



First Revision No. 20-NFPA 1124-2014 [Global Input]

Change the Title of the document as follows:

Code for the Manufacture, Transportation and Storage of Fireworks and Pyrotechnic Articles

Submitter Information Verification

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Committee Statement

Committee Statement: Retail Sales was removed from the title of the document to implement the Standards Council Decision #14-1.

Response Message:



First Revision No. 21-NFPA 1124-2014 [Chapter 1]

Chapter 1 Administration

1.1 Scope.

This code shall provide regulations for the construction, use, and maintenance of buildings and facilities for the following:

- (1) The manufacture and storage of fireworks, novelties, and pyrotechnic articles at manufacturing facilities
- (2) The storage of display fireworks, pyrotechnic articles, salute powder, pyrotechnic and explosive compositions, and Black Powder at other than display sites
- (3) The storage of consumer fireworks at distribution facilities display fireworks storage facilities
~~The retail sales and related storage of consumer fireworks in consumer fireworks retail sales (CFRS) facilities and stores~~
- (4) The transportation on public highways of fireworks, pyrotechnic articles, and components thereof containing pyrotechnic or explosive materials

1.1.1

This code shall not apply to the retail sales and related storage of consumer fireworks at the same site.

1.2 Purpose.

The purpose of this code shall be to establish reasonable minimum fire and life safety requirements for the manufacture, transportation, and storage of fireworks, pyrotechnic articles, and any component(s) thereof containing pyrotechnic or explosive compositions, ~~, and in the distribution and retail sales of consumer fireworks.~~

1.3 Application.

This code shall apply to the manufacture, transportation, and storage of fireworks, pyrotechnic articles, and any component(s) thereof containing pyrotechnic or explosive compositions, ~~, and to the distribution and retail sales of consumer fireworks.~~

1.3.1

This code shall also apply to the following:

- (1) Testing of fireworks at a manufacturing facility
- (2) Testing of pyrotechnic devices used in the entertainment industry
- (3) Testing of any component(s) of fireworks or pyrotechnic devices used in the entertainment industry that contain pyrotechnic or explosive compositions

1.3.2 Use of This Code.

This code is structured in a logical sequence of Chapters 4 through 8 containing specific requirements that are intended to be mutually exclusive unless specifically indicated within a chapter.

1.3.2.1 Chapter 4.

Chapter 4 shall apply to the manufacturing of all types of fireworks and pyrotechnic articles at manufacturing facilities.

1.3.2.1.1

For the storage of salute powder, pyrotechnic and explosive compositions, and Black Powder used in the manufacturing of fireworks and for the storage of finished display fireworks and pyrotechnic articles, see Chapter 5.

1.3.2.1.2

For the storage of finished consumer fireworks and pyrotechnic articles classified as explosives, 1.4G (UN0336, UN0337, UN0431, and UN0432), ~~other than the retail sales and related storage of consumer fireworks at the same site,~~ see Chapter 6 ~~5~~.

1.3.2.2 Chapter 5.

Chapter 5 shall apply to the storage of salute powder, pyrotechnic and explosive compositions, and Black Powder used in the manufacturing of fireworks and to finished display fireworks and pyrotechnic articles not classified as explosives, 1.4G (UN0336, UN0337, UN0431, and UN0432).

1.3.2.3 Chapter 6 5.

Chapter 6 5 shall apply to the storage of finished consumer fireworks at manufacturing and distribution facilities. display fireworks storage facilities.

1.3.2.3.1

~~Chapter 6 shall not apply to the storage of consumer fireworks at CFRS facilities and stores.~~

1.3.2.3.2

~~For the storage of consumer fireworks related to the retail sales of consumer fireworks at CFRS facilities or stores, see Chapter 7.~~

1.3.2.4 Chapter 7.

~~Chapter 7 shall apply to the retail sales of consumer fireworks to the public at CFRS facilities and stores and to the related storage of consumer fireworks at such facilities.~~

1.3.2.4 Chapter 8.

Chapter 8 shall apply to the transportation on public highways of fireworks, pyrotechnic articles, and any component(s) containing pyrotechnic or explosive compositions or explosive materials.

1.3.3

This code shall not apply to the use of consumer fireworks by the general public.

1.3.4

This code shall not apply to the display site storage and use of fireworks and pyrotechnic articles conducted in accordance with NFPA 1123, *Code for Fireworks Display*.

1.3.5

This code shall not apply to the transportation of fireworks, pyrotechnic devices used in the entertainment industry, or any component(s) thereof containing pyrotechnic or explosive compositions, where such transportation is under the jurisdiction of the U.S. Department of Transportation (U.S. DOT) or any other national transportation authority.

1.3.6

This code shall not apply to the manufacture, transportation, or storage of model rockets or high power rockets, model rocket motors or high power rocket motors, model rocket motor reloading kits or modules, or high power motor reloading kits or modules, as covered by one of the following codes:

- (1) NFPA 1122, *Code for Model Rocketry*
- (2) NFPA 1125, *Code for the Manufacture of Model Rocket and High Power Rocket Motors*
- (3) NFPA 1127, *Code for High Power Rocketry*

1.3.7

This code shall not apply to the manufacture, transportation, and storage of fireworks by federal and state military agencies.

1.3.8

This code shall not apply to the storage of pyrotechnic devices at the site of use and the use of pyrotechnic special effects in the entertainment industry conducted in accordance with NFPA 1126, *Standard for the Use of Pyrotechnics Before a Proximate Audience*.

1.3.9

This code shall not apply to laboratories covered by NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals*.

1.3.10

This code shall not apply to fireworks or pyrotechnic articles used in conjunction with flammable gas or flammable liquid special effects conducted in accordance with NFPA 1123 *Code for Fireworks Display* and NFPA 1126, *Standard for the Use of Pyrotechnics Before a Proximate Audience*.

1.3.11*

This code shall not apply to novelties for other than their manufacture.

1.4 Retroactivity.

The provisions of this code reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this code at the time the code was issued.

1.4.1

Unless otherwise specified, the provisions of this code shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the code. Where specified, the provisions of this code shall be retroactive.

1.4.2

In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this code deemed appropriate.

1.4.3

The retroactive requirements of this code shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

1.5 Equivalency.

Nothing in this code is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this code.

1.5.1

Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.

1.5.2

The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.6 Enforcement.

This code shall be administered and enforced by the authority having jurisdiction designated by the governing authority. (See Annex F for sample wording for enabling legislation.)

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Committee Statement

Committee Statement: Revisions to Chapter 1 were made to implement Standards Council Decision #14-1.

The Committee modified the proposed scope outlined in the Standards Council decision to address storage at distribution facilities not related to the retail sales of consumer fireworks. Consumer fireworks are sometimes incorporated into display shows, therefore modifications were made to allow storage of consumer fireworks at display fireworks storage facilities.

Response Message:



First Revision No. 1-NFPA 1124-2014 [Section No. 2.2]

2.2 NFPA Publications.

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

NFPA 10, *Standard for Portable Fire Extinguishers*, 2010 2013 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2013 edition.

NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals*, 2011 2015 edition.

NFPA 70[®], *National Electrical Code[®]*, 2011 2017 edition.

NFPA 72[®], *National Fire Alarm and Signaling Code*, 2013 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, 2013 2016 edition.

NFPA 101[®], *Life Safety Code[®]*, 2012 2015 edition.

NFPA 102, *Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures*, 2011 edition.

NFPA 259, *Standard Test Method for Potential Heat of Building Materials*, 2008 2013 edition.

NFPA 400, *Hazardous Materials Code*, 2013 2016 edition.

NFPA 1122, *Code for Model Rocketry*, 2013 edition.

NFPA 1123, *Code for Fireworks Display*, 2010 2014 edition.

NFPA 1125, *Code for the Manufacture of Model Rocket and High Power Rocket Motors*, 2012 2017 edition.

NFPA 1126, *Standard for the Use of Pyrotechnics Before a Proximate Audience*, 2011 2016 edition.

NFPA 1127, *Code for High Power Rocketry*, 2013 edition.

PYR-1128, *Standard Method of Fire Test for Flame Breaks*, 2013 edition.

PYR-1129, *Standard Method of Fire Test for Covered Fuse on Consumer Fireworks*, 2013 edition.

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Committee Statement

Committee Statement: Standards have been updated to current editions. NFPA 13, NFPA 72, and NFPA 102 have been removed from the references since they are no longer referenced in the document.

Response Message:

[Public Input No. 1-NFPA 1124-2013 \[Section No. 2.2\]](#)



First Revision No. 19-NFPA 1124-2014 [Section No. 2.3.1]

2.3.1 APA Publication Publications .

American Pyrotechnics Association, P.O. Box 30438, Bethesda, MD 20824.

APA 87-1, *Standard for the Construction and Approval for Transportation of Fireworks, Novelties, and Theatrical Pyrotechnics, 2004 2001* edition.

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Committee Statement

Committee Statement: Corrected year to current edition which is 2001.

Response Message:



First Revision No. 3-NFPA 1124-2014 [Section No. 2.4]

2.4 References for Extracts in Mandatory Sections.

~~NFPA 101[®], Life Safety Code[®], 2012 edition.~~

~~NFPA 400, Hazardous Materials Code, 2013 2016 edition.~~

~~NFPA 495, Explosive Materials Code, 2010 2013 edition.~~

~~NFPA 1123, Code for Fireworks Display, 2010 2014 edition.~~

~~NFPA 1125, Code for the Manufacture of Model Rocket and High Power Rocket Motors, 2012 2017 edition.~~

~~NFPA 1126, Standard for the Use of Pyrotechnics Before a Proximate Audience, 2011 2016 edition.~~

~~NFPA 5000[®], Building Construction and Safety Code[®], 2012 edition.~~

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Committee Statement

Committee Statement: Updated to current editions. Removed NFPA 101 and 5000 from list of references since no longer extracted references in document. Added reference for NFPA 259.

Response Message:



First Revision No. 22-NFPA 1124-2014 [Chapter 3]

Chapter 3 Definitions

3.1 General.

The definitions contained in this chapter shall apply to the terms used in this code. Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved.

Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ).

An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3* Code.

A standard that is an extensive compilation of provisions covering broad subject matter or that is suitable for adoption into law independently of other codes and standards.

3.2.4 Labeled.

Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

3.2.5* Listed.

Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.6 Shall.

Indicates a mandatory requirement.

3.2.7 Should.

Indicates a recommendation or that which is advised but not required.

3.3 General Definitions.

3.3.1* Aerial Shell.

A cartridge containing pyrotechnic composition, a burst charge, and an internal time fuse or module, that is propelled into the air from a mortar and that is intended to burst at or near apogee. [1123, 2010 2014]

3.3.2 Airburst.

A pyrotechnic device that is suspended in the air to simulate outdoor aerial fireworks shells without producing hazardous debris. [1126, 2011 2016]

3.3.3 Area.

3.3.3.1 Consumer Fireworks Retail Sales (CFRS) Area.

The portion of a consumer fireworks retail sales facility or store, including the immediately adjacent aisles, where consumer fireworks are located for the purpose of retail display and sale to the public.

3.3.3.1 Process Area.

An outside area complying with the applicable provisions of this code for a process building that is used for the manufacture of fireworks and pyrotechnic articles.

3.3.4 Artificial Barricade.

See 3.3.5.1.

3.3.5 Barricade.

A natural or artificial barrier that effectively screens a magazine, building, railway, or highway from the effects of an explosion in a magazine or building containing explosives.

3.3.5.1 Artificial Barricade.

An artificial mound or revetted wall of earth of a minimum thickness of 3 ft (0.9 m).

3.3.5.2 Natural Barricade.

A natural outdoor feature(s), such as hills or trees, with a density sufficient to prevent surrounding exposures that require protection from being seen from a magazine or building containing explosives when the trees are bare of leaves.

3.3.5.3* Screen Barricade.

Any barrier that contains the embers and debris from a fire or deflagration in a process building, thus preventing propagation of fire to other buildings or areas. [1125, 2012 2017]

3.3.6 Binary Material.

See 3.3.7, *Binary System*.

3.3.7* Binary System.

A two-component pyrotechnic system. [1126, 2011 2016]

3.3.8 Black Powder.

See 3.3.44.1 3.3.55.1.

3.3.9 Building.**3.3.9.1* Consumer Fireworks Storage Building.**

A building at a manufacturing facility in which finished consumer fireworks are received, stored and shipped but in which no manufacturing is performed.

3.3.9.2* Consumer Fireworks Work Building, Room, or Area.

A building, room or area at a manufacturing facility where finished consumer fireworks are picked and packaged into retail packages, including assortments and those picked and packed into DOT-approved packaging, and where related operations are performed.

3.3.9.3* Inhabited Building.

Any building or structure regularly used in whole or part as a place of human habitation.

3.3.9.4* Mechanical Building.

A building that contains mechanical, electrical, air-conditioning, or other equipment and that usually is connected to a process or nonprocess building.

3.3.9.5* Mixing Building.

Any building used primarily for mixing and blending of pyrotechnic compositions.

3.3.9.6* Nonprocess Building.

An office building, a warehouse, or other building or area located in a manufacturing facility in which no fireworks, pyrotechnic or explosive composition, pyrotechnic articles, or components containing pyrotechnic or explosive materials are processed or stored.

