall be applied for each configuration.

8.13.6.4 The compliant configuration shall be listed in the user instructions.

First Revision No. 34-NFPA 1983-2015 [Section No. 8.14]

8.14 Escape Descent Control Device and Systems Drop Test.

8.14.1 Application.

This test shall apply to escape descent control devices and escape manufactured systems.

8.14.2 Samples.

8.14.2.1

Samples for conditioning shall be whole items.

8.14.2.2

Samples shall be conditioned as specified in 8.1.2.

8.14.2.3

Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model to be tested.

8.14.3 Specimens.

8.14.3.1

A minimum of two specimens shall be tested.

8.14.3.2

One drop shall be conducted for each specimen.

8.14.4 Procedure.

8.14.4.1

Testing shall be conducted per Section 5.6 of ISO 22159, *Personal equipment for protection against falls — Descending devices*, ~~Section 5.6,~~ with the modifications specified in 8.14.4.1.1 through 8.14.4.1.4.

8.14.4.1.1

A force measurement device as described in Section 5.1.2 of ISO 22159, *Personal equipment for protection against falls — Descending devices*, Section 5.1.2, shall be installed between the test mass and the descent control device.

8.14.4.1.2

The entire test mass, consisting of the falling mass itself, the attachment device(s), and force-measuring device shall weigh 136 kg ± 1kg (300 lb ± 2.25 lb).

8.14.4.1.3

On ~~a~~ the descent control device, the length of rope or webbing between the lowest point of the top anchor and the top entry point of the rope shall be 610 mm -0/+25 mm (24 in. -0/+1 in.).

8.14.4.1.4

The test mass shall be positioned to allow for a free fall of 153 mm -0/+13 mm (6 in. -0/+½ in.)

8.14.4.2

Following each drop, the device and the rope or webbing shall be visually examined for damage and functionality while the weight is still attached. Functionality shall be determined by the lowering of the test weight in a controlled manner.

8.14.5 Report.

8.14.5.1

The maximum impact force shall be reported to the nearest 0.1 kN.

8.14.5.2

Any visible damage to the device, ~~or~~ rope or webbing shall be reported.

8.14.5.3

Functionality of the device shall be reported.

8.14.6 Interpretation.

8.14.6.1

A recorded impact force in excess of 8.0 kN shall constitute failing performance.

8.14.6.2

Visible damage to device, ~~or~~ rope , or webbing shall constitute failing performance.

8.14.6.3

Failure of the device to function shall constitute failing performance.

8.14.6.4

One or more specimens failing the test shall constitute failing performance.

Supplemental Information

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Committee Statement

Committee Statement: Added webbing. Clarified that the weight is to be attached during the performance observation. Added details as to what "functionality" is to consist of.

Response Message:

Public Input No. 44-NFPA 1983-2014 [Section No. 8.14.5.2]
Public Input No. 45-NFPA 1983-2014 [Section No. 8.14.6.2]
Public Input No. 43-NFPA 1983-2014 [Section No. 8.14.4.2]

8.14 Escape Descent Control Device and Systems Drop Test.

8.14.1 Application. This test shall apply to escape descent control devices and escape manufactured systems.

8.14.2 Samples.

8.14.2.1 Samples for conditioning shall be whole items.

8.14.2.2 Samples shall be conditioned as specified in 8.1.2.

8.14.2.3 Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model to be tested.

8.14.3 Specimens.

8.14.3.1 A minimum of two specimens shall be tested.

8.14.3.2 One drop shall be conducted for each specimen.

8.14.4 Procedure.

8.14.4.1 Testing shall be conducted per ISO 22159, *Personal equipment for protection against falls — Descending devices*, Section 5.6, with the modifications specified in 8.14.4.1.1 through 8.14.4.1.4.

8.14.4.1.1 A force measurement device as described in ISO 22159, *Personal equipment for protection against falls — Descending devices*, Section 5.1.2, shall be installed between the test mass and the descent control device.

