Second Revision No. 1-NFPA 55-2021 [Global Comment]

[See attached Word document for extract updates from NFPA 400, 2022 edition.]

Supplemental Information

File Name	Description	Approved
55_SR1_NFPA400_2022_Extracts.docx	NFPA 400, 2022 Extracts. For staff use	
55_SR1_NFPA400_2022_Extracts_for_ballot.docx	For ballot	

Submitter Information Verification

Committee: IMG-AAA
Submittal Date: Mon Nov 01 13:54:56 EDT 2021

Committee Statement

Committee Statement: Extracts from NFPA 400, 2022 have been updated per the NFPA Manual of Style.
Response Message: SR-1-NFPA 55-2021

3.3.66.1 Incompatible [Hazardous] Material.
Materials that, when in contact with each other, have the potential to react in a manner that generates heat, fumes, gases, or by-products that are hazardous to life or property. [**400,** ~~2019~~2022]

3.3.87* Secondary Containment.
That level of containment that is external to and separate from primary containment. [**400,** 2022~~19~~]

4.7.2.6 Changes.
Training shall be provided whenever a new hazardous material is introduced into the work area that presents a new physical or health hazard, or when new information is obtained pertaining to physical or health hazards of an existing hazardous material that has not been included in previous training, and when there are changes in ~~one~~ any of the following:

(1) Equipment

(2) Operations

(3) Hazardous materials

.

[**400:**6.1.4.2.6]

4.7.4.5 Documentation.
Training shall be documented and the documentation made available to the AHJ upon written request. [**400:**6.1.4.6]

4.11.1.1
Guard posts or other approved means shall be provided to protect the following ~~areas~~ where subject to vehicular damage:

(1) Storage tanks and connected piping, valves, and fittings

(2) Storage areas containing tanks or portable containers except where the exposing vehicles are powered industrial trucks used for transporting the hazardous materials

(3) Use areas

[**400:**6.1.9.1]

6.2.1 Construction Requirements.
Control areas shall be separated from each other by fire barriers in accordance with Table 6.2.1. [**400:**5.2.2.3]

Table 6.2.1 Design and Number of Control Areas

Floor Level	Maximum Allowable Quantity per Control Area (%)*	Number of Control Areas per Floor	Fire Resistance Rating for Fire Barriers† (hr)
Above grade			
>9	5.0	1	2

Floor Level	Maximum Allowable . Quantity per Control . Area (%)*	Number of Control . Areas per Floor	Fire Resistance . Rating for . Fire Barriers† (hr)
7–9	5.0	2	2
4–6	12.5	2	2
3	50.0	2	1
2	75.0	3	1
1	100.0	4	1
Below grade			
1	75.0	3	1
2	50.0	2	1
Lower than 2	NP	NP	N/A

NP: Not Permitted.
N/A: Not Applicable.
*Percentages represent the applicable MAQ per control area shown in Table 6.3.1.1, with all ~~of~~ the increases permitted in the footnotes of that table.
†Fire barriers are required to include floors and walls, as necessary, to provide a complete separation from other control areas.
.
[**400:**Table 5.2.2.1]

A.3.3.87 Secondary Containment.
Examples of secondary containment include dikes, curbing, remote impoundment, and double-walled tanks. [**400,** ~~2019~~2022]

A.4.7.4
Emergency responders can include on-site personnel that have been designated and trained to respond to emergencies, persons from the public sector such as fire department personnel, or persons from the private sector that can be contracted or otherwise engaged to perform emergency response duties. (See Annex I in NFPA 400 ~~for additional information~~.) [**400:**A.6.1.4.4]

A.4.9.3.1
The approved powered industrial trucks addressed in NFPA 505 are trucks that are listed by a testing laboratory for the use intended and should be tested and labeled in accordance with ~~ANSI/~~UL 558, ~~*Standard for*~~ *Safety Industrial Trucks, Internal Combustion Engine-—Powered*~~-~~, or ~~ANSI/~~UL 583, ~~*Standard for*~~ *Safety Electric-Battery-Powered Industrial Trucks*. [**400:**A.6.1.5.3.1]

Second Revision No. 26-NFPA 55-2021 [Detail]

[Move sub-definitions 3.3.70.1 through 3.3.70.4 to a main entry definition.]

3.3.70* Mobile Acetylene Trailer System (MATS).

A manifolded group of cylinders held together as a unit on a transport vehicle for the purpose of containing and transporting large quantities of acetylene.

3.3.~~70.1~~X MATS Building.

A single-story detached building, without an attic, basement, crawl space, or false ceiling, used for acetylene trailer(s) or mobile acetylene trailer system (MATS) operations located indoors and with the balance of the building used exclusively for acetylene operations including storage and use of hazardous materials.

3.3.~~70.2~~X MATS Fill Valve.

A shutoff valve on the charging system for MATS where the acetylene supply first enters the charging connection.

3.3.~~70.3~~X MATS Fire Area.

The area or footprint occupied by the individual mobile acetylene trailer(s) to include the control system up to the point of the MATS source valve for MATS being discharged or to the point of the fill valve for MATS being charged.

3.3.~~70.4~~X MATS Source Valve.

A shutoff valve on the piping system serving MATS where the acetylene supply first enters the user's supply line.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Tue Nov 09 14:43:21 EST 2021

Committee Statement

Committee Statement: The terms were a subdefinition under "MATS" but are not a type of MATS, and have been moved to

a main entry per the NFPA manual of style.

Response Message: SR-26-NFPA 55-2021

Second Revision No. 28-NFPA 55-2021 [Detail]

[There is no 2021 edition of NFPA 318.]

NFPA 318, *Standard for the Protection of Semiconductor Facilities,* ~~2021~~2022 edition

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Wed Nov 17 11:54:21 EST 2021

Committee Statement

Committee Statement: The edition year of NFPA 318 has been updated to the current edition year per the NFPA manual of style.

This revision was developed by NFPA staff for editorial purposes, in accordance with 4.4.9.6.2 and 4.4.9.6.3 of the Regulations Governing the Development of NFPA Standards (www.nfpa.org/regs).

Response Message: SR-28-NFPA 55-2021

Second Revision No. 29-NFPA 55-2021 [Detail]

I.3 References for Extracts in Informational Sections.

NFPA 1, *Fire Code*, 2021 edition.