3.3.9.7* Process Building.

Any building or any room at a manufacturing facility where fireworks, pyrotechnic articles, or component(s) containing explosive or pyrotechnic compositions are manufactured.

3.3.9.8 Shipping Building.

A building used for the packing of assorted display fireworks or for the loading of display fireworks onto vehicles for shipment to purchasers.

3.3.9.9 Storage Building.

A building, or structure, or facility in which consumer fireworks in any state of processing are stored, but in which no processing or manufacturing is performed.

3.3.9.10* Unoccupied Building.

A building that is normally unoccupied during its entire period of daily operations.

3.3.10 Bulk Salute.

See 3.3.57.2 3.3.68.2.

3.3.11 Bulk Salute Powder.

See 3.3.44.3.1 3.3.55.3.1.

3.3.12 Bullet-Sensitive Explosive Material.

See 3.3.32.2 3.3.39.2.

3.3.13* Comet.

A single pellet of pyrotechnic composition that is ignited and simultaneously propelled into the air from a mortar or tube; a comet is self-consuming as it rises into the air and can be designed to split apart. [1123, 2010 2014]

3.3.14 Common Fireworks.

See [3.3.25.1](#) [3.3.30.1](#), *Consumer Fireworks*.

3.3.15 Composition.**3.3.15.1 Explosive Composition.**

Any chemical compound or mixture, the primary purpose of which is to function by explosion, producing an audible effect (report) in a fireworks device.

3.3.15.2 Pyrotechnic Composition.

A chemical mixture that, upon burning, produces visible, brilliant displays, bright lights, or sounds.

3.3.15.3 Whistle Composition.

A pyrotechnic composition that when pressed into a tube with an open end burns in an oscillatory manner to produce an audible effect.

3.3.16 Consumer Fireworks.

See [3.3.25.1](#) [3.3.30.1](#).

3.3.17 Consumer Fireworks Retail Sales (CFRS) Area.

See [3.3.3.1](#).

3.3.18 Consumer Fireworks Retail Sales (CFRS) Facility.

See [3.3.29.1](#).

3.3.19* Consumer Fireworks Retail Sales (CFRS) Stand.

A temporary or permanent building or structure that has a floor area not greater than 800 ft^2 (74 m^2), other than tents, canopies, or membrane structures, that is used primarily for the retail display and sale of consumer fireworks to the public.

3.3.17 Consumer Fireworks Storage Building.

See [3.3.9.1](#).

3.3.18 Consumer Fireworks Work Building, Room, or Area.

See [3.3.9.2](#).

3.3.19* Covered Fuse.

A fuse or designed point of ignition that is protected against accidental ignition by contact with a spark, smoldering items, or small open flame.

3.3.19 Display Fireworks.

See [3.3.25.2](#) [3.3.30.2](#).

3.3.20 Distribution Facility.

See [3.3.29.2](#).

3.3.20* DOT-Approved Packaging.

Packaging for fireworks complying with the regulations of the U.S. Department of Transportation (DOT), Title 49, Part [CFR](#) 178.

3.3.21 Electric Match.

An electric device that contains a small amount of pyrotechnic material that ignites when current flows through the device. [\[1123, 2010 2014\]](#)

3.3.22 Explosive.

Any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion. [\[495, 2010 2013\]](#)

3.3.23 Explosive Composition.

See [3.3.15.1](#).

3.3.24 Facility.**3.3.25.1 Consumer Fireworks Retail Sales Facility (CFRS Facility).**

A permanent or temporary building or structure, CFRS stand, tent, canopy, or membrane structure that is used primarily for the retail display and sale of consumer fireworks to the public.

3.3.25.2 Distribution Facility.

A place where consumer fireworks are received, stored, picked, packaged and packed into shipping cartons, and shipped to other distribution facilities, manufacturing facilities, or CFRS facilities or stores.

3.3.24.1 Manufacturing Facility.

A place where manufacturing of fireworks, novelties, pyrotechnic articles, or components for these devices is conducted.

3.3.25* Fireworks.

Any composition or device for the purpose of producing a visible or an audible effect for entertainment purposes by combustion, deflagration, or detonation, that meets the definition of *Consumer Fireworks* or *Display Fireworks* as set forth in this code.

3.3.25.1* *Consumer Fireworks.*

Small fireworks devices containing restricted amounts of pyrotechnic composition, designed primarily to produce visible or audible effects by combustion, that comply with the construction, chemical composition, and labeling regulations of the U.S. Consumer Product Safety Commission (CPSC), as set forth in CPSC 16 CFR 1500 and 1507, 49 CFR 172, and APA Standard 87-1, *Standard for the Construction and Approval for Transportation of Fireworks, Novelties, and Theatrical Pyrotechnics.*

3.3.25.2* *Display Fireworks.*

Large fireworks devices that are explosive materials intended for use in fireworks displays and designed to produce visible or audible effects by combustion, deflagration, or detonation, as set forth in ~~Title in~~ 27 CFR Part 555, Title 49 CFR 172, and APA Standard 87-1, *Standard for the Construction and Approval for Transportation of Fireworks, Novelties, and Theatrical Pyrotechnics.*

3.3.27 *Flame Break.*

~~A solid material without holes or other openings, used to retard the spread of flame.~~

3.3.26 *Flashpowder.*

See [3.3.44.3](#) [3.3.55.3](#) , *Salute Powder.*

3.3.27 *Highway.*

Any public street, public alley, or public road, including a privately financed, constructed, or maintained road, that is regularly and openly traveled by the general public.

3.3.28 *Inhabited Building.*

See [3.3.9.3](#).

3.3.31 *Limited-Combustible Material.*

See [3.3.39.3](#) .

3.3.29 *Magazine.*

A building or structure, other than an explosives manufacturing building, approved for the storage of explosive materials.

3.3.30* *Manufacturing.*

The mixing, pressing, and loading of explosive or pyrotechnic compositions for the purpose of producing fireworks or pyrotechnic articles.

3.3.31 *Manufacturing Facility.*

See [3.3.24.1](#) [3.3.29.3](#) .

3.3.32 *Material.*

3.3.32.1 *Binary Material.*

See [3.3.7](#) , *Binary System. [1126,2011 2016]*

3.3.32.2* *Bullet-Sensitive Explosive Material.*

Explosive material that can be detonated by 150 gr (9.8 g) M2 ball ammunition having a nominal muzzle velocity of 2700 ft/sec (824 m/sec) where fired from a 0.30 caliber rifle at a distance of 100 ft (30 m), measured perpendicularly. [\[495, 2010 2013\]](#)

3.3.35.3 *Limited-Combustible Material.*

~~A material that meets the conditions found in~~ [6.4.2.2](#) .

3.3.35.4 *Noncombustible Material.*

~~A material that meets the conditions found in~~ [6.4.2.1](#) .

3.3.32.3* *Pyrotechnic Material (Pyrotechnic Special Effects Material).*

A chemical mixture used in the entertainment industry to produce visible or audible effects by combustion, deflagration, or detonation.

3.3.33 *Mechanical Building.*

See [3.3.9.4](#).

3.3.37* *Mercantile Occupancy.*

~~An occupancy used for the display and sale of merchandise.~~ [\[5000 , 2012\]](#)

3.3.34* *Mine.*

A device containing multiple pyrotechnic effects that are simultaneously ignited and dispersed by a lift charge into the air from mortar or tube. [\[1123, 2010 2014\]](#)

3.3.35 Mixing Building.

See 3.3.9.5.

3.3.40 Mobile Storage Unit.

~~A movable structure such as a box, semi-trailer, or other movable container.~~

3.3.36 Motor Vehicle.

Any self-propelled vehicle, truck, tractor, semitrailer, or truck-trailer combination used for the transportation of freight over public highways. [495, 2010 2013]

3.3.37 Natural Barricade.

See 3.3.5.2.

3.3.43 Noncombustible or Limited-Combustible Material.

See 3.3.39.4.

3.3.38 Nonprocess Building.

See 3.3.9.6.

3.3.39* Novelties.

Small devices containing limited amounts of pyrotechnic or explosive composition that produce a visible or an audible effect and that are not classified as consumer fireworks.

3.3.40* Oxidizer.

Any solid or liquid material that readily yields oxygen or other oxidizing gas or that readily reacts to promote or initiate combustion of combustible materials and that can, under some circumstances, undergo a vigorous self-sustained decomposition due to contamination or heat exposure. [400,2013 2016]

3.3.47* Packaged Fireworks Merchandise.

~~A consumer fireworks device or group of consumer fireworks devices that has been packaged within an unperforated container or packaging material by the manufacturer, distributor, or seller for retail display and sale as a unit.~~

3.3.41 Permanent.

As applied to buildings or structures: a building or structure affixed to a foundation on a site and having fixed utility connections, that is intended to remain on the site for more than 180 consecutive calendar days.

3.3.42 Person.

An individual, a firm, a copartnership, a corporation, a company, an association, or a joint-stock association, including any trustee, receiver, assignee, or personal representative thereof.

3.3.43 Pest Control Device.

An explosive device used to control animal pests.

3.3.44 Powder.

3.3.44.1 Black Powder.

A low explosive consisting of an intimate mixture of potassium or sodium nitrate, charcoal, and sulfur. [1126, 2011 2016]

3.3.44.2 Flashpowder.

See 3.3.44.3 3.3.55.3, *Salute Powder*.

3.3.44.3 Salute Powder.

An explosive composition that makes a loud report when ignited and constitutes the sole pyrotechnic mixture in a salute.

3.3.44.3.1 Bulk Salute Powder.

A quantity of salute powder in an amount exceeding 1 lb (0.45 kg).

3.3.45 Process Area.

See 3.3.3.1 3.3.3.2.

3.3.46 Process Building.

See 3.3.9.7.

3.3.47 Public Conveyance.

Any railroad car, streetcar, ferry, cab, bus, airplane, or other vehicle that carries passengers for hire. [495, 2010 2013]

3.3.48 Pyrotechnic Article.

A pyrotechnic device, other than a device classed as fireworks, for use in the entertainment industry.

3.3.49 Pyrotechnic Composition.

See 3.3.15.2.

3.3.50* Pyrotechnic Laboratory.

A building or room used for research, development, or testing of chemicals, fireworks, pyrotechnic articles, or components containing explosive or pyrotechnic compositions.

3.3.51 Pyrotechnic Material.

See [3.3.32.3](#) [3.3.39.5](#).

3.3.52 Pyrotechnic Special Effect.

A special effect created through the use of pyrotechnic materials and devices. (See also [D.1.42, Special Effect.](#)) [[1126, 2011](#) [2016](#)]

3.3.53 Pyrotechnics.

Controlled exothermic chemical reactions that are timed to create the effects of heat, gas, sound, dispersion of aerosols, emission of visible electromagnetic radiation, or a combination of these effects to provide the maximum effect from the least volume.

3.3.54 Railway.

Any steam, electric, diesel-electric, or other railroad or railway that carries passengers for hire on the particular line or branch in the vicinity of a pyrotechnics manufacturing or storage facility.

3.3.55 Retail Sales.

The retail display and sale of merchandise to the public within a mercantile occupancy.

3.3.56 Rocket (Fireworks Rocket).

A pyrotechnic device that is designed to move by the ejection of matter produced by the internal combustion of propellants.

3.3.57 Salute.

A display firework that is designed to produce a loud report.

3.3.57.1 Aerial Salute.

A salute that functions as an aerial shell.

3.3.57.2 Bulk Salute.

A collection of salutes or salute components containing more than 2 lb (0.9 kg) of salute powder, unless the salutes are mixed with other types of aerial shells so that the total quantity of salutes to other types of shells is less than 50 percent in a single magazine.

3.3.57.3 Ground Salute.

A salute that functions from a stationary or secured position.

3.3.58 Salute Powder.

See [3.3.44.3](#) [3.3.55.3](#).

3.3.59 Screen Barricade.

See [3.3.5.3](#).

3.3.60 Shipping Building.

See [3.3.9.8](#).

3.3.61 Special Fireworks.

See [3.3.25.2](#) [3.3.30.2](#), *Display Fireworks*.

3.3.62* Stars.

Small masses of pyrotechnic compounds that are projected from aerial shells, mines, or roman candles.

3.3.63 Storage Building.

See [3.3.9.9](#).

3.3.71* Store.

A building classified as a mercantile occupancy that contains a variety of merchandise and that is not used primarily for the retail sales of consumer fireworks.

3.3.64 Temporary.

As applied to buildings or structures: a building or structure not meeting the definition for permanent structure. As applied to electrical power and wiring: electrical service in use or in place for a period of 90 consecutive calendar days or less.

3.3.65 Unoccupied Building.

See [3.3.9.10](#).

3.3.66 Whistle Composition.

See [3.3.15.3](#).

Submitter Information Verification

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Organization: [Not Specified]

Street Address:

City:

State:

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Submittal Date: Wed Oct 29 16:07:41 EDT 2014

Committee Statement

Committee Statement: Updated extracted text to match current editions. Removed terms no longer used in the document. Modified definitions to implement Standards Council Decision #14-1.

Response Message:



First Revision No. 24-NFPA 1124-2014 [Section No. 4.7]

4.7* Maximum Number of Occupants and Maximum Quantity Limitations.