8.14.4.1.2 The entire test mass, consisting of the falling mass itself, the attachment device(s), and force-measuring device shall weigh 136 kg ± 1kg (300 lb ± 2.25 lb).

8.14.4.1.3 On ~~a~~the descent control device, the length of rope or webbing between the lowest point of the top anchor and the top entry point of the rope shall be 610 mm −0/+25 mm (24 in. −0/+1 in.).

8.14.4.1.4 The test mass shall be positioned to allow for a free fall of 153 mm −0/+13 mm (6 in. −0/+½ in.)

8.14.4.2 Following each drop, the device and the rope or webbing shall be visually examined for damage and functionality while the weight is still attached. Functionality shall be determined by the lowering of the test weight in a controlled manner.

8.14.5 Report.

8.14.5.1 The maximum impact force shall be reported to the nearest 0.1 kN.

8.14.5.2 Any visible damage to the device, rope or webbing shall be reported.

8.14.5.3 Functionality of the device shall be reported.

8.14.6 Interpretation.

8.14.6.1 A recorded impact force in excess of 8.0 kN shall constitute failing performance.

8.14.6.2 Visible damage to device, rope or webbing shall constitute failing performance.

8.14.6.3 Failure of the device to function shall constitute failing performance.

8.14.6.4 One or more specimens failing the test shall constitute failing performance.

First Revision No. 36-NFPA 1983-2015 [Section No. 8.15]

8.15 Elevated Temperature Rope Test.

8.15.1 Application.

8.15.1.1

This test shall apply to fire escape rope and fire escape webbing. This test shall also apply to manufacturer-supplied eye terminations for fire escape rope and fire escape webbing.

8.15.2 Samples.

~~Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model to be tested.~~

8.15.2.1

Samples for conditioning shall be whole items.

8.15.2.2

Samples shall be conditioned as specified in 8.1.2 .

8.15.2.3

Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model to be tested.

8.15.2.4

Where ropes utilize different combination of fiber materials, including, but not limited to, tracers, each combination shall be tested.

8.15.3 Specimens.

8.15.3.1

Specimens shall be whole items.

8.15.3.2

A total of ~~five~~ three specimens shall be tested.

8.15.4 Procedure.

8.15.4.1*

Rope ~~S~~ s pecimens shall be tested in a manner that allows a constant load to be applied to the rope throughout the duration of the test after stabilization. One end of the rope shall be attached to a load or load cell, while the other shall be attached to an apparatus that allows constant load application.

8.15.4.1.1*

Manufacturer-supplied eye terminations shall be tested in a manner that allows a constant load to be applied to the eye throughout the duration of the test after stabilization. A length of rope or webbing meeting the fire escape rope or fire escape webbing requirements of this standard shall be looped through the eye and shall be attached to a load or load cell, while the rope end of the manufacturer-supplied eye termination shall be attached to an apparatus that allows constant load application.

8.15.4.2

~~Rope s~~ S pecimens shall be introduced into ~~the~~ a horizontal, three-zone, high-temperature furnace at the given set point ~~±5~~ −0/ + 10 °C (−0/50°F) and the load stabilized within 5 seconds of introduction.

8.15.4.2.1*

Temperature shall be verified before each series of tests.

8.15.4.3

A thermocouple shall be attached to the rope, webbing, or eye at the location of the maximum temperature of the furnace. ~~(i.e., middle for horizontal furnace, top for vertical furnace).~~ The exposure time shall begin~~s~~ when the specimen is under load and the thermocouple reading increases by 10 percent from room temperature. The exposure time ~~and~~ ends when the ~~load cell reading drops to 0 upon failure of the rope.~~ rope can no longer support the load.

8.15.5 Report.

The time to failure shall be recorded ~~from~~ for each test. ~~and the average and standard deviation calculated.~~

8.15.6 Interpretation.

One or more specimens failing this test shall constitute ~~a~~ failing performance ~~for the given rope type~~ .