NFPA 72®, National Fire Alarm and Signaling Code®, 2022 edition.

NFPA 99, *Health Care Facilities Code*, 2021 edition.

~~NFPA *101®, Life Safety Code®*, 2021 edition.~~

NFPA 400, *Hazardous Materials Code*, 2019 edition.

NFPA 5000®, Building Construction and Safety Code®, 2021 edition.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Mon Nov 22 10:38:33 EST 2021

Committee Statement

Committee Statement: NFPA 101 has been removed from Annex I.3 since there is no extracted material from NFPA 101 that appears in the annex sections of NFPA 55.

This revision was developed by NFPA staff for editorial purposes, in accordance with 4.4.9.6.2 and 4.4.9.6.3 of the Regulations Governing the Development of NFPA Standards (www.nfpa.org/regs).

Response Message: SR-29-NFPA 55-2021

Second Revision No. 16-NFPA 55-2021 [Section No. 2.2]

Detail SR-28

2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 1, *Fire Code,* 2021 edition.

NFPA 2, *Hydrogen Technologies Code,* 2023 edition.

NFPA 10, *Standard for Portable Fire Extinguishers,* 2022 edition.

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam,* 2021 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems,* 2022 edition.

~~NFPA 16, *Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems,* 2019 edition.~~

NFPA 30, *Flammable and Combustible Liquids Code,* 2021 edition.

NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals,* 2019 edition.

NFPA 51, *Standard for the Design and Installation of Oxygen–Fuel Gas Systems for Welding, Cutting, and Allied Processes,* 2023 edition.

NFPA 52, *Vehicular Natural Gas Fuel Systems Code,* 2023 edition.

NFPA 58, *Liquefied Petroleum Gas Code,* 2020 edition.

NFPA 59A, *Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG),* 2019 edition.

NFPA 68, *Standard on Explosion Protection by Deflagration Venting,* 2018 edition.

NFPA 69, *Standard on Explosion Prevention Systems,* 2019 edition.

NFPA 70®, *National Electrical Code®,* 2023 edition.

NFPA 72®, *National Fire Alarm and Signaling Code®,* 2022 edition.

NFPA 79, *Electrical Standard for Industrial Machinery,* 2021 edition.

NFPA 99, *Health Care Facilities Code,* 2021 edition.

NFPA 110, *Standard for Emergency and Standby Power Systems,* 2022 edition.

NFPA 111, *Standard on Stored Electrical Energy Emergency and Standby Power Systems,* 2022 edition.

NFPA 259, *Standard Test Method for Potential Heat of Building Materials,* 2018 edition.

NFPA 275, *Standard Method of Fire Tests for the Evaluation of Thermal Barriers,* 2022 edition.

NFPA 318, *Standard for the Protection of Semiconductor Fabrication Facilities,* 2022 edition.

NFPA 400, *Hazardous Materials Code,* 2022 edition.

NFPA 496, *Standard for Purged and Pressurized Enclosures for Electrical Equipment,* 2021 edition.

NFPA 505, *Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations,* 2018 edition.

NFPA 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response,* 2022 edition.

NFPA 801, *Standard for Fire Protection for Facilities Handling Radioactive Materials,* 2020 edition.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Fri Nov 05 10:33:59 EDT 2021

Committee Statement

Committee Statement:	NFPA 16 has been withdrawn and incorporated into NFPA 11. Also see SR-14.
Response Message:	SR-16-NFPA 55-2021

Second Revision No. 19-NFPA 55-2021 [Section No. 2.3.3]

2.3.3 ASTM Publications.

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

ASTM B88, *Standard Specification for Seamless Copper Water Tube*, 2020.

ASTM B819, *Standard Specification for Seamless Copper Tube for Medical Gas Systems*, 2019.

ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, ~~2020~~ 2021 .

ASTM E136, *Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750°C*, 2019a.

ASTM E681, *Standard Test Method for Concentration Limits of Flammability of Chemicals (Vapors and Gases)*, 2009, reaffirmed 2015.

ASTM E1529, *Standard Test Methods for Determining Effects of Large Hydrocarbon Pool Fires on Structural Members and Assemblies*, 2016e1.

ASTM E2652, *Standard Test Method for Assessing Combustibility of Materials Using a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750°C*, 2018.

ASTM E2965, *Standard Test Method for Determination of Low Levels of Heat Release Rate for Materials and Products Using an Oxygen Consumption Calorimeter*, 2017.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Fri Nov 05 13:42:38 EDT 2021

Committee Statement

Committee Statement: Updated year to the current edition per the NFPA manual of style.

Response Message: SR-19-NFPA 55-2021

Public Comment No. 8-NFPA 55-2021 [Section No. 2.3.3]

Second Revision No. 25-NFPA 55-2021 [Section No. 2.3.4]

2.3.4 CGA Publications.

Compressed Gas Association, 14501 George Carter Way, Suite 103, Chantilly, VA 20151-2923.

CGA C-7, *Guide to Classification and Labeling of Compressed Gases*, 2020.

CGA G-4.1, *Cleaning Equipment for Oxygen Service*, 2018.

CGA G-4.10, *Use of Nonmetallic Materials in High Pressure Oxygen Breathing Gas Applications*, 2017.

CGA G-5.5, *Hydrogen Vent Systems*, 2014.

CGA G-6.1, *Standard for Insulated Liquid Carbon Dioxide Systems at Consumer Sites*, 2013.

CGA G-8.1, *Standard for Nitrous Oxide Systems at ~~Consumer~~ Customer Sites*, 2013, reaffirmed 2018.

ANSI/CGA G-13, *Storage and Handling of Silane and Silane Mixtures*, 2015.

ANSI/CGA M-1, *Standard for Medical Gas Supply Systems at Health Care Facilities*, 2018.

CGA P-1, *Safe Handling of Compressed Gases in Containers*, 2015.

CGA P-18, *Standard for Bulk Inert Gas Systems*, 2020.

CGA P-23, *Standard for Categorizing Gas Mixtures Containing Flammable and Nonflammable Components*, 2015.

CGA P-74, *Standard for Tube Trailer Supply Systems at Customer Sites* , 2019.

CGA S-1.1, *Pressure Relief Device Standards — Part 1 — Cylinders for Compressed Gases,* 2019.