Not more than 500 lb (227 kg) of pyrotechnic or explosive composition shall be permitted at one time in any process building or area.

Submitter Information Verification

Submitter Full Name: Nancy Pearce

Organization: [Not Specified]

Street Address:

City:

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Submittal Date: Tue Nov 04 14:49:15 EST 2014

Committee Statement

Committee Statement: Title indicates that section includes the number of occupants however the only requirement in this section is related to the quantity of material and not for occupant load. Title changed to better reflect content in the section.

Response Message:



First Revision No. 25-NFPA 1124-2014 [Section No. 4.9]

4.9 Fire and Explosion Prevention.

4.9.1 Rubbish, Spills, and Waste Disposal Explosives Handling and Management.

4.9.1.1

All buildings shall be kept clean and orderly, and dust or rubbish shall be kept to a minimum.

4.9.1.2

Spills of explosive or pyrotechnic composition shall be cleaned up, and materials used for cleanup shall be removed immediately from the building.

4.9.1.3

~~The spilled material shall be destroyed by immersion in water or by burning in a manner acceptable to the AHJ~~ Spilled material shall be evaluated to determine if it is suitable for reuse .

4.9.1.4

~~Rags, combustible scrap, and paper shall be kept separate from waste explosive or pyrotechnic materials~~ Spilled material to be destroyed shall be managed in accordance with applicable laws, regulations, and published standards .

4.9.1.5

~~Rags~~ Contaminated rags , combustible scrap, and paper shall be kept separate from waste explosive or pyrotechnic materials.

4.9.1.6

Rags, combustible scrap, and paper shall be kept in approved, marked containers until removed from the building.

4.9.1.7

~~Disposal containers~~ Containers for materials to be treated or destroyed shall be removed from buildings on a daily basis and removed from the plant at regular intervals.

4.9.1.8

~~Waste explosive or pyrotechnic materials shall be destroyed as described in 4.9.1.3~~ .

4.9.2 Smoking Materials.

4.9.2.1

Smoking materials shall not be carried into or in the vicinity of process buildings.

4.9.2.2

Personnel shall deposit all smoking materials at a designated location in a nonprocess building before entering a processing plant.

4.9.2.3*

Smoking shall be permitted only in office buildings or in buildings used exclusively as lunchrooms or rest rooms and in which the presence of explosive or pyrotechnic materials is prohibited.

4.9.2.4

Authorized smoking locations shall comply with the following:

- (1) They shall be marked as smoking areas.
- (2) They shall contain designated receptacles for disposal of smoking materials.
- (3) They shall be provided with at least one approved portable fire extinguisher for use on Class A fires.

4.9.2.5

Personnel whose clothing is contaminated with explosive or pyrotechnic composition to a degree that endangers personnel safety shall not be permitted in smoking areas.

4.9.3 Substance Abuse.

No employee or other person shall be permitted to enter the plant while in possession of or under the influence of alcohol, drugs, or narcotics.

4.9.4 Clothing.

4.9.4.1

Personnel working at or supervising mixing, pressing, and loading operations shall be provided with and shall wear cotton or other similarly protective clothing.

4.9.4.2

Other protective clothing, eye protection, and respiratory protection shall be worn as needed.

4.9.4.3

Washing and changing facilities shall be provided for personnel.

4.9.4.4

Work clothing shall be washed frequently to prevent the accumulation of explosive or pyrotechnic composition and shall not be worn outside the plant.

4.9.5* Oxidizers.**4.9.5.1**

Oxidizers shall be stored to avoid contact with incompatible materials such as ordinary combustibles, flammable or combustible liquids, greases, and materials that could react with the oxidizer or promote or initiate its decomposition.

4.9.5.2

Incompatible materials shall not include approved packaging materials, pallets, or other dunnage.

4.9.5.3

Oxidizer storage shall comply with NFPA 400, *Hazardous Materials Code* .

4.9.6* Machinery and Tooling.

Machinery and tooling shall be permitted to be made of ferrous metal. (See also 4.5.3.4.2.)

Submitter Information Verification

Submitter Full Name: Nancy Pearce

Organization: [Not Specified]

Street Address:

City:

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Submittal Date: Tue Nov 04 14:51:29 EST 2014

Committee Statement

Committee Statement: The requirements in this section were revised to remove the term waste. The Committee prefers not to use this term since it triggers certain environmental requirements that may not be applicable to spilled material, which can sometimes be reused. The text was also revised to indicate that any spilled material that needs to be destroyed should be managed in accordance with applicable regulations.

Response Message:



First Revision No. 26-NFPA 1124-2014 [Section No. 4.12]

4.12 Occupancies Occupant Load .

4.12.1*

The number of occupants in each process building and in each magazine shall not exceed the number necessary to conduct production operations.

4.12.2

The maximum number of occupants and maximum weight of pyrotechnic and explosive composition permitted in each process building and in each magazine shall be posted in a conspicuous location in each process building or magazine.

Submitter Information Verification

Submitter Full Name: Nancy Pearce

Organization: [Not Specified]

Street Address:

City:

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Submittal Date: Tue Nov 04 15:17:21 EST 2014

Committee Statement

Committee Statement: The title was changed to better describe the requirements in the section.

Response Message:



First Revision No. 27-NFPA 1124-2014 [Section No. 4.14.4.3]

4.14.4.3

Pyrotechnic Only pyrotechnic articles marked by the manufacturer for indoor use shall be used indoors only.

Submitter Information Verification

Submitter Full Name: Nancy Pearce

Organization: [Not Specified]

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City:

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Zip:

Submittal Date: Tue Nov 04 15:28:49 EST 2014

Committee Statement

Committee Statement: This section was revised since the text as written implied that pyrotechnic materials that were marked as indoors could not be used outdoors. The intent was to indicate that only indoor pyrotechnics can be used indoors. Indoor pyrotechnic materials can be used outdoors as indicated in 4.14.4.2.

Response Message:



First Revision No. 28-NFPA 1124-2014 [Chapter 5]

Chapter 5 Storage of Consumer and Display Fireworks, Pyrotechnic Articles, Salute Powder, Pyrotechnic and Explosive Compositions, and Black Powder

5.1 Applicability.

This chapter applies to the storage of consumer and display fireworks, pyrotechnic articles, salute powder, pyrotechnic and explosive compositions, and Black Powder.

5.1.1

Display fireworks, pyrotechnic articles, salute powder, pyrotechnic and explosive compositions, and Black Powder shall be stored in accordance with Sections [5.2](#) through [5.8](#).

5.1.2

Consumer fireworks shall be stored in accordance with Section [5.9](#).

5.2 General Requirements.

5.2.1

Display fireworks, pyrotechnic articles, other than UN 0431 and UN 0432, salute powder, pyrotechnic and explosive compositions, and Black Powder shall be stored in magazines at all times, except during manufacture, packaging, transportation, or use.

5.2.1.1

Bulk salute and bulk salute powder shall be stored only in Type 1 or Type 2 magazines.

5.2.1.2

The following shall be stored only in Type 1, Type 2, or Type 4 magazines:

- (1) Display fireworks that are not bullet sensitive
- (2) Pyrotechnic articles categorized as Explosives 1.3, other than UN 0431 and UN 0432 bulk salute and bulk salute powder
- (3) Black Powder

5.2.2

Magazines containing display fireworks and pyrotechnic articles that are not classified as Explosives 1.4 shall be separated from inhabited buildings, passenger railways, and public highways by the distances specified in [Table 4.6.4.1](#) or [Table 4.6.4.4](#).

5.2.3

Magazines containing display fireworks and pyrotechnic articles that are not classified as Explosives 1.4 shall be separated from other magazines by the distances specified in [Table 4.6.4.1](#) or [Table 4.6.4.4](#) and from other plant buildings by the distances specified in [Table 4.6.3](#), [Table 4.6.4.1](#), or [Table 4.6.6](#) as applicable.

5.2.4

Magazines containing Black Powder shall be separated from inhabited buildings, passenger railways, public highways, and other magazines by the distances specified in [Table 4.6.4.7](#).

5.2.5

Automatic sprinklers or deluge systems shall not be required for mixing buildings, process buildings, magazines, or shipping buildings.

5.3 Magazine Construction — General.

5.3.1 General.

5.3.1.1

Magazines shall be constructed to comply with Section [5.35.35.2](#) or in a manner equivalent to the requirements of Section [5.35.35.2](#).

5.3.1.2

The ground around magazines shall be graded so that water drains away from the magazine.

5.3.1.3

Exposed ferrous metal shall not be permitted on the interior of the magazine where it might contact material stored within.

5.3.2 Heating.

5.3.2.1

The area between the heating unit and the magazine shall be cleared of all combustible materials.

5.3.2.2

Magazines requiring heat shall be heated by either hot-water radiant heating within the magazine building or by indirect warm-air heating.

5.3.2.3

Indirect warm air shall be heated by either hot-water coils or low-pressure [gauge pressure of 15 psi (103 kPa) or less] steam coils located outside the magazine building.

5.3.2.4

Magazine heating systems shall meet the following requirements:

- (1) Radiant heating coils within the building shall be installed so that explosive materials or their containers cannot contact the coils and so that air is free to circulate between the coils and the explosives.
- (2) The surface temperature of radiant heating coils shall not exceed 165°F (74°C).
- (3) Heating ducts shall be installed so that the hot air discharge from the ducts is not directed against explosive materials or their containers.
- (4) The heating system shall be controlled so that the ambient temperature of the magazine does not exceed 130°F (54°C).
- (5) Any electric fan or pump used in the heating system shall be located outside the magazine, separate from the magazine walls, and shall be grounded.
- (6) Any electric motor and any controls for electric heating devices used to heat water or produce steam shall have overload devices and disconnects that comply with *NFPA 70, National Electrical Code* .
- (7) All electrical switchgear shall be located at least 25 ft (7.6 m) from the magazine.
- (8) Any fuel-fired heating source for the hot water or steam shall be separated from the magazine by a distance of not less than 25 ft (7.6 m).
- (9) Explosive materials stored in magazines shall be arranged so that uniform circulation of air is ensured.

5.3.3 Lighting.**5.3.3.1**

Where lighting is necessary within the magazine, the following sources of lighting shall be permitted:

- (1) Electric safety flashlights
- (2) Electric safety lanterns
- (3) Chemiluminescent lighting
- (4) Electric light source outside the magazine that is aimed at the entrance

5.3.3.2

Where electric lighting is used within a magazine, the installation shall meet the following requirements for hazardous locations in accordance with *NFPA 70, National Electrical Code* :

- (1) Junction boxes containing fuses or circuit breakers and electrical disconnects shall be located at least 25 ft (7.6 m) from the magazine.
- (2) Junction boxes located within the magazine shall not have openings and shall be equipped with close-fitting covers.
- (3) Disconnects, fuses, and circuit breakers shall be protected by a voltage surge arrester capable of handling 2500 amperes for 0.1 second.
- (4) All wiring from switches, both inside and outside the magazine, shall be installed in rigid conduit.
- (5) Wiring from switches located inside and outside the magazine that leads into the magazine shall be installed underground.
- (6) Conduit and light fixtures inside the magazine shall be protected from physical damage by guards or by location.
- (7) Light fixtures shall be enclosed to prevent sparks or hot metal from falling on the floor or onto material stored in the magazine.
- (8) Lights inside magazines shall not be left on when the magazines are unattended.

5.3.4 Ventilation.**5.3.4.1**

Where required in the magazine, ventilation shall be provided to protect the stored materials for the specific area in which the plant is located.

5.3.4.2

Stored materials shall be placed so that they do not interfere with ventilation and to prevent contact with masonry walls, steel, or other ferrous metal by means of a nonsparking lattice or equivalent lining.

5.4 Magazine Construction — Requirements for Specific Types.

5.4.1 Type 1 Magazine.

A Type 1 magazine shall be a permanent structure, such as a building or igloo, that is bullet resistant, fire resistant, theft resistant, weather resistant, and ventilated and shall comply with the following:

- (1) Walls and doors shall be bullet resistant and shall be constructed in accordance with any of the specifications in Annex B.
- (2) The roof shall be constructed of any type of structurally sound material that is or has been made fire resistant on the exterior.
- (3)* Where the natural terrain around a Type 1 magazine makes it possible for a bullet to be shot through the roof and ceiling at such an angle that the bullet can strike the explosive materials within, either the roof or the ceiling shall be of bullet-resistant construction.
- (4) The foundation shall be enclosed completely, and the following requirements also shall apply:
 - (a) A wood foundation enclosure shall be covered on the exterior with not less than 26 gauge metal.
 - (b) Openings provided for cross ventilation on the exterior of a wood foundation enclosure shall not be required to be covered with 26 gauge metal.
- (5) The floor shall be constructed of wood or other equivalent material.
- (6) Floors constructed of materials that can cause sparks shall meet one of the following requirements:
 - (a) They shall be covered with a nonsparking surface.
 - (b) The packages of explosive material shall be packed on pallets of nonsparking material.
- (7) Type 1 magazines shall be ventilated to prevent dampness or heating of explosives, and the following requirements also shall apply:
 - (a) Ventilation openings shall be screened to prevent entrance of sparks.
 - (b) Ventilators in sidewalls shall be offset or shielded.
 - (c) Magazines with foundation and roof ventilators, with air circulating between the sidewalls and floor and between the sidewalls and ceiling, shall have a wood-lattice lining or equivalent means to prevent packages from being stacked against the sidewalls and blocking air circulation.
 - (d) Magazines specified in 5.4.15.4.15.3.1 (7)(c) shall be provided with 2 in. (51 mm) air space between the sidewalls and the floor.
- (8) Each door of the magazine shall be equipped with one of the following locking systems:
 - (a) Two mortise locks
 - (b) Two padlocks in separate hasps and staples
 - (c) A mortise lock and a padlock
 - (d) A mortise lock that needs two keys to be opened
 - (e) A three-point lock or an equivalent lock that secures the door to the frame at more than one point
- (9) Padlocks shall comply with all of the following requirements:
 - (a) They shall be made of steel.
 - (b) They shall have at least five tumblers.
 - (c) They shall have at least a $\frac{3}{8}$ in. (9.5 mm), case-hardened shackle.
 - (d) They shall be protected by steel hoods installed to discourage the insertion of bolt cutters.
- (10) Doors secured by an internal bolt shall not require additional locking devices.
- (11) Hinges and hasps shall be fastened securely to the magazine.
- (12) All locking hardware shall be secured to the door frame.