Supplemental Information

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Committee Statement

Committee Statement: Various editorial changes were made to make language consistent with other test methods in this document.

Samples were reduced from 5 to 3 because the pass/fail is based on the load holding for a specific period of time, and not a numerical calculation or output.

Annex items were added to increase consistency of testing at various facilities, and to give items of consideration to minimize known variables.

An item was added so that tracers can be treated with consistency.

Allowance was given so the test can be conducted with a dead weight or a tensile test machine.

The temperature tolerance was adjusted such that the minimum allowable test temperature matched the performance requirement.

Revised test method to account for the testing of manufacturer-supplied eye terminations.

Response Message:

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Public Input No. 53-NFPA 1983-2014 [Section No. 7.12.5]
Public Input No. 56-NFPA 1983-2015 [Section No. 8.15]
Public Input No. 63-NFPA 1983-2015 [Chapter 8]

8.15 Elevated Temperature Rope Test.

8.15.1 Application.

8.15.1.1 This test shall apply to fire escape rope and fire escape webbing. This test shall also apply to manufacturer-supplied eye terminations for fire escape rope and fire escape webbing.

8.15.2 Samples.

8.15.2.1 Samples for conditioning shall be whole items.

8.15.2.2.Samples shall be conditioned as specified in 8.1.2.

8.15.2.3 Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model to be tested.

8.15.2.4. Where ropes utilize different combination of fiber materials, including but not limited to tracers, each combination shall be tested.

~~Samples shall be new and in unused condition and shall conform in all respects to the manufacturer's specifications for the model to be tested~~.

8.15.3 Specimens.

8.15.3.1 Specimens shall be whole items.

8.15.3.2 A total of ~~five~~ three specimens shall be tested.

8.15.4 Procedure.

8.15.4.1 Rope ~~S~~specimens shall be tested in a manner that allows a constant load to be applied to the rope throughout the duration of the test after stabilization. One end of the rope shall be attached to a load or load cell, while the other shall be attached to an apparatus that allows constant load application.

8.15.4.1.1 Manufacturer-supplied eye terminations shall be tested in a manner that allows a constant load to be applied to the eye throughout the duration of the test after stabilization. A length of rope or webbing meeting the fire escape rope or fire escape webbing requirements of this standard shall be looped through the eye and shall be attached to a load or load cell, while the rope end of the manufacturer-supplied eye termination shall be attached to an apparatus that allows constant load application.

A. 8.15.4.1.1: The intent of the rope or webbing attachment to the eye is to minimize the introduction of variables and possible conduction of the heat from the hardware.

8.15.4.2 ~~Rope s~~Specimens shall be introduced into a horizontal, three-zone, ~~the~~ high temperature furnace at the given set point ~~±5~~ 0/+10°C and the load stabilized within 5 seconds of introduction.

8.15.4.2.1 Temperature shall be verified before each series of tests.

8.15.4.3 A thermocouple shall be attached to the rope, webbing or eye at the location of the maximum temperature of the furnace ~~(i.e., middle for horizontal furnace, top for vertical furnace).~~ The exposure time shall begin~~s~~ when the specimen is under load and the thermocouple reading increases by 10 percent from room temperature. The exposure time ~~and~~ ends when the ~~load cell reading drops to 0 upon failure of the rope.~~rope can no longer support the load.

8.15.5 Report. The time to failure shall be recorded ~~from~~ for each test ~~and the average and standard deviation calculated.~~

8.15.6 Interpretation.

~~**8.15.6.1** Pass/fail performance shall be based on the average time to failure.~~

8.15.6.~~2~~1 One or more specimens failing this test shall constitute ~~a~~ failing performance ~~for the given rope type.~~

A.8.15.4.1 When performing this test, consideration should be given to the furnace tube diameter. The furnace diameter can have an effect on the airflow of the furnace and larger diameters can also contribute to a significant chimney effect.