CGA S-1.2, *Pressure Relief Device Standards — Part 2 — Portable Containers for Compressed Gases,* 2019.

CGA S-1.3, *Pressure Relief Device Standards — Part 3 — Stationary Storage Containers for Compressed Gases,* 2020.

CGA V-6, *Standard Bulk Refrigerated Liquid Transfer Connections*, 2014.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Mon Nov 08 10:04:45 EST 2021

Committee Statement

Committee Statement: CGA reference added to Chapter 2 due to technical committee actions taken on PC-10.

This revision was developed by NFPA staff for editorial purposes, in accordance with 4.4.9.6.2 and 4.4.9.6.3 of the Regulations Governing the Development of NFPA Standards (www.nfpa.org/regs).

Response Message: SR-25-NFPA 55-2021

Second Revision No. 2-NFPA 55-2021 [Section No. 2.4]

2.4 References for Extracts in Mandatory Sections.

NFPA 1, *Fire Code,* 2021 edition.

NFPA 30, *Flammable and Combustible Liquids Code,* 2021 edition.

NFPA 52, *Vehicular Natural Gas Fuel Systems Code,* 2023 edition.

NFPA 58, *Liquefied Petroleum Gas Code,* 2020 edition.

NFPA 99, *Health Care Facilities Code,* 2021 edition.

NFPA *101*®, *Life Safety Code*®, 2021 edition.

NFPA 318, *Standard for the Protection of Semiconductor Fabrication Facilities,* 2021 edition.

NFPA 400, *Hazardous Materials Code,* ~~2019~~ 2022 edition.

NFPA 5000®, *Building Construction and Safety Code*®, 2021 edition.

Submitter Information Verification

Committee: IMG-AAA
Submittal Date: Tue Nov 02 13:22:46 EDT 2021

Committee Statement

Committee Statement: Updated NFPA 400 edition year per the NFPA Manual of Style.
Response Message: SR-2-NFPA 55-2021

Second Revision No. 8-NFPA 55-2021 [Section No. 3.3.51.3]

3.3.51.3* Flammable Gas.

A material that is a gas at 68°F (20°C) or less at an absolute pressure of 14.7 psi (101.3 kPa), ~~that is ignitable at an absolute pressure of 14.7 psi (101.3 kPa) when in a mixture of 13 percent or less by volume with air, or that has a flammable range at an absolute pressure of 14.7 psi (101.3 kPa) with air of at least 12 percent, regardless of the lower limit~~ .

A.3.3.51.3 Flammable Gas.

The term *flammable gas* includes both Category 1A flammable gas and Category 1B flammable gas where not otherwise specified in this code.

3.3.51.3.1* Category 1A Flammable Gas.

A flammable gas that is ignitible at an absolute pressure of 14.7 psi (101.3 kPa) when in a mixture of 13 percent or less by volume with air or that has a flammable range at an absolute pressure of 14.7 psi (101.3 kPa) with air of at least 12 percent regardless of the lower limit.

A.3.3.51.3.1 Category 1A Flammable Gas.

A Category 1A gas should be considered Category 1B if data shows that the flammable gas is compliant with Category 1B.

3.3.51.3.2 Category 1B Flammable Gas.

A non-pyrophoric or non-chemically unstable Category 1A flammable gas that has either a lower flammability limit of more than 6 percent by volume of air or a fundamental burning velocity of less than 3.9 in./s (10 cm/s).

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 12:32:34 EDT 2021

Committee Statement

Committee Statement: The mandated phasedown of HFC refrigerants is prompting a transition toward alternatives with lower global warming potential (GWP). Flammable gases categorized as A2Ls are being phased in to meet this demand. However, the current definition of flammable gases does not recognize the lower hazard of A2Ls as compared to more common flammable gases and as a result presents unnecessary difficulty in transitioning to these mandated replacements. To solve the difficulties industry and code officials have been working together to harmonize the definition of flammable gas with that of GHS. Coupled with this change in definition is a revision which to modified Table 6.3.1.1 (see committee action on PC-43) to create a Flammable Gas 1A and 1B breakout and increase the MAQ for 1B flammable gases.

This revision mirrors work that has been occurring with the International Building Code and the International Fire Code. In that arena the code committees recently approved a

number of proposals that modified the definition in those documents in a similar manner, and modified the MAQ. There was no opposition to the proposals which were submitted by the ICC Fire Code Action Committee.

In the 7th edition of the Global Harmonization System of Classification and Labelling of Chemicals (GHS) the classification of flammable gas was expanded. Flammable gases have three categories, Category 1A, Category 1B, and Category 2. The definition is revised to be consistent with the GHS. However, some of the subgroups of Category 1A are not identified since all of the subclasses still fall within Category 1A. Not included in the definition are pyrophoric (flammable) gas and chemically unstable (flammable) gas. Within these two additional terms is a requirement that the gas must first meet the Category 1A definition. Hence, including these terms becomes unnecessary in this document.

Category 1A flammable gases have a higher flammability and become explosive. These are the flammable gases typically understood such as propane, acetylene, and butane. Category 1B and 2 flammable gases have a lower flammability and are not inherently explosive, although all flammable gases can have a deflagration under the right conditions. A typical Category 1B flammable gas would be difluoromethane. The gas has a lower flammable limit of 13.8 percent and an upper flammable limit of 29.9 percent. The burning velocity is 6.7 cm/s or 2.6 in/s. Other Category 1B flammable gases would include: 1,1,1-trifluoroethane; 2,3,3,3-tetrafluoro-1-propene; and trans-1,3,3,3-tetrafluoro-1-propene.

The mandated phasedown of HFC refrigerants has compliance dates of a few years which is requiring transition of existing manufacturing facilities and of refrigeration equipment now. The work on this topic has not been limited to the building code, fire code and this document. The Uniformed Mechanical Code and the International Mechanical Code have undergone a number of changes last cycle and the current cycle to provide for the safe use of A2L refrigerants.

Response Message: SR-8-NFPA 55-2021

Public Comment No. 42-NFPA 55-2021 [Section No. 3.3.51.3]

Second Revision No. 22-NFPA 55-2021 [Section No. 3.3.51.11]

3.3.86 Purging.

A method used to free the internal volume of a piping system of unwanted contents that results in the existing contents being removed or replaced.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Fri Nov 05 13:53:04 EDT 2021

Committee Statement

Committee Statement: Purging was a subdefinition under ‘Gas’ but is not a type of gas, and has been moved to a main entry per the NFPA manual of style.