5.4.2 Type 2 Magazine.

5.4.2.1 General.

A Type 2 magazine shall be a portable or mobile structure, such as a box, skid-magazine, trailer, or semitrailer that is fire resistant, theft resistant, weather resistant, and ventilated.

5.4.2.2 Bullet Resistance.

Type 2 magazines shall be bullet resistant if used for outdoor storage.

5.4.2.3 Type 2 Outdoor Magazine.

A Type 2 outdoor magazine shall comply with the following requirements:

- (1) The walls and roof or ceiling shall be constructed according to the provisions of [5.4.15.4.15.3.1](#) (1), (2), and (3).
- (2) The doors shall be constructed as follows:
 - (a) They shall be made of metal, constructed in accordance with the provisions of [5.4.15.4.15.3.4](#) (1).
 - (b) They shall have a metal exterior with an inner door meeting the provisions of [5.4.15.4.15.3.1](#) (1).
- (3) Floors constructed of ferrous metal shall be covered with a nonsparking surface.
- (4) A top-opening magazine shall have a lid that overlaps the sides by at least 1 in. (25.4 mm) when in the closed position.
- (5) The magazine shall be supported so that its floor does not contact the ground directly.
- (6) Magazines less than 3 ft³ (0.77 m³) in size shall be fastened securely to a fixed object to prevent theft of the entire magazine.
- (7) Hinges, hasps, locks, and locking hardware shall comply with [5.4.15.4.15.3.1](#) (8), excluding padlocks on vehicular magazines, which are not required to be protected by steel hoods.
- (8) Wherever a vehicular magazine is left unattended, one of the following actions shall be taken:
 - (a) The wheels shall be removed.
 - (b) The kingpins shall be locked.
 - (c) The vehicular magazine shall be otherwise immobilized.

5.4.2.4 Type 2 Indoor Magazines.

A Type 2 indoor magazine shall comply with the following provisions:

- (1) The magazine shall have substantial wheels or casters to facilitate its removal from the building in case of emergency.
- (2) The cover of the magazine shall have substantial strap hinges, and a means for locking shall be provided as follows:
 - (a) The magazine shall be kept locked with a five-tumbler padlock or its equivalent.
 - (b) The magazine shall be permitted to be unlocked during the placement or removal of explosive materials.
- (3) The magazine shall be painted red, and the top shall bear the words in white letters at least 3 in. (76 mm) high, as shown in [Figure 5.4.2.4](#)[Figure 5.4.2.4](#)[Figure 5.3.2.4](#) .
- (4) Magazines constructed of wood shall meet the following requirements:
 - (a) They shall have sides, bottoms, and covers or doors of 2 in. (51 mm) hardwood that are braced at the corners.
 - (b) They shall be covered with sheet metal of not less than 26 gauge.
 - (c) Nails exposed to the interior of the magazines shall be countersunk.
- (5) Magazines constructed of metal shall meet the following requirements:
 - (a) They shall be of 12 gauge sheet metal.
 - (b) They shall be lined with a nonsparking material.
 - (c) The edges of metal covers shall overlap the sides by at least 1 in. (25 mm).

Figure 5.4.2.4 Warning Statement on Type 2 Indoor Magazines.

**5.4.3 Type 3 Magazine.**

A Type 3 magazine (day box) shall be a portable structure that is fire resistant, theft resistant, and weather resistant, and shall comply with the following provisions:

- (1) The magazine shall be equipped with a five-tumbler padlock.
- (2) Magazines constructed of wood shall meet the following requirements:
 - (a) They shall have sides, bottoms, and covers or doors of 4 in. (102 mm) hardwood that are braced at the corners.
 - (b) They shall be covered with sheet metal of not less than 26 gauge.
 - (c) Nails exposed to the interior of the magazine shall be countersunk.
- (3) Magazines constructed of metal shall meet the requirements of [5.4.2.4](#)[5.4.2.4](#)[5.3.2.4](#) (5).

5.4.4 Type 4 Magazine.

A Type 4 magazine shall be a permanent, portable, or mobile structure such as a building, igloo, box, semitrailer, or other mobile container that is fire resistant, theft resistant, and weather resistant.

5.4.4.1 Type 4 Outdoor Magazine.

A Type 4 outdoor magazine shall comply with the following provisions:

- (1) The magazine shall be constructed of the following:
 - (a) Masonry
 - (b) Wood covered with sheet metal, fabricated metal, or a combination of these materials
- (2) Doors shall be metal or wood covered with metal.
- (3) Permanent magazines shall comply with 5.4.15.4.15.3.1 (4) and (8).
- (4) Vehicular magazines shall comply with 5.4.2.35.4.2.35.3.2.3 (7) and shall be immobilized where unattended, as described in 5.4.2.35.4.2.35.3.2.3 (8).

5.4.4.2 Type 4 Indoor Magazine.

A Type 4 indoor magazine shall comply with all the provisions of 5.4.2.45.4.2.45.3.2.4 .

5.5 Storage Within Magazines.**5.5.1**

Magazines shall be supervised at all times by a competent person at least 21 years old who shall be responsible for enforcing all safety precautions.

5.5.2*

All magazines containing explosives shall be inspected at intervals not exceeding 7 days to determine whether there has been unauthorized or attempted entry or whether there has been unauthorized removal of the magazines.

5.5.3*

Magazine doors shall be kept closed and shall be kept locked at all times when the facility is not in operation.

5.5.4

Magazine doors shall not be required to be closed and locked during placement or removal of explosive materials or during inspection.

5.5.5*

Containers of explosive materials shall be piled in a stable manner and laid flat with top side up.

5.5.6

The following shall apply to containers of explosive materials:

- (1) Containers shall not be opened, unpacked, or repacked inside of or within 50 ft (15.2 m) of a magazine or in close proximity to other explosives.
- (2) Fiberboard containers shall be permitted to be opened, unpacked, or repacked inside of or within 50 ft (15.2 m) of a magazine.

5.5.7

Tools used for opening containers of explosive materials shall be nonsparking, unless they are metal slitters used for opening fiberboard containers.

5.5.8

Magazines shall be used exclusively for the storage of explosive and pyrotechnic materials.

5.5.8.1

Metal tools other than nonferrous conveyors shall not be stored in magazines.

5.5.8.2

Ferrous metal conveyor stands protected by a coat of paint shall be permitted to be stored within magazines.

5.5.9

Magazine floors shall be swept regularly and kept clean, dry, and free of grit, paper, empty packing materials, and rubbish.

5.5.9.1

Brooms and other cleaning utensils shall not have spark-producing metal parts.

5.5.9.2

Sweepings from magazine floors shall be disposed of in accordance with the manufacturer's instructions.

5.5.10

Where any explosive or pyrotechnic material has deteriorated to the extent that it has become unstable or dangerous, the person responsible shall immediately contact the manufacturer for assistance.

5.5.11

Before repairs are made to the interior of a magazine, all explosive or pyrotechnic material shall be removed, and the interior shall be cleaned.

5.5.12

Before repairs are made to the exterior of a magazine where there is a possibility of causing sparks or fire, all explosive and pyrotechnic material shall be removed.

5.5.13

Explosive or pyrotechnic material removed from a magazine undergoing repair shall be stored as follows:

- (1) The material shall be either placed in another magazine or placed a safe distance from the magazine, where it shall be guarded and protected properly.
- (2) Upon completion of the repairs, the material shall be returned promptly to the magazine.

5.6 Miscellaneous Safety Precautions.**5.6.1**

The following shall not be permitted inside of or within 50 ft (15 m) of a magazine:

- (1) Smoking
- (2) Matches
- (3) Open flames
- (4) Spark-producing devices
- (5) Firearms, other than firearms carried by authorized security personnel

5.6.2

The area around a magazine shall be kept clear of brush, dried vegetation, leaves, and similar combustibles for a distance of at least 25 ft (7.6 m).

5.6.3

Combustible materials shall not be stored within 50 ft (15.2 m) of a magazine.

5.7 Requirements for Shipping Buildings for Display Fireworks.**5.7.1**

Shipping buildings shall be separated from process buildings in accordance with the distances specified in [Table 4.6.3](#).

5.7.2

Shipping buildings shall be separated from inhabited buildings, passenger railroads, public highways, and magazines in accordance with the distances specified in [Table 4.6.4.1](#).

5.7.3*

Separation distances for shipping buildings for storage of display fireworks shall be in accordance with [Table 4.6.4.1](#) or [Table 4.6.4.4](#), as appropriate, with a maximum of 50,000 lb (22,680 kg) net weight of display fireworks permitted to be stored.

5.7.4

Separation distances for shipping buildings for the storage of finished salutes shall be in accordance with [Table 4.6.4.4](#), with a maximum of 500 lb (227 kg) net weight of finished salutes permitted to be stored.

5.7.5

All electrical equipment and fixtures in a shipping building shall meet the requirements for hazardous locations in accordance with [NFPA 70, National Electrical Code](#).

5.7.6

Display fireworks awaiting packing and shipping shall be permitted to be stored in a shipping building overnight, provided that the building is fire resistant and theft resistant.

5.7.6.1

The building shall be locked when not in operation.

5.7.6.2

Windows shall be guarded with bars or similar protection.

5.8 Shipping Buildings.

5.8.1

Shipping buildings used for storage shall meet the same requirements as magazines for the methods and types of construction, quantity limitations, and tables of distances.

5.8.2

Shipping buildings not used for storage shall meet the same requirements as process buildings for the methods and types of construction, and the same quantity limitations and tables of distances as magazines.

5.8.3

For the purposes of applying [Table 4.6.4.1](#), a shipping building for display fireworks shall be considered a magazine.

5.8.4

Shipping buildings shall not be used as process buildings.

5.8.5

Display fireworks, consumer fireworks, pyrotechnic articles, pyrotechnic devices, pyrotechnic materials, pyrotechnic special effects, pyrotechnics, fusees, electric matches, igniters, igniter cord, nondetonating fuse, fuses, black match, quick match, and other pyrotechnic devices and compositions shall be permitted to be stored in shipping buildings complying with [5.8.15.8.15.7.1](#).

5.8.6

Pyrotechnic or explosive compositions in shipping buildings shall remain in sealed containers.

5.8.7

Loose pyrotechnic or explosive compositions shall not be permitted in shipping buildings.

5.8.8

Fireworks and other pyrotechnic or explosive devices in shipping buildings shall be permitted to be in open cartons or bins, or both, provided all fireworks in open cartons or bins are secured so they will not roll or fall.

5.8.9*

Tools, equipment, supplies, and documents appropriate to conduct day-to-day operations shall be permitted to be stored and used in shipping buildings.

5.8.10

Tools and equipment shall be made of or covered with non-spark-producing materials.

5.8.11

Refuse containers shall be permitted in shipping buildings.

5.8.12

Housekeeping requirements for magazines shall apply to shipping buildings.

5.8.13

Security requirements for magazines shall apply to shipping buildings used for storage.

5.9 Storage of Consumer Fireworks.**5.9.1 General Requirements.****5.9.1.1**

Consumer fireworks storage buildings shall comply with the requirements of this section.

5.9.1.2

Work rooms or areas shall be permitted in consumer fireworks storage buildings, provided such work rooms or areas comply with [5.9.2](#).

5.9.1.3

Exterior door and window openings in consumer fireworks storage buildings shall be equipped with a means for locking.

5.9.1.4

Consumer fireworks storage buildings shall not be used for residential occupancies and shall not be located in residential areas.

5.9.1.5

Finished consumer fireworks at manufacturing facilities shall be stored in consumer fireworks storage buildings, trailers, semitrailers, metal shipping containers, or magazines.

5.9.1.6

Picking, packing, packaging, and shipping shall be permitted in consumer fireworks storage buildings or areas.

5.9.2 Consumer Fireworks Work Buildings, Rooms, or Areas.**5.9.2.1**

Consumer fireworks work buildings, rooms, or areas shall comply with this subsection.