A.8.15.4.2.1 Furnace temperature mapping. Good laboratory practice should dictate that the furnace temperatures be verified at the position of the rope specimen. This can be accomplished with calibration thermocouples. Furnace temperature controls and output displays may not be representative of the temperature at the position of the specimen.

First Revision No. 21-NFPA 1983-2015 [Section No. B.1.2.1]

C.1.2.1 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM F1730, *Guide for Throwing a Water Rescue Throwbag*, 1996, reaffirmed 2014 .

ASTM F1740, *Guide for Inspection of Nylon, Polyester and/or Nylon/Polyester Blend Kernmantle Rope*, 1996, reaffirmed 2012 .

ASTM F1956, *Standard Specification for Rescue Carabiners*, ~~1999~~ 2013 .

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C.1.2.2 Cordage Institute Publications.
The Cordage Institute, 994 Old Eagle School Road, Suite 1019, Wayne, PA 19087-1866.
CI 1801, *Low Stretch and Static Kernmantle Life Safety Rope*, ~~1998~~ 2007 .

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C.1.2.3 ISO Publications.

International Standards Organization, 1 rue de Varembé, Case Postal 56, CH-1211 Geneve 20, Switzerland.

ISO Guide 27, *Guidelines for corrective action to be taken by a certification body in the event of misuse of its mark of conformity*, 1983.

~~ISO Guide 65, *General requirements for bodies operating product certification systems* , 1996.~~

ISO/IEC 17065, *Conformity assessment — Requirements for bodies certifying products, processes, and services* , 2012.

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Annex B Guide to Revised Chapter Order

This annex is not part of the requirements of this NFPA document but is included for informational purposes only.

B.1 General.

This annex contains explanatory material outlining the organization of the document as well as tests conducted by product.

Annex C is not part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material outlining the organization of the document as well as tests conducted by product.

{Titles:
C.1 Chapter Order after reorganization
C.2 Table of Products by Test}

B.2 Chapter Order After Reorganization.

Table B.2 lists the revised order of the sections in Chapters 5 through 7.

Table B.2 Chapter Order After Reorganization

Chapter 5 Label and User Requirements		Chapter 6 Design Requirements		Chapter 7 Performance Requirements	
				Rope and Webbing Products	
Section	Title	Section	Title	Section	Title
1	Life Safety Rope	1	Life Safety Rope	1	Life Safety Rope
2	Escape Rope	2	Escape Rope	2	Escape Rope
3	Escape Webbing	3	Escape Webbing	3	Escape Webbing
4	Fire Escape Rope	4	Fire Escape Rope	4	Fire Escape Rope
5	Fire Escape Webbing	5	Fire Escape Webbing	5	Fire Escape Webbing
6	Throwlines	6	Throwlines	6	Throwlines
7	Moderate Elongation Laid Life-Saving Rope	7	Moderate Elongation Laid Life-Saving Rope	7	Moderate Elongation Laid Life-Saving Rope
8	Manufacturer-Supplied Eye Termination	8	Manufacturer-Supplied Eye Termination	8	Manufacturer-Supplied Eye Termination
			Soft Goods		
9	Life Safety Harness	9	Life Safety Harness	9	Life Safety Harness
10	Belts	10	Belts	10	Belts
11	Victim Extrication Device	11	Victim Extrication Device	11	Victim Extrication Device
12	End-to-End Straps	12	End-to-End Straps	12	End-to-End Straps
13	Multiple Configuration Straps	13	Multiple Configuration Straps	13	Multiple Configuration Straps
			Auxiliary Equipment Hardware and Systems		
14	Belay Devices	14	Belay Devices	14	Belay Devices
15	Carabiners and Snap Links	15	Carabiners and Snap Links	15	Carabiners and Snap Links
16	Descent Control Devices	16	Descent Control Devices	16	Descent Control Devices
17	Escape Anchor	17	Escape Anchor	17	Escape Anchor
18	Litters	18	Litters	18	Litters
19	Portable Anchors	19	Portable Anchors	19	Portable Anchors
20	Pulleys	20	Pulleys	20	Pulleys
21	Rope Grabs and Ascending Devices	21	Rope Grab and Ascending Devices	21	Rope Grab and Ascending Devices
22	Other Auxiliary Equipment	22	Other Auxiliary Equipment	22	Other Auxiliary Equipment
23	Escape Systems	23	Escape Systems	23	Escape Systems
24	Fire Escape Systems	24	Fire Escape Systems	24	Fire Escape Systems
25	Manufactured Systems	25	Manufactured Systems	25	Manufactured Systems