Response Message: SR-22-NFPA 55-2021

Second Revision No. 13-NFPA 55-2021 [New Section after 3.3.94]

3.3.99 Subatmospheric Gas Source (SAGS).

3.3.99.1 Subatmospheric Gas Storage and Delivery Source (Type 1 SAGS).

A gas source package that stores and delivers gas at subatmospheric pressure and includes a container that stores and delivers gas at a pressure of less than the absolute pressure of 14.7 psi (101.3 kPa) at 68°F (20°C).

3.3.99.2 Subatmospheric Gas Delivery Source (Type 2 SAGS).

A gas source package that stores compressed gas and delivers gas at subatmospheric pressure and includes a container that stores gas at a pressure greater than the absolute pressure of 14.7 psi (101.3 kPa) at 68°F (20°C) and delivers gas at a pressure less than the absolute pressure of 14.7 psi (101.3 kPa) at 68°F (20°C).

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 13:42:06 EDT 2021

Committee Statement

Committee Statement: The terms required a definition since they were added to the code with committee action on PC-18. The definitions are based off of NFPA 318 but additional revisions to the terms were made to add more clarity and accuracy.

Response Message: SR-13-NFPA 55-2021

Public Comment No. 17-NFPA 55-2021 [New Section after 3.3.94]

Second Revision No. 27-NFPA 55-2021 [New Section after 3.3.99]

3.3.108* Vent System.

A system that provides a means of depressurizing or relieving excess gas pressure and directs the venting gas to a safe location.

A.3.3.108 Vent System.

Vent systems can be used for normal discharge, abnormal discharge, or emergency discharge as required.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Tue Nov 09 14:57:13 EST 2021

Committee Statement

Committee Statement: This definition clarifies the meaning that Vent System is different than Ventilation.

Response Message: SR-27-NFPA 55-2021

Public Comment No. 38-NFPA 55-2021 [New Section after 3.3]

Second Revision No. 4-NFPA 55-2021 [New Section after 4.9.3.1]

4.9.4 Static Producing Equipment.

Equipment that can develop a static charge in flammable gas storage and use areas shall be grounded.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Wed Nov 03 13:52:43 EDT 2021

Committee Statement

Committee Statement: This section has been created for both indoor and outdoor storage and use. This also aligns the code with Section 7.6.3.1 and the IFC. This requirement also applies to above and below MAQ. Additionally, this section has been expanded from the public comment to clarify what is meant by static producing equipment and to include use areas.

Response Message: SR-4-NFPA 55-2021

Public Comment No. 10-NFPA 55-2021 [New Section after 4.9.3.1]

Second Revision No. 6-NFPA 55-2021 [Section No. 6.3.1.1]

6.3.1.1* Threshold Exceedances.

Where the quantities of compressed gases or cryogenic fluids stored or used within an indoor control area exceed those shown in Table 6.3.1.1, the area shall meet the requirements for Protection Levels 1 through 5 in accordance with the building code, based on the requirements of 6.3.2.

Table 6.3.1.1 Maximum Allowable Quantity (MAQ) of Hazardous Materials per Control Area

			Storage			Use — Closed Syste		
Material	Class	High Hazard Protection Level	Solid Pounds	Liquid Gallons	Gas[a] scf (lb)	Solid Pounds	Liquid Gallons	Gas (
Cryogenic fluid	Flammable	2	NA	45[b, c]	NA	NA	45[b,c]	N
	Oxidizing	3	NA	45[d, e]	NA	NA	45[d,e]	N
	Inert	NA	NA	NL	NA	NA	NL	N
Flammable, gas[f]	Gaseous Category 1A and 1B (High BV) [l]	2	NA	NA	1000[d,e]	NA	NA	100
	Gaseous Category 1B (Low BV) [l]	2	NA	NA	162,500 [d,e]	NA	NA	162,5
	Liquefied Category 1A and 1B (High BV) [l]	2	NA	NA	(150)[d,e]	NA	NA	(15(
	Liquefied Category 1B (Low BV) [l]	2	NA	NA	(10,000) [d,e,i]	NA	NA	(10,0(
	LP	2	NA	NA	(300)[g,h,i]	NA	NA	(30
Inert gas	Gaseous	NA	NA	NA	NL	NA	NA	N
	Liquefied	NA	NA	NA	NL	NA	NA	N
Oxidizing gas	Gaseous	3	NA	NA	1500[d,e]	NA	NA	150
	Liquefied	3	NA	NA	(150)[d,e]	NA	NA	(15(
Pyrophoric gas	Gaseous	2	NA	NA	50[d,j]	NA	NA	5(
	Liquefied	2	NA	NA	(4)[d,j]	NA	NA	(4
Unstable (reactive) gas	Gaseous							
	4 or 3 detonable	1	NA	NA	10[d,j]	NA	NA	1(
	3 nondetonable	2	NA	NA	50[d,e]	NA	NA	50
	2	3	NA	NA	750[d,e]	NA	NA	75(
	1	NA	NA	NA	NL	NA	NA	N

-	-	-	Storage			Use — Closed Syste		
Material	Class	High Hazard Protection Level	Solid Pounds	Liquid Gallons	Gas[a] scf (lb)	Solid Pounds	Liquid Gallons	Gas (
Unstable (reactive) gas	Liquefied							
	4 or 3 detonable	1	NA	NA	(1)[d,j]	NA	NA	(1
	3 nondetonable	2	NA	NA	(2)[d,e]	NA	NA	(2
	2	3	NA	NA	(150)[d,e]	NA	NA	(15(
	1	NA	NA	NA	NL	NA	NA	N
Corrosive gas	Gaseous	4	NA	NA	810[d,e]	NA	NA	81(
	Liquefied		NA	NA	(150)[d,e]	NA	NA	(15(
Highly toxic gas	Gaseous	4	NA	NA	20[e,k]	NA	NA	20
	Liquefied		NA	NA	(4)[e,k]	NA	NA	(4
Toxic gas	Gaseous	4	NA	NA	810[d,e]	NA	NA	81(
	Liquefied		NA	NA	(150)[d,e]	NA	NA	(15(

NA: Not applicable within the context of NFPA 55 (refer to the applicable building or fire code for additional information on these materials).