5.9.2.2

The quantity of consumer fireworks being handled outside of DOT-approved packaging shall be limited to that necessary to conduct the operation

5.9.2.3

Aisles shall be at least 48 in. (1.2 m) wide and shall be kept free of obstructions that reduce the required width.

5.9.2.4

Exit doors shall be kept free of obstructions.

5.9.2.5

Work rooms or areas shall be permitted in consumer fireworks storage buildings.

5.9.2.5.1

Work rooms or areas in consumer fireworks storage buildings shall be separated from stored consumer fireworks by a fire barrier wall having a fire resistance rating of at least 1 hour or by a separation distance of at least 25 ft (7.6 m).

5.9.2.5.2

Work rooms or areas in consumer fireworks storage buildings shall have at least two remotely located means of egress, with at least one means of egress not having to pass through a storage area.

5.9.2.6

Light fixtures within 25 ft (7.6 m) of any consumer fireworks shall have guards.

5.9.3 Trailers, Semitrailers, and Metal Shipping Containers.**5.9.3.1***

Trailers, semitrailers, and metal shipping containers used for the storage of consumer fireworks in manufacturing facilities shall comply with this section and [5.4.4](#) for Type 4 outdoor magazines.

5.9.3.2

Trailers, semitrailers, and metal shipping containers in manufacturing facilities and not normally occupied shall be permitted to be locked during operation.

5.9.3.3

Where an interior aisle is provided, the aisle shall be not less than 28 in. (710 mm) in width.

5.9.3.4

At least one pressurized water-type fire extinguisher having a minimum rating of 2A shall be located within 75 ft (22.8 m) of the closest point on the exterior of any such trailer, semitrailer, and metal shipping container

5.9.3.5

Panic hardware on exit doors shall not be required.

5.9.3.6

Trailers, semitrailers, and metal shipping containers in manufacturing facilities shall be permitted to be placed side by side with no minimum separation distance and stacked to a maximum height of two units.

5.9.3.7

Trailers, semitrailers, and metal shipping containers in manufacturing facilities shall be separated from adjacent permanent buildings and structures by not less than 10 ft (3 m).

Supplemental Information

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Committee Statement

Committee Statement: Chapter 5 will now include storage of consumer fireworks as well as display fireworks in manufacturing facilities. Applicable sections of consumer fireworks storage in manufacturing facilities were relocated from Chapter 6 to Chapter 5 in section 5.9. The sections relocated from Chapter 6 are most or all of sections 6.2, 6.13 and 6.14). Chapter 6 was deleted in response to Standards Council decision #14-1 which removed consumer fireworks retail sales from the Committee scope.

Response

Message:

Chapter 5 Storage of Consumer and Display Fireworks, Pyrotechnic Articles, Salute Powder, Pyrotechnic and Explosive Compositions, and Black Powder

5.1 Applicability. This Chapter applies to the storage of display Display fireworks, pyrotechnic articles, salute powder, pyrotechnic and explosive compositions, consumer fireworks, and Black Powder.

5.1.1 Display fireworks, pyrotechnic articles, salute powder, pyrotechnic and explosive compositions and Black Powder shall be stored in accordance with 5.2-5.8.

5.1.2 Consumer fireworks shall be stored in compliance with 5.9.

5.2.1 General Requirements.

5.2.1.1 Display fireworks, pyrotechnic articles, other than UN 0431 and UN 0432, salute powder, pyrotechnic and explosive compositions, and Black Powder shall be stored in magazines at all times, except during manufacture, packaging, transportation, or use.

5.2.1.1.1 Bulk salute and bulk salute powder shall be stored only in Type 1 or Type 2 magazines.

5.2.1.1.2 The following shall be stored only in Type 1, Type 2, or Type 4 magazines:

- (1) Display fireworks that are not bullet sensitive
- (2) Pyrotechnic articles categorized as Explosives 1.3, other than UN 0431 and UN 0432, other than bulk salute and bulk salute powder
- (3) Black Powder

5.2.1.2 Magazines containing display fireworks and pyrotechnic articles that are not classified as Explosives 1.4 shall be separated from inhabited buildings, passenger railways, and public highways by the distances specified in Table 4.6.4.1 or Table 4.6.4.4.

5.2.1.3 Magazines containing display fireworks and pyrotechnic articles that are not classified as Explosives 1.4 shall be separated from other magazines by the distances specified in Table 4.6.4.1 or Table 4.6.4.4 and from other plant buildings by the distances specified in Table 4.6.3, Table 4.6.4.1, or Table 4.6.6 as applicable.

5.2.1.4 Magazines containing Black Powder shall be separated from inhabited buildings, passenger railways, public highways, and other magazines by the distances specified in Table 4.6.4.7.

5.2.1.5 Automatic sprinklers or deluge systems shall not be required for mixing buildings, process buildings, magazines, or shipping buildings.

5.2.2 Magazine Construction — General.

5.2.2.1 General.

5.2.2.1.1 Magazines shall be constructed to comply with Section 5.25.3 or in a manner equivalent to the requirements of Section 5.25.3.

5.25.3.1.2 The ground around magazines shall be graded so that water drains away from the magazine.

5.25.3.1.3 Exposed ferrous metal shall not be permitted on the interior of the magazine where it might contact material stored within.

5.25.3.2 Heating.

5.25.3.2.1 The area between the heating unit and the magazine shall be cleared of all combustible materials.

5.25.3.2.2 Magazines requiring heat shall be heated by either hot-water radiant heating within the magazine building or by indirect warm-air heating.

5.25.3.2.3 Indirect warm air shall be heated by either hot-water coils or low-pressure [gauge pressure of 15 psi (103 kPa) or less] steam coils located outside the magazine building.

5.25.3.2.4 Magazine heating systems shall meet the following requirements:

- (1) Radiant heating coils within the building shall be installed so that explosive materials or their containers cannot contact the coils and so that air is free to circulate between the coils and the explosives.
- (2) The surface temperature of radiant heating coils shall not exceed 165°F (74°C).
- (3) Heating ducts shall be installed so that the hot air discharge from the ducts is not directed against explosive materials or their containers.
- (4) The heating system shall be controlled so that the ambient temperature of the magazine does not exceed 130°F (54°C).
- (5) Any electric fan or pump used in the heating system shall be located outside the magazine, separate from the magazine walls, and shall be grounded.
- (6) Any electric motor and any controls for electric heating devices used to heat water or produce steam shall have overload devices and disconnects that comply with *NFPA 70, National Electrical Code*.
- (7) All electrical switchgear shall be located at least 25 ft (7.6 m) from the magazine.
- (8) Any fuel-fired heating source for the hot water or steam shall be separated from the magazine by a distance of not less than 25 ft (7.6 m).
- (9) Explosive materials stored in magazines shall be arranged so that uniform circulation of air is ensured.

5.25.3.3 Lighting.

5.25.3.3.1 Where lighting is necessary within the magazine, the following sources of lighting shall be permitted:

- (1) Electric safety flashlights

- (2) Electric safety lanterns
- (3) Chemiluminescent lighting
- (4) Electric light source outside the magazine that is aimed at the entrance

5.25.3.3.2 Where electric lighting is used within a magazine, the installation shall meet the following requirements for hazardous locations in accordance with *NFPA 70, National Electrical Code*:

- (1) Junction boxes containing fuses or circuit breakers and electrical disconnects shall be located at least 25 ft (7.6 m) from the magazine.
- (2) Junction boxes located within the magazine shall not have openings and shall be equipped with close-fitting covers.
- (3) Disconnects, fuses, and circuit breakers shall be protected by a voltage surge arrester capable of handling 2500 amperes for 0.1 second.
- (4) All wiring from switches, both inside and outside the magazine, shall be installed in rigid conduit.
- (5) Wiring from switches located inside and outside the magazine that leads into the magazine shall be installed underground.
- (6) Conduit and light fixtures inside the magazine shall be protected from physical damage by guards or by location.
- (7) Light fixtures shall be enclosed to prevent sparks or hot metal from falling on the floor or onto material stored in the magazine.
- (8) Lights inside magazines shall not be left on when the magazines are unattended.

5.25.3.4 Ventilation.

5.25.3.4.1 Where required in the magazine, ventilation shall be provided to protect the stored materials for the specific area in which the plant is located.

5.25.3.4.2 Stored materials shall be placed so that they do not interfere with ventilation and to prevent contact with masonry walls, steel, or other ferrous metal by means of a nonsparking lattice or equivalent lining.

5.35.4 Magazine Construction — Requirements for Specific Types.

5.35.4.1 Type 1 Magazine. A Type 1 magazine shall be a permanent structure, such as a building or igloo, that is bullet resistant, fire resistant, theft resistant, weather resistant, and ventilated and shall comply with the following:

- (1) Walls and doors shall be bullet resistant and shall be constructed in accordance with any of the specifications in Annex [B](#).
- (2) The roof shall be constructed of any type of structurally sound material that is or has been made fire resistant on the exterior.

(3)* Where the natural terrain around a Type 1 magazine makes it possible for a bullet to be shot through the roof and ceiling at such an angle that the bullet can strike the explosive materials within, either the roof or the ceiling shall be of bullet-resistant construction.

(4) The foundation shall be enclosed completely, and the following requirements also shall apply:

- A wood foundation enclosure shall be covered on the exterior with not less than 26 gauge metal.
- Openings provided for cross ventilation on the exterior of a wood foundation enclosure shall not be required to be covered with 26 gauge metal.

(5) The floor shall be constructed of wood or other equivalent material.

(6) Floors constructed of materials that can cause sparks shall meet one of the following requirements:

- They shall be covered with a nonsparking surface.
- The packages of explosive material shall be packed on pallets of nonsparking material.

(7) Type 1 magazines shall be ventilated to prevent dampness or heating of explosives, and the following requirements also shall apply:

- Ventilation openings shall be screened to prevent entrance of sparks.
- Ventilators in sidewalls shall be offset or shielded.
- Magazines with foundation and roof ventilators, with air circulating between the sidewalls and floor and between the sidewalls and ceiling, shall have a wood-lattice lining or equivalent means to prevent packages from being stacked against the sidewalls and blocking air circulation.
- Magazines specified in [5.35.4.1](#)(7)(c) shall be provided with 2 in. (51 mm) air space between the sidewalls and the floor.

(8) Each door of the magazine shall be equipped with one of the following locking systems:

- Two mortise locks
- Two padlocks in separate hasps and staples
- A mortise lock and a padlock
- A mortise lock that needs two keys to be opened
- A three-point lock or an equivalent lock that secures the door to the frame at more than one point

(9) Padlocks shall comply with all of the following requirements:

- They shall be made of steel.

- (b) They shall have at least five tumblers.
- (c) They shall have at least a $\frac{3}{8}$ in. (9.5 mm), case-hardened shackle.
- (d) They shall be protected by steel hoods installed to discourage the insertion of bolt cutters.

(10) Doors secured by an internal bolt shall not require additional locking devices.

(11) Hinges and hasps shall be fastened securely to the magazine.

(12) All locking hardware shall be secured to the door frame.

5.35.4.2 Type 2 Magazine.

5.35.4.2.1 General. A Type 2 magazine shall be a portable or mobile structure, such as a box, skid-magazine, trailer, or semitrailer that is fire resistant, theft resistant, weather resistant, and ventilated.

5.35.4.2.2 Bullet Resistance. Type 2 magazines shall be bullet resistant if used for outdoor storage.

5.35.4.2.3 Type 2 Outdoor Magazine. A Type 2 outdoor magazine shall comply with the following requirements:

- (1) The walls and roof or ceiling shall be constructed according to the provisions of 5.35.4.1(1), (2), and (3).
- (2) The doors shall be constructed as follows:
 - (a) They shall be made of metal, constructed in accordance with the provisions of 5.35.4.1(1).
 - (b) They shall have a metal exterior with an inner door meeting the provisions of 5.35.4.1(1).
- (3) Floors constructed of ferrous metal shall be covered with a nonsparking surface.
- (4) A top-opening magazine shall have a lid that overlaps the sides by at least 1 in. (25.4 mm) when in the closed position.
- (5) The magazine shall be supported so that its floor does not contact the ground directly.
- (6) Magazines less than 3 ft³ (0.77 m³) in size shall be fastened securely to a fixed object to prevent theft of the entire magazine.
- (7) Hinges, hasps, locks, and locking hardware shall comply with 5.35.4.1(8), excluding padlocks on vehicular magazines, which are not required to be protected by steel hoods.
- (8) Wherever a vehicular magazine is left unattended, one of the following actions shall be taken:
 - (a) The wheels shall be removed.

- (b) The kingpins shall be locked.
- (c) The vehicular magazine shall be otherwise immobilized.