Note: Each .X has a .1 for Label Requirements and a .2 for User Information. So, for example, Life Safety Rope will have 5.1.1 for Life Safety Rope Label Requirements and 5.1.2 for Life Safety Rope User Information, and Belay Devices will have 5.14.1 for Belay Devices will have 5.14.1 for Belay Devices Label Requirements and 5.14.2 for Belay Devices User Information.

B.3 Table of Products by Test

Table B.3 lists products by test.

Table B.3 Products by Test

Rope and Webbing Products			
Section	**Product Type**	**Chapter 8 Reference, if Applicable**	**Test Name**
1	Life Safety Rope		Diameter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
2	Escape Rope		Diameter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
3	Escape Webbing		Perimeter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Tests
			Melting and Crystallization Temperatures by Thermal Analysis
4	Fire Escape Rope		Diameter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
		8.15	Elevated Temperature Rope Test
5	Fire Escape Webbing		Perimeter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
		8.15	Elevated Temperature Rope Test
6	Throwlines		Diameter
		8.2	Rope Breaking and Elongation Test (breaking only)
		8.9	Floatability Test
		8.10	Product Label Durability Test
7	Moderate Elongation Laid Life-Saving Rope		Diameter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
8	Manufacturer-Supplied Eye Termination	8.2	Rope Breaking and Elongation Test (breaking only)
		8.8	Corrosion Resistance Test
			Melting and Crystallization Temperatures by Thermal Analysis

Rope and Webbing Products			
Section	**Product Type**	**Chapter 8 Reference, if Applicable**	**Test Name**
		8.18	Thread Heat Resistance Test
Soft Goods			
9	Life Safety Harness	8.3	Static Test
		8.4	Drop Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
		8.16	Flame Resistance Test
		8.17	Heat Resistance Test
		8.18	Thread Heat Resistance Test
10	Belts	8.3	Static Test
		8.4	Drop Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
		8.16	Flame Resistance Test
		8.17	Heat Resistance Test
		8.18	Thread Heat Resistance Test
11	Victim Extrication Device	8.3	Static Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
12	End-to-End Straps	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
13	Multiple Configuration Straps	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
Auxiliary Equipment Hardware and Systems			
14	Belay Devices	8.6	Manner of Function Tensile Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
15	Carabiners and Snap Links	8.5	Carabiner and Snap Link Tensile Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
16	Descent Control Devices	8.6	Manner of Function Tensile Test

Rope and Webbing Products			
Section	**Product Type**	**Chapter 8 Reference, if Applicable**	**Test Name**
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
		8.11	Holding Test
		8.14	Escape Descent Control Device and Systems Drop Test
17	Escape Anchor	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
		8.17	Heat Resistance Test
18	Litters	8.10	Product Label Durability Test
		8.12	Litter Strength Test
19	Portable Anchors	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
20	Pulleys	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
21	Rope Grabs and Ascending Devices	8.6	Manner of Function Tensile Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
22	Other Auxiliary Equipment	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
23	Escape Systems	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
		8.13	Payout Test
		8.14	Escape Descent Control Device and Systems Drop Test
24	Fire Escape Systems	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis
		8.13	Payout Test
		8.14	Escape Descent Control Device and Systems Drop Test
		8.15	Elevated Temperature Rope Test
		8.16	Flame Resistance Test