NL: Not limited in quantity.

Notes:

(1) For use of control areas~~,~~ (see Section 6.2.)

(2) Table values in parentheses or brackets correspond to the unit name in parentheses or brackets at the top of the column.

(3) The aggregate quantity in use and storage is not permitted to exceed the quantity listed for storage. In addition, quantities in specific occupancies are not permitted to exceed the limits in the building code.

[a]Measured at NTP [70°F (20°C) and 14.7 psi (101.3 kPa)].

[b]None allowed in unsprinklered buildings unless stored or used in gas rooms or in approved gas cabinets or exhausted enclosures~~,~~ as specified in this code.

[c]With pressure-relief devices for stationary or portable containers vented directly outdoors or to an exhaust hood.

[d]Quantities are permitted to be increased 100 percent where stored or used in approved cabinets, gas cabinets, exhausted enclosures, or gas rooms~~,~~ as appropriate for the material stored. Where Footnote e also applies, the increase for the quantities in both footnotes is permitted to be applied accumulatively.

[e]Maximum quantities are permitted to be increased 100 percent in buildings equipped throughout with ~~an~~ automatic sprinkler systems in accordance with NFPA 13. Where Footnote d also applies, the increase for the quantities in both footnotes is permitted to be applied accumulatively.

[f] Flammable gases in the fuel tanks of mobile equipment or vehicles are permitted to exceed the MAQ where the equipment is stored and operated in accordance with the applicable fire code.

[g] See NFPA 58 for requirements for liquefied petroleum gas (LP-Gas). LP-Gas is not within the scope of NFPA 55.

[h] Additional storage locations are required to be separated by a minimum of 300 ft (92 m).

[i] In mercantile occupancies, storage of LP-Gas is limited to a maximum of 200 lb (91 kg) in nominal 1 lb (0.45 kg) LP-Gas containers.

[j] Permitted only in buildings equipped throughout with ~~an~~ automatic sprinkler systems in accordance with NFPA 13.

[k] Allowed only where stored or used in gas rooms or in approved gas cabinets or exhausted enclosures~~,~~ as specified in this code.

[l] High BV Category 1B flammable gas has a burning velocity greater than 3.9 in./s (10 cm/s). Low BV Category 1B flammable gas has a burning velocity 3.9 in./s (10 cm/s) or less.

Supplemental Information

File Name	Description	Approved
55_SR6_6.3.1.1.docx	For staff use	

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 12:21:50 EDT 2021

Committee Statement

Committee Statement: This is a companion proposal to Public Comment 42 NFPA 55-2021 [Section 3.3.51.3].

The development of the MAQ numbers for the 1A and 1B flammable gases the ICC Fire Code Action Committee surveyed refrigerant industry members on typical amounts in use and for explanations of use and storage activities. The spreadsheet included with the PC was developed by examining the properties of the gases qualifying as A2Ls as compared to other flammable gases. Those properties included, LFL, UFL, Burning velocity, heat of combustion, Min. of Ignition Energy (mj), deflagration index, auto ignition temperature and flash point.

The committee found, based upon the review and the property comparisons, the proposed MAQs are reasonable.

Response Message: SR-6-NFPA 55-2021

Public Comment No. 43-NFPA 55-2021 [Section No. 6.3.1.1]

Second Revision No. 9-NFPA 55-2021 [New Section after 7.1]

7.2 Subatmospheric Gas Sources (SAGS).

7.2.1

The storage and use of subatmospheric gas sources (type 1 or 2) with compatible gases shall meet all the requirements of this code based on the assigned hazard categories listed in Section 5.1 .

7.2.2

SAGS cylinders with incompatible gases shall meet the requirements of 17.14.2.1 through 17.14.2.6 in NFPA 318.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 12:56:27 EDT 2021

Committee Statement

Committee Statement: This change has been made since it is appropriate for NFPA 55 and NFPA 318 does not provide all the requirements needed for SAGS storage systems.

Response Message: SR-9-NFPA 55-2021

Public Comment No. 23-NFPA 55-2021 [New Section after 7.1]

Second Revision No. 10-NFPA 55-2021 [New Section after 7.1.2.2]

7.1.2.3

Tube trailers used as gas supply systems shall comply with the mandatory requirements of CGA P-74, *Standard for Tube Trailer Supply Systems at Customer Sites* .

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 12:59:34 EDT 2021

Committee Statement

Committee Statement: NFPA 55 section 1.1.1 (applicability) and annex note A.1.1.1 clarify the point that NFPA 55 applies to portable supply systems, including tube trailers. This revision has been made since CGA P-74, previously provided to the committee, provides specific requirements and methodology for tube trailers used as customer supply systems, including references to applicable sections of NFPA 55, and so enhances the requirements in section 1.1.1.

Response Message: SR-10-NFPA 55-2021

Public Comment No. 19-NFPA 55-2021 [New Section after 7.1.2.2]

Second Revision No. 11-NFPA 55-2021 [Section No. 7.1.10.5]

7.1.10.5 Temperature Extremes.

Compressed gas cylinders, containers, and tanks, whether full or partially full, shall not be exposed to temperatures exceeding 125°F (52°C) or subambient (low) temperatures unless one of the following apply: ~~designed for use under such exposure.~~

(1) The compressed gas cylinders, containers, or tanks are designed for use under such exposure

(2) The compressed gas cylinders, containers, or tanks are located at compressed gas manufacturing facilities where all of the following apply:

(a) Temperatures above 125°F (52°C) and below subambient (low) temperatures are permitted for the purposes of filling, analysis, and other related procedures

(b) Engineering controls are employed to prevent any hazards

(c) The temperature extremes will not degrade the original mechanical properties of the containers, cylinders, or tanks

7.1.10.5.1

Compressed gas cylinders, containers, and tanks that have not been designed for use under elevated temperature conditions shall not be exposed to direct sunlight outdoors where ambient temperatures exceed 125°F (52°C). ~~The use of a weather protected structure or shaded environment for storage or use shall be permitted as a means to protect against direct exposure to sunlight.~~

7.1.10.5.2

The use of a weather protection structure or shaded environment for storage or use shall be permitted as a means to protect against direct exposure to sunlight.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 13:07:44 EDT 2021

Committee Statement

Committee Statement: This revision has been made since cylinders at compressed gas manufacturing facilities may require exposure to temperatures beyond the extremes listed in 7.1.10.5. Cylinders may be exposed to subambient temperatures during a filling processes. A compressed gas cylinder filler may not be able to prove the cylinder was designed for such operation but could provide evidence that the mechanical properties of the cylinder are not degraded after processing under such conditions.