5.35.4.2.4 Type 2 Indoor Magazines. A Type 2 indoor magazine shall comply with the following provisions:

- (1) The magazine shall have substantial wheels or casters to facilitate its removal from the building in case of emergency.
- (2) The cover of the magazine shall have substantial strap hinges, and a means for locking shall be provided as follows:
 - (a) The magazine shall be kept locked with a five-tumbler padlock or its equivalent.
 - (b) The magazine shall be permitted to be unlocked during the placement or removal of explosive materials.
- (3) The magazine shall be painted red, and the top shall bear the words in white letters at least 3 in. (76 mm) high, as shown in [Figure 5.35.4.2.4](#).
- (4) Magazines constructed of wood shall meet the following requirements:
 - (a) They shall have sides, bottoms, and covers or doors of 2 in. (51 mm) hardwood that are braced at the corners.
 - (b) They shall be covered with sheet metal of not less than 26 gauge.
 - (c) Nails exposed to the interior of the magazines shall be countersunk.
- (5) Magazines constructed of metal shall meet the following requirements:
 - (a) They shall be of 12 gauge sheet metal.
 - (b) They shall be lined with a nonsparking material.
 - (c) The edges of metal covers shall overlap the sides by at least 1 in. (25 mm).

****INSERT FIGURE HERE****

FIGURE 5.35.4.2.4 Warning Statement on Type 2 Indoor Magazines.

5.35.4.3 Type 3 Magazine. A Type 3 magazine (day box) shall be a portable structure that is fire resistant, theft resistant, and weather resistant, and shall comply with the following provisions:

- (1) The magazine shall be equipped with a five-tumbler padlock.
- (2) Magazines constructed of wood shall meet the following requirements:
 - (a) They shall have sides, bottoms, and covers or doors of 4 in. (102 mm) hardwood that are braced at the corners.

- (b) They shall be covered with sheet metal of not less than 26 gauge.
- (c) Nails exposed to the interior of the magazine shall be countersunk.
- (3) Magazines constructed of metal shall meet the requirements of [5.35.4.2.4\(5\)](#).

5.35.4.4 Type 4 Magazine. A Type 4 magazine shall be a permanent, portable, or mobile structure such as a building, igloo, box, semitrailer, or other mobile container that is fire resistant, theft resistant, and weather resistant.

5.35.4.4.1 Type 4 Outdoor Magazine. A Type 4 outdoor magazine shall comply with the following provisions:

- (1) The magazine shall be constructed of the following:
 - (a) Masonry
 - (b) Wood covered with sheet metal, fabricated metal, or a combination of these materials
- (2) Doors shall be metal or wood covered with metal.
- (3) Permanent magazines shall comply with [5.35.4.1\(4\)](#) and (8).
- (4) Vehicular magazines shall comply with [5.35.4.2.3\(7\)](#) and shall be immobilized where unattended, as described in [5.35.4.2.3\(8\)](#).

5.35.4.4.2 Type 4 Indoor Magazine. A Type 4 indoor magazine shall comply with all the provisions of [5.35.4.2.4](#).

5.45.5 Storage Within Magazines.

5.45.5.1 Magazines shall be supervised at all times by a competent person at least 21 years old who shall be responsible for enforcing all safety precautions.

5.45.5.2* All magazines containing explosives shall be inspected at intervals not exceeding 7 days to determine whether there has been unauthorized or attempted entry or whether there has been unauthorized removal of the magazines.

5.45.5.3* Magazine doors shall be kept closed and shall be kept locked at all times when the facility is not in operation.

5.45.5.4 Magazine doors shall not be required to be closed and locked during placement or removal of explosive materials or during inspection.

5.45.5.5* Containers of explosive materials shall be piled in a stable manner and laid flat with top side up.

5.45.5.6 The following shall apply to containers of explosive materials:

- (1) Containers shall not be opened, unpacked, or repacked inside of or within 50 ft (15.2 m) of a magazine or in close proximity to other explosives.

(2) Fiberboard containers shall be permitted to be opened, unpacked, or repacked inside of or within 50 ft (15.2 m) of a magazine.

5.45.5.7 Tools used for opening containers of explosive materials shall be nonsparking, unless they are metal slitters used for opening fiberboard containers.

5.45.5.8 Magazines shall be used exclusively for the storage of explosive and pyrotechnic materials.

5.45.5.8.1 Metal tools other than nonferrous conveyors shall not be stored in magazines.

5.45.5.8.2 Ferrous metal conveyor stands protected by a coat of paint shall be permitted to be stored within magazines.

5.45.5.9 Magazine floors shall be swept regularly and kept clean, dry, and free of grit, paper, empty packing materials, and rubbish.

5.45.5.9.1 Brooms and other cleaning utensils shall not have spark-producing metal parts.

5.45.5.9.2 Sweepings from magazine floors shall be disposed of in accordance with the manufacturer's instructions.

5.45.5.10 Where any explosive or pyrotechnic material has deteriorated to the extent that it has become unstable or dangerous, the person responsible shall immediately contact the manufacturer for assistance.

5.45.5.11 Before repairs are made to the interior of a magazine, all explosive or pyrotechnic material shall be removed, and the interior shall be cleaned.

5.45.5.12 Before repairs are made to the exterior of a magazine where there is a possibility of causing sparks or fire, all explosive and pyrotechnic material shall be removed.

5.45.5.13 Explosive or pyrotechnic material removed from a magazine undergoing repair shall be stored as follows:

- (1) The material shall be either placed in another magazine or placed a safe distance from the magazine, where it shall be guarded and protected properly.
- (2) Upon completion of the repairs, the material shall be returned promptly to the magazine.

5.56 Miscellaneous Safety Precautions.

5.55.6.1 The following shall not be permitted inside of or within 50 ft (15 m) of a magazine:

- (1) Smoking
- (2) Matches
- (3) Open flames
- (4) Spark-producing devices
- (5) Firearms, other than firearms carried by authorized security personnel

5.55.6.2 The area around a magazine shall be kept clear of brush, dried vegetation, leaves, and similar combustibles for a distance of at least 25 ft (7.6 m).

5.55.6.3 Combustible materials shall not be stored within 50 ft (15.2 m) of a magazine.

5.65.7 Requirements for Shipping Buildings for Display Fireworks.

5.65.7.1 Shipping buildings shall be separated from process buildings in accordance with the distances specified in [Table 4.6.3](#).

5.65.7.2 Shipping buildings shall be separated from inhabited buildings, passenger railroads, public highways, and magazines in accordance with the distances specified in [Table 4.6.4.1](#).

5.65.7.3* Separation distances for shipping buildings for storage of display fireworks shall be in accordance with [Table 4.6.4.1](#) or [Table 4.6.4.4](#), as appropriate, with a maximum of 50,000 lb (22,680 kg) net weight of display fireworks permitted to be stored.

5.65.7.4 Separation distances for shipping buildings for the storage of finished salutes shall be in accordance with [Table 4.6.4.4](#), with a maximum of 500 lb (227 kg) net weight of finished salutes permitted to be stored.

5.65.7.5 All electrical equipment and fixtures in a shipping building shall meet the requirements for hazardous locations in accordance with *NFPA 70, National Electrical Code*.

5.65.7.6 Display fireworks awaiting packing and shipping shall be permitted to be stored in a shipping building overnight, provided that the building is fire resistant and theft resistant.

5.65.7.6.1 The building shall be locked when not in operation.

5.65.7.6.2 Windows shall be guarded with bars or similar protection.

5.75.8 Shipping Buildings.

5.75.8.1 Shipping buildings used for storage shall meet the same requirements as magazines for the methods and types of construction, quantity limitations, and tables of distances.

5.75.8.2 Shipping buildings not used for storage shall meet the same requirements as process buildings for the methods and types of construction, and the same quantity limitations and tables of distances as magazines.

5.75.8.3 For the purposes of applying [Table 4.6.4.1](#), a shipping building for display fireworks shall be considered a magazine.

5.75.8.4 Shipping buildings shall not be used as process buildings.

5.75.8.5 Display fireworks, consumer fireworks, pyrotechnic articles, pyrotechnic devices, pyrotechnic materials, pyrotechnic special effects, pyrotechnics, fusees, electric matches, igniters, igniter cord, nondetonating fuse, fuses, black match, quick match, and other pyrotechnic devices and compositions shall be permitted to be stored in shipping buildings complying with [5.75.8.1](#).

5.75.8.6 Pyrotechnic or explosive compositions in shipping buildings shall remain in sealed containers.

5.75.8.7 Loose pyrotechnic or explosive compositions shall not be permitted in shipping buildings.

5.75.8.8 Fireworks and other pyrotechnic or explosive devices in shipping buildings shall be permitted to be in open cartons or bins, or both, provided all fireworks in open cartons or bins are secured so they will not roll or fall.

5.75.8.9* Tools, equipment, supplies, and documents appropriate to conduct day-to-day operations shall be permitted to be stored and used in shipping buildings.

5.75.8.10 Tools and equipment shall be made of or covered with non-spark-producing materials.

5.75.8.11 Refuse containers shall be permitted in shipping buildings.

5.75.8.12 Housekeeping requirements for magazines shall apply to shipping buildings.

5.75.8.13 Security requirements for magazines shall apply to shipping buildings used for storage.

5.9 Storage of Consumer Fireworks.

5.9.1 General Requirements (5.9.1 is taken from old 6.2)

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5.9.1.1 Consumer fireworks storage buildings shall comply with the requirements of this chapter section.

5.9.1.2 Work rooms or areas shall be permitted in consumer fireworks storage buildings, provided such work rooms or areas comply with Section **5.85.9.2**.

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5.9.1.3 Exterior door and window openings in consumer fireworks storage buildings shall be equipped with a means for locking.

5.9.1.4 Consumer fireworks storage buildings shall not be used for residential occupancies and shall not be located in residential areas.

5.9.1.5 Finished consumer fireworks at a manufacturing facilities shall be stored in consumer fireworks storage buildings, trailers, semitrailers, metal shipping containers, or magazines.

5.9.1.6 Picking, packing, packaging, and shipping shall be permitted in consumer fireworks storage buildings or areas.

5.9.2 Consumer Fireworks Work Buildings, Rooms, or Areas. (This is from old 6.13)

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5.9.2.1 Consumer fireworks work buildings, rooms, or areas shall comply with this section.

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5.9.2.2 The quantity of consumer fireworks being handled outside of DOT-approved packaging shall be limited to that necessary to conduct the operation.

5.9.2.3 Aisles shall be at least 48 in. (1.2 m) wide and shall be kept free of obstructions that reduce the required width.

5.9.2.4 Exit doors shall be kept free of obstructions.

5.9.2.5 Work rooms or areas shall be permitted in consumer fireworks storage buildings.

5.9.2.5.1 Work rooms or areas in consumer fireworks storage buildings shall be separated from stored consumer fireworks by a fire barrier wall having a fire resistance rating of at least 1 hour or by a separation distance of at least 25 ft (7.6 m).

5.9.2.5.2 Work rooms or areas in consumer fireworks storage buildings shall have at least two remotely located means of egress, with at least one means of egress not having to pass through a storage area.

5.9.2.6 Light fixtures within 25 ft (7.6 m) of any consumer fireworks shall have guards.

5.9.3 Trailers, Semitrailers, and Metal Shipping Containers. (This is from 6.14)

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5.9.3.1* Trailers, semitrailers, and metal shipping containers used for the storage of consumer fireworks in manufacturing facilities shall comply with this section with Section 6.14 and 5.3.4 for Type 4 outdoor magazines. (Annex is from A.6.14.1)

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5.9.3.2 Trailers, semitrailers, and metal shipping containers in manufacturing facilities and not normally occupied shall be permitted to be locked during operation.

5.9.3.3 Where an interior aisle is provided, the aisle shall be not less than 28 in. (710 mm) in width.

5.9.3.4 At least one pressurized water-type fire extinguisher having a minimum rating of 2A shall be located within 75 ft (22.8 m) of the closest point on the exterior of any such trailer, semitrailer, and metal shipping container.

5.9.3.5 Panic hardware on exit doors shall not be required.

5.9.3.6 Trailers, semitrailers, and metal shipping containers in manufacturing facilities shall be permitted to be placed side by side with no minimum separation distance and stacked to a maximum height of two units.

5.9.3.7 Trailers, semitrailers, and metal shipping containers in manufacturing facilities shall be separated from adjacent permanent buildings and structures by not less than 10 ft (3 m).

A.5.9.3.1 This section is not intended to require compliance with all the provisions of the Bureau of Alcohol, Tobacco, Firearms, and Explosives regulations in 27 CFR Part 555.210, just those specifically contained in 5.3.4 of this code.



First Revision No. 29-NFPA 1124-2014 [Chapter 6]

Chapter 6 Storage of Consumer Fireworks Reserved.