Rope and Webbing Products			
Section	**Product Type**	**Chapter 8 Reference, if Applicable**	**Test Name**
		8.17	Heat Resistance Test
		8.18	Thread Heat Resistance Test
25	Manufactured Systems	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting and Crystallization Temperatures by Thermal Analysis

Supplemental Information

File Name	Description
Annex_C_intro.docx	
Annex_C.1.xlsx	
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Chapter 5 Label and User Requirements		Chapter 6 Design Requirements		Chapter 7 Performance Requirements	
Rope and Webbing Products					
.1	Life Safety Rope	.1	Life Safety Rope	.1	Life Safety Rope
.2	Escape Rope	.2	Escape Rope	.2	Escape Rope
.3	Escape Webbing	.3	Escape Webbing	.3	Escape Webbing
.4	Fire Escape Rope	.4	Fire Escape Rope	.4	Fire Escape Rope
.5	Fire Escape Webbing	.5	Fire Escape Webbing	.5	Fire Escape Webbing
.6	Throwlines	.6	Throwlines	.6	Throwlines
.7	Moderate Elongation Laid Life Saving Rope	.7	Moderate Elongation Laid Life Saving Rope	.7	Moderate Elongation Laid Life Saving Rope
.8	Manufacturer-Supplied Eye Termination	.8	Manufacturer-Supplied Eye Termination	.8	Manufacturer-Supplied Eye Termination
Soft Goods					
.9	Life Safety Harnesses	.9	Life Safety Harnesses	.9	Life Safety Harnesses
.10	Belts	.10	Belts	.10	Belts
.11	Victim Extrication Device	.11	Victim Extrication Device	.11	Victim Extrication Device
.12	End-to-End Straps	.12	End-to-End Straps	.12	End-to-End Straps
.13	Multiple Configuration Straps	.13	Multiple Configuration Straps	.13	Multiple Configuration Straps
Auxiliary Equipment Hardware and Systems					
.14	Belay Device	.14	Belay Device	.14	Belay Device
.15	Carabiners	.15	Carabiners	.15	Carabiners
.16	Descent Control Devices	.16	Descent Control Devices	.16	Descent Control Devices
.17	Escape Anchor	.17	Escape Anchor	.17	Escape Anchor
.18	Litter	.18	Litter	.18	Litter
.19	Portable Anchor	.19	Portable Anchor	.19	Portable Anchor
.20	Pulley	.20	Pulley	.20	Pulley
.21	Rope Grab and Ascending Devices	.21	Rope Grab and Ascending Devices	.21	Rope Grab and Ascending Devices
.22	Other Auxiliary Equipment	.22	Other Auxiliary Equipment	.22	Other Auxiliary Equipment
.23	Escape Systems	.23	Escape Systems	.23	Escape Systems
.24	Fire Escape Systems	.24	Fire Escape Systems	.24	Fire Escape Systems
.25	Manufactured Systems	.25	Manufactured Systems	.25	Manufactured Systems

NOTE:
Each .X has a .1 for Label Requirements and a .2 for User Information. So, for example, Life Safety Rope will have 5.1.1 for Life Safety Rope Label Requirements and 5.1.2 for Life Safety Rope User Information, and Belay Devices will have 5.14.1 for Belay Devices Label Requirements and 5.14.2 for Belay Devices User Information.