Response Message: SR-11-NFPA 55-2021

Public Comment No. 20-NFPA 55-2021 [Section No. 7.1.10.5]

Second Revision No. 17-NFPA 55-2021 [Section No. 7.6.2.2]

7.7.2.2*

Bulk gas systems for flammable gases ~~other than hydrogen~~ shall be in accordance with Table 10.4.2.2.1(a), Table 10.4.2.2.1(b), or Table 10.4.2.2.1(c) where the quantity of flammable compressed gas exceeds 5000 scf (141.6 Nm^3).

A.7.7.2.2

Even though Chapter 10 is specific to hydrogen gas systems, the tables referenced in 7.7.2.2 [e.g., Table 10.4.2.2.1(a) through Table 10.4.2.2.1(c)] can be used for all flammable gases, including hydrogen.

7.7.2.2.1

Where fire barriers are used as a means of distance reduction, fire barriers shall be in accordance with 10.4.2.2.4.

7.7.2.2.2

Mobile acetylene trailer systems (MATS) shall be located in accordance with 15.2.3.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Fri Nov 05 11:12:30 EDT 2021

Committee Statement

Committee Statement: This annex section has been created for clarification. The use of the phrase "...other than hydrogen..." excludes hydrogen. This clause said that all flammable gases, "except hydrogen" had to meet the separation distances in Chapter 10.4. This does not make sense since Section 10.4 is intended for Hydrogen Gas Systems. Removing the clause "other than hydrogen" solves this issue.

Response Message: SR-17-NFPA 55-2021

Public Comment No. 41-NFPA 55-2021 [Section No. 7.6.2.2]

Second Revision No. 5-NFPA 55-2021 [New Section after 7.9.2.2.1.4]

7.10.2.2.1.5

The minimum distance requirement for exposures shall be reduced to 5 ft (1.5 m) from buildings and 25 ft (7.6 m) from exit discharges where gases are stored in gas cabinets as specified in this code.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 11:46:37 EDT 2021

Committee Statement

Committee Statement: This new section harmonizes the minimum distances with Section 6004.3.2.1 of the IFC.

Response Message: SR-5-NFPA 55-2021

Public Comment No. 14-NFPA 55-2021 [New Section after 7.9.2.2.1.4]

Second Revision No. 12-NFPA 55-2021 [New Section after 7.10.5.2]

7.12 Subatmospheric Gas (Type 1 and Type 2) Sources.

7.12.1 General.

The storage and use of subatmospheric gas (type 1 and type 2) sources shall meet the requirements of 7.14.2.1 through 7.14.2.6 in NFPA 318.

7.12.1.1

Where the storage and use of subatmospheric gas (type 1 and type 2) sources do not meet the requirement in 7.11.1 , the storage and use of subatmospheric gas (type 1 and type 2) shall meet all the requirements of this standard based on the assigned hazard categories listed in Section 5.1 .

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 13:28:19 EDT 2021

Committee Statement

Committee Statement: The revision has been made by the committee since it is appropriate for NFPA 55 and NFPA 318 does not provide all the requirements for SAGS storage systems.

Response Message: SR-12-NFPA 55-2021

Public Comment No. 18-NFPA 55-2021 [New Section after 7.10.5.2]

Second Revision No. 24-NFPA 55-2021 [Section No. 11.3.2.2]

11.3.2.2*

The minimum distance from outdoor bulk liquefied hydrogen systems of the indicated capacity shall be in accordance with ~~Table 11.3.2.2~~ one of the following:

(1) Table 11.3.2.2

(2) Chapter 8 of NFPA 2

Table 11.3.2.2 Minimum Distance from Outdoor Bulk Liquefied Hydrogen Systems to Exposures

	Total Bulk Liquefied Hydrogen Storage					
	39.7 gal to 3, 500 gal	150 L to 13,250 L	3, 501 gal to 15,000 gal	13,251 L to 56,781 L	15,001 gal to 75,000 gal	56,782 L to 283,906 L
Type of Exposure	ft	m	ft	m	ft	m
Exposure Group 1						
1. Lot lines	25	7.6	50	15	75	23
2. Air intakes (HVAC, compressors, etc.)	75	23	75	23	75	23
3. Wall openings						
(a) Operable openings in buildings and structures	75	23	75	23	75	23
4. Ignition sources such as open flames and welding	50	15	50	15	50	15
Exposure Group 2						
5. Places of public assembly	75	23	75	23	75	23
6. Parked cars (distance is measured from the container fill connection)	25	7.6	25	7.6	25	7.6
Exposure Group 3						
7. Building or structure						
(a) Buildings constructed of noncombustible or limited-combustible materials						
(1) Sprinklered building or structure or unsprinklered building or structure having noncombustible contents	5[a]	1.5	5[a]	1.5	5[a]	1.5

	Total Bulk Liquefied Hydrogen Storage					
	39.7 gal to 3, 500 gal	150 L to 13,250 L	3, 501 gal to 15,000 gal	13,251 L to 56,781 L	15,001 gal to 75,000 gal	56,782 L to 283,906 L
Type of Exposure	ft	m	ft	m	ft	m
(2) Unsprinklered building or structure with combustible contents						
(i) Adjacent wall(s) with fire resistance rating less than 3 hours	25	7.6	50	15	75	23
(ii) Adjacent wall(s) with fire resistance rating of 3 hours or greater[b]	5	1.5	5	1.5	5	1.5
(b) Buildings of combustible construction						
(1) Sprinklered building or structure	50	15	50	15	50	15
(2) Unsprinklered building or structure	50	15	75	23	100	30.5
8. Flammable gas storage or systems (other than hydrogen) above or below ground	50	15	75	23	75	23
9. Between stationary liquefied hydrogen containers	5	1.5	5	1.5	5	1.5
10. All classes of flammable and combustible liquids (above ground and vent or fill openings if below ground)[c]	50	15	75	23	100	30.5
11. Hazardous materials storage or systems including liquid oxygen storage and other oxidizers, above or below ground	75	23	75	23	75	23