6.1 Applicability.

6.1.1*

~~Storage of consumer fireworks at manufacturing and distribution facilities shall comply with the requirements of this chapter.~~

6.1.2

~~The requirements of this chapter shall apply to the following:~~

~~Permanent buildings and structures including the following:~~

~~Consumer fireworks storage buildings or areas~~

~~Consumer fireworks work buildings, rooms, or areas~~

~~Temporary facilities including the following:~~

~~Trailers~~

~~Semitrailers~~

~~Metal shipping containers~~

6.1.3

~~This chapter shall not apply to buildings or facilities where the net weight of the pyrotechnic content of consumer fireworks stored does not exceed 125 lb (56.7 kg), or 250 lb (113.4 kg) where the building is protected throughout with an approved automatic sprinkler system installed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*.~~

6.1.4

~~Consumer fireworks storage buildings shall not be used as a magazine. Consumer fireworks shall be permitted to be stored in a magazine.~~

6.1.5

~~Consumer fireworks work buildings shall not be used as process buildings. Consumer fireworks shall be permitted to be processed in a process building.~~

6.1.6*

~~For the purposes of this chapter, the terms *consumer fireworks* and *pyrotechnic articles* shall mean assembled devices that have been approved by the Department of Transportation as Fireworks UN0336 and Articles, Pyrotechnic UN0431 and UN0432.~~

6.2 General Requirements for the Storage of Consumer Fireworks.

6.2.1

~~Consumer fireworks storage buildings shall comply with the requirements of this chapter.~~

6.2.2

~~Work rooms or areas shall be permitted in consumer fireworks storage buildings, provided such work rooms or areas comply with Section 6.13.~~

6.2.3

~~Exterior door and window openings in consumer fireworks storage buildings shall be equipped with a means for locking.~~

6.2.4

~~Consumer fireworks storage buildings shall not be used for residential occupancies and shall not be located in residential areas.~~

6.2.5

~~Finished consumer fireworks at a manufacturing or distribution facility shall be stored in consumer fireworks storage buildings, trailers, semitrailers, metal shipping containers, or magazines.~~

6.2.6

~~Receiving, picking, packing, packaging, and shipping shall be permitted in consumer fireworks storage buildings or areas.~~

6.2.7* Third Party Testing.**6.2.7.1**

~~Consumer fireworks shall be tested and certified by an approved, independent third party testing agency for compliance with the regulation of the Consumer Product Safety Commission (CPSC) as set forth in 16 CFR 1500 and 1507, using an approved test sampling plan.~~

6.2.7.2

~~Shipping cartons containing only consumer fireworks complying with 6.2.7 shall be marked in an approved manner to indicate such compliance.~~

6.3 Permit Requirements.**6.3.1 Permits.**

~~Where required, a permit shall be obtained to construct, erect, or operate any consumer fireworks storage or work building, room, or area.~~

6.3.2 Plans.**6.3.2.1**

~~Where required, plans for consumer fireworks storage or work buildings, rooms, or areas shall be submitted to the AHJ with the permit application.~~

6.3.2.2

~~The plans shall include the design, details, and specifications for the following:~~

~~Distances from public ways, buildings, facilities, magazines, motor vehicle fuel dispensing stations, retail propane dispensing stations, flammable and combustible liquid aboveground tank storage, and flammable gas and flammable liquefied gas bulk aboveground storage and dispensing areas within 30.5 m (100 ft) of the building used to store or handle consumer fireworks~~

~~Vehicle access and parking areas~~

~~Location and type of portable fire extinguishers~~

~~Floor plan and layout of storage and handling to indicate compliance with this chapter~~

~~Means of egress~~

~~Construction details~~

6.4 Construction.

6.4.1 Buildings and Structures.

Consumer fireworks shall be stored only in the following buildings or structures, provided that the building or structure does not exceed one story in height and does not contain a basement:

Buildings or structures constructed in accordance with the building code enforced by the AHJ

Buildings or structures in jurisdictions that have not adopted a building code, where such buildings or structures comply with the following construction requirements:

Buildings having an area not greater than 8000 ft^2 (743 m^2) shall be permitted to be constructed of any approved construction materials.

Buildings having an area greater than 8000 ft^2 (743 m^2) shall be constructed in accordance with one of the following:

Buildings shall be constructed of noncombustible or limited combustible materials.

Buildings with exterior walls having a fire resistance rating of not less than 2 hours shall be permitted to have the roof decking and its supporting structure and interior partitions constructed of combustible materials.

Roof coverings for any building shall have a minimum rating of Class C as determined in accordance with ASTM E 108, *Standard Test Methods for Fire Tests of Roof Coverings*, or ANSI/UL 790, *Standard for Standard Test Methods for Fire Tests of Roof Coverings*.

Magazines meeting the requirements in Chapter 4

Trailers, semitrailers, and metal shipping containers that are separated by at least 20 ft (6.1 m) from any building or structure other than trailers, semitrailers, or metal shipping containers

6.4.2 Construction Materials.

6.4.2.1* Noncombustible Material.

A material that complies with any of the following shall be considered a noncombustible material:
[101: 4.6.13.1]

* A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat.
[101: 4.6.13.1(1)]

A material that is reported as passing ASTM E 136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C*, shall be considered a noncombustible material.
[101: 4.6.13.1(2)]

A material that is reported as complying with the pass/fail criteria of ASTM E 136 when tested in accordance with the test method and procedure in ASTM E 2652, *Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C*, shall be considered a noncombustible material.
[101: 4.6.13.1(3)]

6.4.2.2* Limited-Combustible Material.

A material shall be considered a limited combustible material where all the conditions of 6.4.2.2 (1) and 6.4.2.2 (2), and the conditions of either 6.4.2.2 (3) or 6.4.2.2 (4) are met. [101: 4.6.14.2]

The material does not comply with the requirements for a noncombustible material, in accordance with 6.4.2.1. [101: 4.6.14.2.1]

The material, in the form in which it is used, exhibits a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg), where tested in accordance with NFPA 259, *Standard Test Method for Potential Heat of Building Materials*. [101: 4.6.14.2]

The material has a structural base of a noncombustible material with a surfacing not exceeding a thickness of $\frac{1}{8}$ in. (3.2 mm) where the surfacing exhibits a flame spread index not greater than 50 when tested in accordance with ASTM E 84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, or ANSI/UL 723, *Standard for Test for Surface Burning Characteristics of Building Materials*. [101: 4.6.14.3]

The material is composed of materials that, in the form and thickness used, neither exhibit a flame spread index greater than 25 nor evidence of continued progressive combustion when tested in accordance with ASTM E 84 or ANSI/UL 723, and are of such composition that all surfaces that would be exposed by cutting through the material on any plane would neither exhibit a flame spread index greater than 25 nor exhibit evidence of continued progressive combustion when tested in accordance with ASTM E 84 or ANSI/UL 723. [101: 4.6.14.4]

6.4.2.2.1

Where the term *limited combustible* is used in this code, it shall also include the term *noncombustible*. [101: 4.6.14.5]

6.4.3 Multiple-Use Buildings.

6.4.3.1

Where consumer fireworks storage is located in a building containing other tenants, the consumer fireworks storage area shall be separated from the other tenants by fire barriers having a fire resistance rating of not less than 2 hours.

6.4.3.1.1

Openings in the fire barriers shall not be permitted.

6.4.3.1.2

Any penetrations of the fire barriers shall be protected in accordance with NFPA 101, *Life Safety Code*.

6.4.3.2

Office areas ancillary to the consumer fireworks storage building shall be separated from the consumer fireworks storage area by fire barriers having a fire resistance rating of not less than 1 hour.

6.4.3.2.1

Door and window openings in the fire barrier wall shall be protected by self-closing fire doors or fixed fire windows having a fire protection rating of not less than 1 hour and shall be installed in accordance with NFPA 80, *Standard for Fire Doors and Other Opening Protectives*.

6.4.3.2.2

Any other openings or penetrations in the fire barrier wall shall be protected in accordance with NFPA 101, *Life Safety Code*.

6.4.4 Interior Wall and Ceiling Finish.

Interior wall and ceiling finish shall be Class A, Class B, or Class C in accordance with NFPA 101, *Life Safety Code*.

6.5 Fire Protection.

6.5.1* Automatic Sprinkler System.

An automatic sprinkler system installed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, shall be provided in consumer fireworks storage buildings greater than $12,000 \text{ ft}^2$ (1115 m^2).

6.5.1.1*

Reserved.

6.5.1.2

The waterflow alarm device shall be arranged to activate audible and visible alarms throughout the facility in accordance with *NFPA 72, National Fire Alarm and Signaling Code*.

6.5.2 Portable Fire Extinguishers.**6.5.2.1 Installation.**

Portable fire extinguishers shall be installed in accordance with *NFPA 10, Standard for Portable Fire Extinguishers*.

6.5.2.2 Minimum Number.

Every consumer fireworks storage or work building shall have not less than two portable fire extinguishers with a minimum rating of 2A.

6.5.2.3 Pressurized Water Type.

At least one of the required fire extinguishers shall be of the pressurized water type.

6.5.2.4 Multipurpose Dry Chemical Type.

At least one of the required fire extinguishers shall be of the multipurpose dry chemical type having a minimum rating of 4A.

6.5.2.5 Location.

Portable fire extinguishers for consumer fireworks storage or work buildings shall be located such that the maximum distance of travel to reach an extinguisher from any point shall not exceed 75 ft (23 m), as specified in *NFPA 10, Standard for Portable Fire Extinguishers*.

6.6* Site Requirements for Fire Department Access.

Any portion of an exterior wall of a building or other defined perimeter of a consumer fireworks storage facility shall be accessible within 150 ft (46 m) of a public way or an approved fire apparatus access.

6.7 Separation Distances.**6.7.1***

Consumer fireworks storage or work buildings at distribution facilities shall be separated from adjacent permanent buildings and structures in accordance with [Table 6.7.1](#).

Table 6.7.1 Separation Distance for Consumer Fireworks Storage or Work Buildings

Separation Distances		Exterior Wall Fire Resistance Rating	Exterior Wall Opening Protection Rating
ft	m	(hr)	(hr)
<5	<1.5	3	3
≥5 to <10	≥1.5 to <3	2	4 ¹ / ₂
≥10 to <60	≥3 to <18.3	1	3 ¹ / ₄
≥60	≥18.3	0	0

6.7.2

Consumer fireworks storage or work buildings at manufacturing facilities shall be separated from inhabited buildings, passenger railways, public highways, and other storage buildings in accordance with the distances specified in [Table 4.6.6](#), and shall be separated from process buildings and areas by the distances specified in [Table 4.6.3](#).

6.7.3 Other Separation Distances.**6.7.3.1**

Consumer fireworks storage or work buildings shall not be located within 50 ft (15.2 m) of the following:

Motor vehicle fuel dispensing station dispensing devices

Retail propane dispensing station dispensing devices

Compressed natural gas dispensing facilities

Aboveground storage tanks for flammable or combustible liquid, flammable gas, or flammable liquefied gas

6.7.3.2*

~~Consumer fireworks storage or work buildings shall not be located within 300 ft (91.2 m) of any bulk plant or bulk terminal for the following:~~

~~Flammable or combustible liquid~~

~~Flammable gas~~

~~Flammable liquefied gas~~

6.8 Means of Egress.**6.8.1**

~~Means of egress in consumer fireworks storage or work buildings or areas shall comply with the applicable requirements of NFPA 101, *Life Safety Code*.~~

6.8.2

~~Temporary trailers, semitrailers, and metal shipping containers that are not normally occupied shall not be required to comply with NFPA 101, *Life Safety Code*.~~

6.8.3 Doors.**6.8.3.1**

~~Exit and exit access doors shall open in the direction of egress travel.~~

6.8.3.2

~~Doors in the means of egress shall be at least 36 in. (910 mm) wide and kept free of obstructions.~~

6.8.3.3

~~Doors located within the means of egress that are capable of locking or latching shall have approved panic or fire exit hardware.~~

6.8.3.4

~~Doors located within the means of egress shall be unlocked from the egress side when the building is occupied.~~

6.8.3.5

~~Delayed egress locks shall be prohibited.~~

6.8.4 Aisles.**6.8.4.1**

~~Aisles shall be at least 36 in. (910 mm) wide and shall be kept free of obstructions.~~

6.8.4.2

~~Dead end aisles shall not exceed 50 ft (15.2 m) in length.~~

6.8.5 Egress Travel Distance.

~~Exits provided for consumer fireworks storage or work buildings or areas shall be located such that the maximum egress travel distance as measured from the remotest point to an exit along the natural and unobstructed path of egress travel shall not exceed 200 ft (60.8 m).~~

6.8.6 Number of Means of Egress.

~~The number of means of egress shall comply with NFPA 101, *Life Safety Code*.~~

6.8.7 Egress Capacity.

~~Egress capacity shall be based on 0.7 in./person (18 mm/person) for stairs or 0.4 in./person (10 mm/person) for level components and ramps.~~

6.9 Exit Signs and Emergency Lighting.**6.9.1 Exit Signs.****6.9.1.1**

~~Exits in consumer fireworks storage or work buildings or areas shall be marked by an approved exit sign in accordance with NFPA 101, *Life Safety Code*.~~

6.9.1.2

~~Exit signs shall be required to be self-luminous or internally or externally illuminated.~~

6.9.2 Illumination of Means of Egress.

~~The means of egress, including the exit discharge, shall be illuminated whenever the facility is occupied in accordance with NFPA 101, *Life Safety Code*.~~

6.9.3 Emergency Lighting.

Emergency lighting shall be provided for consumer fireworks storage or work buildings or areas and shall comply with NFPA 101, *Life Safety Code*.

6.10* Electrical Requirements.

Electrical fixtures and wiring shall comply with NFPA 70, *National Electrical Code*.

6.11 Operations.**6.11.1**

Receiving, storing, picking from cartons, packing into cartons, packaging into retail packages including assortments, shipping, and other similar operations involving finished consumer fireworks shall be permitted in consumer fireworks storage or work buildings, rooms, or areas that meet the requirements of this chapter.