ANNEX C2 - Table of Products by Test

Rope and Webbing Products

Section	*Product Type*	*Chapter 8 reference, if applicable*	*Test Name*
.1	Life Safety Rope		Diameter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Tests
			Melting & Crystallization Temperatures by Thermal Analysis
.2	Escape Rope		Diameter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Tests
			Melting & Crystallization Temperatures by Thermal Analysis
.3	Escape Webbing		Perimeter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Tests
			Melting & Crystallization Temperatures by Thermal Analysis
.4	Fire Escape Rope		Diameter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Tests
			Melting & Crystallization Temperatures by Thermal Analysis
		8.15	Elevated Temperature Rope Test
.5	Fire Escape Webbing		Perimeter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Tests
			Melting & Crystallization Temperatures by Thermal Analysis
		8.15	Elevated Temperature Rope Test
.6	Throwlines		Diameter
		8.2	Rope Breaking and Elongation Test (breaking only)
		8.9	Floatability
		8.10	Product Label Durability Tests
.7	Moderate Elongation Laid Life Saving Rope		Diameter
		8.2	Rope Breaking and Elongation Test
		8.10	Product Label Durability Tests

			Melting & Crystallization Temperatures by Thermal Analysis
.8	Manufacturer-Supplied Eye Termination	8.2	Rope Breaking and Elongation Test (breaking only)
		8.8	Corrosion Resistance Test
			Melting & Crystallization Temperatures by Thermal Analysis
		8.18	Thread Heat Resistance
Soft Goods			
.9	Life Safety Harnesses	8.3	Static Test
		8.4	Drop Test
		8.8	Corrosion Resistance
		8.10	Product Label Durability Test
			Melting & Crystallization Temperatures by Thermal Analysis
		8.16	Flame Resistance Test
		8.17	Heat Resistance
		8.18	Thread Heat Resistance
.10	Belts	8.3	Static Test
		8.4	Drop Test
		8.8	Corrosion Resistance
		8.10	Product Label Durability Test
			Melting & Crystallization Temperatures by Thermal Analysis
		8.16	Flame Resistance Test
		8.17	Heat Resistance
		8.18	Thread Heat Resistance
.11	Victim Extrication Device	8.3	Static Test
		8.8	Corrosion Resistance
		8.10	Product Label Durability Test
			Melting & Crystallization Temperatures by Thermal Analysis
.12	End-to-End Straps	8.7	Breaking Strength Test
		8.8	Corrosion Resistance
		8.10	Product Label Durability Test
			Melting & Crystallization Temperatures by Thermal Analysis
.13	Multiple Configuration Straps	8.7	Breaking Strength Test
		8.8	Corrosion Resistance
		8.10	Product Label Durability Test
			Melting & Crystallization Temperatures by Thermal Analysis
Auxiliary Equipment Hardware and Systems			
		8.6	Manner of Function Test

.14	Belay Device	8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
.15	Carabiners	8.5	Carabiners and Snap-Link Tensile Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
.16	Descent Control Devices	8.6	Manner of Function Tensile Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
		8.11	Holding Test
		8.14	Escape Descent Control Device and Systems Drop Test
.17	Escape Anchor	8.7	Breaking Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
		8.17	Heat Resistance Test
.18	Litter	8.10	Product Label Durability Test
		8.12	Litter Strength Test
.19	Portable Anchor	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
.20	Pulley	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
.21	Rope Grab and Ascending Devices	8.6	Manner of Function Tensile Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
.22	Other Auxiliary Equipment	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting & Crystallization Temperatures by Thermal Analysis
.23	Escape Systems	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting & Crystallization Temperatures by Thermal Analysis
		8.13	Payout Test
		8.14	Escape Descent Control Device and Systems Drop Test
		8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test

.24	Fire Escape Systems	8.10	Product Label Durability Test
			Melting & Crystallization Temperatures by Thermal Analysis
		8.13	Payout Test
		8.14	Escape Descent Control Device and Systems Drop Test
		8.15	Elevated Temperature Rope Test
		8.16	Flame Resistance Test
		8.17	Heat Resistance
		8.18	Thread Heat Resistance
.25	Manufactured Systems	8.7	Breaking Strength Test
		8.8	Corrosion Resistance Test
		8.10	Product Label Durability Test
			Melting & Crystallization Temperatures by Thermal Analysis