	Total Bulk Liquefied Hydrogen Storage					
	39.7 gal to 3, 500 gal	150 L to 13,250 L	3, 501 gal to 15,000 gal	13,251 L to 56,781 L	15,001 gal to 75,000 gal	56,782 L to 283,906 L
Type of Exposure	ft	m	ft	m	ft	m
12. Heavy timber, coal, or other slow-burning combustible solids	50	15	75	23	100	30.5
13. Wall openings						
(a) Unopenable openings in buildings and structures	25	7.6	50	15	50	15
14. Inlet to underground sewers	10	3	10	3	10	3
15. Utilities overhead, including electric power, building services, or hazardous materials piping systems						
(a) Horizontal distance from the vertical plane below the nearest overhead wire of an electric trolley, train, or bus line	50	15	50	15	50	15
(b) Horizontal distance from the vertical plane below the nearest overhead electrical wire	25	7.5	25	7.5	25	7.5
(c) Piping containing other hazardous materials	15	4.6	15	4.6	15	4.6
16. Flammable gas metering and regulating stations above grade	15	4.6	15	4.6	15	4.6

[a] Portions of wall less than 10 ft (3.1 m) (measured horizontally) from any part of a system must have a fire resistance rating of not less than 1 hour.

[b] Exclusive of windows and doors.

[c] The separation distances for Class IIIB combustible liquids are permitted to be reduced to 15 ft (4.6 m).

11.3.2.2.1*

The distance shall be measured from the part of the bulk liquefied hydrogen system closest to the exposure.

11.3.2.2.2*

The distances for combined gaseous and liquefied hydrogen storage systems~~,~~ upstream of their respective source valves~~,~~ shall be taken from 10.4.2.2 for the gaseous system and ~~from~~ 11.3.2.2 for the liquefied system.

11.3.2.2.3*

The vent stack shall not be considered part of the bulk liquid hydrogen system ~~for~~ when determining separation distances in 11.3.2.2. *(See Table 11.3.2.2.)*

11.3.2.2.4

The distances in 1, 7, 8, 10, 11, 12, and 13 in Table 11.3.2.2 shall be permitted to be reduced by two-thirds, but to not less than 5 ft (1.5 m), for insulated portions of the system.

11.3.2.2.5*

The distances in 1, 7, 8, 10, 11, 12, and 13 in Table 11.3.2.2 shall be permitted to be reduced to 0 ft (0 m) ~~by~~ with the use of fire barrier walls having a fire resistance rating of not less than 2 hours when constructed in accordance with 8.6.2.1 and 11.3.2.2.

11.3.2.2.6

The fire barrier or the insulated liquefied hydrogen tank shall interrupt the line of sight between uninsulated portions of the liquefied hydrogen storage system and the exposure.

11.3.2.2.7

The fire barrier wall shall not have more than two sides at a 90 degree (1.57 rad) ~~directions~~ angle or not more than three sides with connecting angles of not less than 135 degrees (2.36 rad).

11.3.2.2.7.1*

The connecting angles between fire barrier walls shall be permitted to be reduced to less than 135 degrees (2.36 rad) for installations consisting of three walls when in accordance with 8.12.2.7.2.

11.3.2.2.7.2*

When fire barrier walls of three sides are used, piping and control systems serving stationary tanks shall be located at the open side of the enclosure created by the barrier walls to provide access for filling and ventilation.

(A)

Vertical tanks shall be located at a distance not less than one tank diameter from the enclosing walls.

(B)

Where horizontal tanks are used, the distance to any enclosing wall shall be not less than one-half the length of the tank.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Fri Nov 05 14:27:58 EDT 2021

Committee Statement

Committee This requirement adds the ability of a user of NFPA 55 to use NFPA 2, Chapter 8

Statement:	in addition to the material within NFPA 55's 11.3.2.2.
Response Message:	SR-24-NFPA 55-2021

Public Comment No. 16-NFPA 55-2021 [Section No. 11.3.2.2]

Second Revision No. 14-NFPA 55-2021 [Section No. 14.12.1.1]

14.12.1.1 Ethylene Oxide Storage Areas.

Ethylene oxide storage areas shall be equipped with a deluge system in accordance with NFPA 11 ~~NFPA 16~~ .

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 14:07:45 EDT 2021

Committee Statement

Committee Statement: Since the First Draft meeting and creation of CI-59, NFPA 11 has been issued and is the appropriate document to be referenced.

Response Message: SR-14-NFPA 55-2021

Second Revision No. 7-NFPA 55-2021 [Section No. A.6.3.1.1]

A.6.3.1.1 Maximum Allowable Quantity.

Table 6.3.1.1 allows for a 100 percent increase in the MAQ for quantities stored in approved cabinets or other specified control. A combination of storage both inside and outside approved cabinets within the control area is permitted. Storage amounts up to the MAQ are allowed outside of cabinets where the 100 percent increase is applied. Footnotes ([d]) and ([e]) allow quantities to be increased by an additional 100 percent where sprinklers are installed throughout the building.

As an example, Table A.6.3.1.1 shows the MAQ for oxidizing gas with various control scenarios.

Table A.6.3.1.1 Oxidizing Gas with Various Control Scenarios

Controls	Maximum Allowed Outside Cabinets		Maximum Total Allowed	
	scf	Nm^3	scf	Nm^3
No cabinets, no sprinklers	1500	42.48	1500	42.48
No cabinets, fully sprinklered	3000	84.96	3000	84.96
Cabinets, no sprinklers	1500	42.48	3000	84.96
~~No cabinets~~ Cabinets , fully sprinklered	3000	84.96	6000	169.92

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 12:25:12 EDT 2021

Committee Statement

Committee Statement: This revision corrects an editorial typo from the first draft report.

Response Message: SR-7-NFPA 55-2021

Public Comment No. 15-NFPA 55-2021 [Section No. A.6.3.1.1]

Second Revision No. 21-NFPA 55-2021 [Section No. A.10.4.2.2.1]

A.10.4.2.2.1

The exposures integral to Table 10.4.2.2.1(a), Table 10.4.2.2.1(b), and Table 10.4.2.2.1(c) have been arranged into groups based on similar risks. The estimated leak area was changed from 3 percent to 1 percent of the pipe diameter to evaluate separation distances. The thresholds are applicable to the exposures identified in each group, as follows:

(1) *Group 1 Exposures.* The distances specified are those required to reduce the radiant heat flux level to 1500 Btu/hr/ft^2 (4732 W/m^2) at the property line or the distance to a point in the unignited hydrogen jet where the hydrogen content is reduced to an 8 percent mole fraction (i.e., volume fraction) of hydrogen, whichever is greater. In all cases, the distance required to achieve an 8 percent mole fraction was the greater distance and was used to establish the requirements.

(2) *Group 2 Exposures.* The distances specified are those required to reduce the radiant heat flux level to 1500 Btu/hr/ft^2 (4732 W/m^2) for persons exposed a maximum of 3 minutes.

(3) *Group 3 Exposures.* The distances specified are those required to reduce the radiant heat flux level to 6340 Btu/hr/ft^2 (20,000 W/m^2) or the visible flame length for combustible materials, or a radiant heat flux level of 8000 Btu/hr/ft^2 (25,237 W/m^2) or the visible flame length for noncombustible equipment. In both cases, the visible flame length was used to establish the requirements.

A 50 percent safety factor was added to all the resulting separation distance values.

Table 10.4.2.2.1(a) Exposures Group 1~~(a)~~ . Lot lines (i.e., property lines) are those property lines between parcels and should not be construed to be the imaginary property lines that are drawn for the purposes of protecting the exterior walls of multiple buildings placed on the same lot or parcel. Railroad easements that are not accessible to the public other than by rail travel can be used as a means of spatial separation, with the required separation being measured between the hydrogen system and the nearest railroad track. It should be noted that in these cases, the addition or relocation of track can result in an encroachment that will necessitate relocation of the hydrogen system at the system user's expense.

Where the property on the other side of a property line is determined to be unbuildable or unoccupiable due to natural features, including, but not limited to, waterways, terrain, wetlands, or similar features, encroachment by the hydrogen system on the property line can be acceptable with the approval of the authority having jurisdiction. Should the property that is encroached upon become buildable or otherwise occupiable, the hydrogen system location should be reevaluated by the system user and the AHJ notified of the results.

Table 10.4.2.2.1(a) Exposure Group 2~~(a)~~ . The exposed persons of concern are non-work-related persons or members of the public who are not involved with servicing the system, ~~because~~ as these persons typically are neither trained nor knowledgeable in the operation of the system~~,~~ but are on the premises. By comparison, service personnel or those involved with servicing the system are trained and engaged in activities related to the system operation, including, but not limited to, inspecting the system , monitoring system inventory, delivering product, system maintenance, or similar functions. Administrative controls, engineering controls, or construction features are typically used to restrict persons other than service personnel from being within the zone of potential exposure. The permit holder is responsible for managing and administering the controls to restrict access. Examples of such controls could include painted lines or signs or a physical barrier such as a fence.

CGA PS-48, *Clarification of Existing Hydrogen Setback Distances and Development of New Hydrogen Setback Distances in NFPA 55*, provides guidance and clarification on the types of exposures, as well as ~~applications~~ the application of the separation distances.

Submitter Information Verification

Committee: IMG-AAA
Submittal Date: Fri Nov 05 13:49:56 EDT 2021

Committee Statement

Committee Statement: The table titles have been revised to be consistent with the Tables.
Response Message: SR-21-NFPA 55-2021

Second Revision No. 15-NFPA 55-2021 [Sections A.16.3.3.3, A.16.3.3.4]

A.16.3.3.3

Wherever a foam plastic insulating material has been tested in accordance with NFPA 286 and complies with the criteria of 12.5.4.2 in NFPA 1 , the foam plastic insulating material should be permitted for use outdoors without a protective cover. See A.16.3.3.4 for information on polyurethane foam .

A.16.3.3.4

Wherever a foam plastic insulating material has been tested in accordance with NFPA 286 and complies with the criteria of 12.5.4.2 in NFPA 1 , the foam plastic insulating material should be permitted for use indoors without a protective thermal barrier. Polyurethane foam is an example of foam plastic insulating material.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Thu Nov 04 14:11:00 EDT 2021

Committee Statement

Committee Statement: The committee agrees with the substantiation of the public comment and that NFPA 1 allows foam plastic insulating materials tested to NFPA 286 (with the acceptance criteria indicated) for use exposed whenever a foam plastic insulating material is required to be tested to ASTM E84 or UL 723.

Response Message: SR-15-NFPA 55-2021

Public Comment No. 6-NFPA 55-2021 [Sections A.16.3.3.3, A.16.3.3.4]

Second Revision No. 20-NFPA 55-2021 [Section No. I.1.2.4]

I.1.2.4 ASTM Publications.

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

ASTM A380/A380 M, *Standard Practice for Cleaning, Descaling, and Passivation of Stainless Steel Parts, Equipment, and Systems*, 2017.

~~ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials* , 2020.~~

ASTM E681, *Standard Test Method for Concentration Limits of Flammability of Chemicals (Vapors and Gases)*, 2009, reaffirmed 2015.

Submitter Information Verification

Committee: IMG-AAA

Submittal Date: Fri Nov 05 13:44:01 EDT 2021

Committee Statement

Committee Statement: Updated year to the current edition per the NFPA manual of style.

Response Message: SR-20-NFPA 55-2021

Public Comment No. 7-NFPA 55-2021 [Section No. I.1.2.4]

Second Revision No. 3-NFPA 55-2021 [Section No. I.3]

Detail SR-29

I.3 References for Extracts in Informational Sections.

NFPA 1, *Fire Code*, 2021 edition.

NFPA 72®, *National Fire Alarm and Signaling Code®*, 2022 edition.

NFPA 99, *Health Care Facilities Code*, 2021 edition.

~~NFPA *101®*, *Life Safety Code®*, 2021 edition.~~

NFPA 400, *Hazardous Materials Code*, ~~2019~~2022 edition.

NFPA 5000®, *Building Construction and Safety Code®*, 2021 edition.

Submitter Information Verification

Committee: IMG-AAA
Submittal Date: Tue Nov 02 13:29:55 EDT 2021

Committee Statement

Committee Statement: Updated NFPA 400 edition per the NFPA Manual of Style.
Response Message: SR-3-NFPA 55-2021