6.11.2

Picking, sorting, packaging, packing, and other similar operations involving finished consumer fireworks shall be conducted in consumer fireworks work buildings or consumer fireworks work rooms or areas in consumer fireworks storage buildings that meet the requirements of this chapter.

6.11.3

Exterior doors and windows shall be kept locked when the building is not occupied or otherwise attended.

6.11.4*

Consumer fireworks shall be stored in accordance with NFPA 230, *Standard for the Fire Protection of Storage*, and as follows:

Consumer fireworks shall be stored in DOT-approved packaging. (See 3.3.25.)

Cartons shall be stacked neatly and in a stable manner.

Consumer fireworks returned to these buildings shall be permitted to be stored temporarily in cartons until repackaging or repacking can be performed.

6.11.5

Firearms, unless carried by authorized personnel or law enforcement personnel, shall not be permitted inside a consumer fireworks storage or work building, room, or area or within 50 ft (15.2 m) of stored consumer fireworks.

6.11.5.1 Smoking.**6.11.5.1.1**

Smoking materials, matches, lighters, or open flame devices shall not be allowed within 50 ft (15.2 m) of any area where fireworks or other pyrotechnic materials are present.

6.11.5.1.2

Authorized smoking locations shall be so marked, shall contain designated receptacles for disposal of smoking materials, and shall be provided with at least one approved portable fire extinguisher for use on Class A fires.

6.11.5.2 Testing.**6.11.5.2.1**

Testing of fireworks, pyrotechnic materials, and pyrotechnic and explosive compositions shall be performed only in a building or area specifically designated for that purpose.

6.11.5.2.2

The testing shall be conducted at a safe distance from other buildings.

6.11.6

Signs that read as follows in letters not less than 4 in. (102 mm) high on a contrasting background shall be conspicuously posted on the outside of any consumer fireworks storage building:

FIREWORKS — NO SMOKING

6.11.7*

The operator of each consumer fireworks storage or work building or area shall prepare a written emergency response plan that provides specific directions to be followed in the event of a fire.

6.12 Housekeeping.

6.12.1

No loose Black Powder or other exposed pyrotechnic composition shall be permitted. If loose composition is discovered, it shall be removed immediately and disposed of in an approved manner.

6.12.2

Consumer fireworks storage or work buildings, rooms, or areas shall comply with the following:

Interiors shall be kept clean, dry, and free of grit and rubbish.

Tools used for cleaning up loose pyrotechnic composition shall not have spark-producing metal parts.

Sweepings shall be disposed of in an approved manner.

6.12.3

The area around consumer fireworks storage or work buildings shall be kept clear of brush, dried vegetation, rubbish, and similar combustibles for a distance of at least 25 ft (7.6 m).

6.13 Consumer Fireworks Work Buildings, Rooms, or Areas.**6.13.1**

Consumer fireworks work buildings, rooms, or areas shall comply with this section.

6.13.2

The quantity of consumer fireworks being handled outside of DOT-approved packaging shall be limited to that necessary to conduct the operation.

6.13.3

Aisles shall be at least 48 in. (1.2 m) wide and shall be kept free of obstructions that reduce the required width.

6.13.4

Exit doors shall be kept free of obstructions.

6.13.5

Work rooms or areas shall be permitted in consumer fireworks storage buildings.

6.13.5.1

Work rooms or areas in consumer fireworks storage buildings shall be separated from stored consumer fireworks by a fire barrier wall having a fire resistance rating of at least 1 hour or by a separation distance of at least 25 ft (7.6 m).

6.13.5.2

Work rooms or areas in consumer fireworks storage buildings shall have at least two remotely located means of egress, with at least one means of egress not having to pass through a storage area.

6.13.6

Light fixtures within 25 ft (7.6 m) of any consumer fireworks shall have guards.

6.14 Trailers, Semitrailers, and Metal Shipping Containers.**6.14.1***

Trailers, semitrailers, and metal shipping containers used for the storage of consumer fireworks shall comply with Section 6.14 and 5.3.4 for Type 4 outdoor magazines.

6.14.2

Trailers, semitrailers, and metal shipping containers not normally occupied shall be permitted to be locked during operation.

6.14.3

Where an interior aisle is provided, the aisle shall be not less than 28 in. (710 mm) in width.

6.14.4

At least one pressurized water-type fire extinguisher having a minimum rating of 2A shall be located within 75 ft (22.8 m) of the closest point on the exterior of any such trailer, semitrailer, and metal shipping container.

6.14.5

Panic hardware on exit doors shall not be required.

6.14.6

Trailers, semitrailers, and metal shipping containers shall be permitted to be placed side by side with no minimum separation distance and stacked to a maximum height of two units.

6.14.7

~~Trailers, semitrailers, and metal shipping containers shall be separated from adjacent permanent buildings and structures by not less than 10 ft (3 m).~~

Submitter Information Verification

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Committee Statement

Committee Statement: The deletion of this chapter implements the Standards Council Decision #14-1 removing retail sales of consumer fireworks from the scope of the Pyrotechnics Committee. Note that applicable sections of consumer fireworks storage in manufacturing facilities (most or all of 6.2, 6.13 and 6.14) have been relocated to Chapter 5 in section 5.9.

Response

Message:

[Public Input No. 3-NFPA 1124-2013 \[Section No. 6.5\]](#)

[Public Input No. 2-NFPA 1124-2013 \[Section No. 6.1.3\]](#)



First Revision No. 23-NFPA 1124-2014 [Chapter 7]

Chapter 7 Retail Sales of Consumer Fireworks Reserved

7.1* Applicability.

7.1.1* General Requirements.

~~Retail sales of consumer fireworks in both new and existing buildings, structures, and facilities shall comply with the requirements of this chapter unless otherwise indicated.~~

7.1.1.1 New Facilities.

7.1.1.1.1

~~For the purpose of applying the requirements of this chapter, the following consumer fireworks retail sales (CFRS) facilities and stores shall be considered to be new:~~

~~Permanent CFRS facilities and stores that are not initially occupied until after the effective date of this code, unless plans are submitted and accepted for review, plans have been approved for construction, or a building permit has been issued prior to the effective date of this code~~

~~Permanent CFRS facilities and stores constructed prior to the effective date of this code and in which the retail sales of consumer fireworks have not been conducted either seasonally or year-round within one year prior to the effective date of this code~~

~~Temporary CFRS facilities and stores~~

7.1.1.1.2

~~In a store where the area of the retail sales floor occupied by the retail displays of consumer fireworks is increased after the effective date of this code, such that the area exceeds the limits specified in 7.5.1.1 (1), the building shall be considered to be a new CFRS facility.~~

7.1.1.2 Existing Facilities.

~~For the purpose of applying the requirements of this chapter, CFRS facilities and stores not considered to be new as specified in 7.1.1.1 shall be considered to be existing.~~

7.1.1.3 Minimum Requirements.

~~Existing life safety features that do not meet the requirements for new buildings but that exceed the requirements for existing buildings shall not be further diminished.~~

7.1.1.4 Modernization or Renovation.

~~Any alteration or any installation of new equipment shall meet, as nearly as practicable, the requirements for new construction.~~

7.1.1.4.1

~~Only the altered, renovated, or modernized portion of an existing building, system, or individual component shall be required to meet the provisions of this code that are applicable to new construction.~~

7.1.1.4.2

~~If the alteration, renovation, or modernization adversely impacts required life safety features, additional upgrading shall be required.~~

7.1.1.4.3

~~Except where another provision of this code exempts a previously approved feature from a requirement, the resulting feature shall be not less than that required for existing buildings.~~

7.1.2 Facility Classification.

The requirements of this chapter shall apply to the following:

Permanent buildings and structures, including the following:

Stores

CFRS facilities

Temporary facilities, including the following:

CFRS stands

Tents

Canopies

Membrane structures

7.2 Special Limits for Retail Sales of Consumer Fireworks.**7.2.1**

Retail sales of consumer fireworks, including their related storage and display for sale of such fireworks, shall be in accordance with this code.

7.2.2*

Retail sales of consumer fireworks shall be limited to mercantile occupancies defined in NFPA 101, *Life Safety Code*.

7.2.3

Any building or structure used for the retail sales of consumer fireworks, including their related storage, shall comply with NFPA 101, *Life Safety Code*, for mercantile occupancies, except as provided in this code.

7.2.4

Retail sales of display fireworks and pyrotechnic articles, including the related storage and display for sale of such fireworks and articles, shall be prohibited at a CFRS facility or store.

7.2.5

Retail sales of certain explosive devices prohibited by the *Child Safety Act of 1966*, including the related storage and display for sale of such devices, shall be prohibited at a CFRS facility or store.

7.2.6

The retail sales of pest control devices, including their related storage and display for sale, shall be prohibited at a CFRS facility or store.

7.2.7

The retail sales of fireworks that do not comply with the regulations of the U.S. Consumer Product Safety Commission as set forth in 16 CFR 1500 and 1507 and the regulations of the U.S. Department of Transportation as set forth in 49 CFR 100 to 178, including their related storage and display for sale, shall be prohibited.

7.3 General Requirements for All Retail Sales.**7.3.1 Exempt Amounts.****7.3.1.1**

The requirements of this chapter shall not apply to permanent CFRS facilities and Class A and Class B stores where the consumer fireworks are in packages, there are no quantities of aerial devices meeting the descriptions in C.3.1.2, and the total quantity of consumer fireworks on hand does not exceed 125 lb (net) [56.8 kg] of pyrotechnic composition or, in a building protected throughout with an approved automatic sprinkler system installed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, 250 lb (net) [113.6 kg] of pyrotechnic composition.

7.3.1.2

The requirements of this chapter shall not apply to temporary CFRS facilities and Class C stores where the consumer fireworks are in packages and where the total quantity of consumer fireworks on hand does not exceed 125 lb (net) [56.8 kg] of pyrotechnic composition or, in a building protected throughout with an approved automatic sprinkler system installed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, 250 lb (net) [113.6 kg] of pyrotechnic composition, except as specified in 7.3.1.2.1.

7.3.1.2.1

Where the quantity of consumer fireworks on hand includes any quantity of aerial devices meeting the descriptions in C.3.1.2 in any quantity not exceeding the quantities specified in 7.3.1.2, temporary CFRS facilities and Class C stores shall only be required to comply with the following sections as applicable:

7.2.3 for mercantile occupancies per NFPA 101

7.3.8 for portable fire extinguishers

7.3.11 for No Smoking signs

7.3.14.1.1 for minimum number of exits

7.3.14.2 for egress travel distance

7.3.14.4.2.4 for dead end aisles

7.3.14.4 for doors and doorways

7.3.15.5 for covered fuses

7.3.15.6 for aerial devices (CFRS facilities)

7.3.16 for electrical equipment

7.3.17 for heating equipment

7.3.19 for operations

7.3.21 for housekeeping

7.3.22 for training

7.3.22 for under the influence

7.4.6.3 for fireworks discharge

7.4.9.3 for cooking equipment

7.5.1.2 for consumer fireworks in stores

7.6 for stands

7.3.1.3

Where the actual weight of the pyrotechnic composition of consumer fireworks is not known, 25 percent of the gross weight of the consumer fireworks, including packaging, shall be permitted to be used to determine the weight of the pyrotechnic composition.

7.3.2* Permits.

Where required by state or local laws, ordinances, or regulations, a permit for the following shall be obtained:

Construction, erection, or operation of the following:

Permanent building or structure

Temporary structure such as a stand, tent, or canopy used for the purpose of the retail display or sale of consumer fireworks to the public

Storage of consumer fireworks in connection with the retail display or sale of consumer fireworks to the public

7.3.3 Plans.

Plans for facilities other than stands and tents shall include the following:

Minimum distances from the following:

Public ways

Buildings

Other CFRS facilities

Motor vehicle fuel dispensing station dispensers

Retail propane dispensing station dispensers

Flammable and combustible liquid aboveground tank storage

Flammable gas and flammable liquefied gas bulk aboveground storage and dispensing areas within 300 ft (91.5 m) of the facility used for the retail sales of consumer fireworks

Vehicle access and parking areas

Location and type of portable fire extinguishers

Floor plan and layout of storage and displays to indicate compliance with this chapter and applicable state or local laws, ordinances, or regulations

Means of egress

Construction details

7.3.4* Fire Department Access.

Any portion of an exterior wall of a building, sidewall of a tent, or other defined perimeter of a CFRS facility or store shall be accessible within 150 ft (45.7 m) of a public way or an approved fire apparatus access.

7.3.5 Construction of Buildings and Structures.

Consumer fireworks shall only be permitted to be sold at retail in any of the following buildings or structures, provided that any new building or structure does not exceed one story in height and does not contain a basement:

Permanent buildings or structures constructed in accordance with the building code enforced by the AHJ

Tents, canopies, or temporary membrane structures complying with NFPA 102, *Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures*

Temporary structures constructed in accordance with this chapter

Temporary CFRS stands greater than 800 ft² (74 m²) in area that also meet the requirements for a permanent structure

Vehicles, such as vans, buses, trailers, recreational vehicles, motor homes, travel trailers, trucks, and automobiles, complying with the applicable requirements for CFRS stands

7.3.6*

An automatic sprinkler system designed and installed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, shall be provided throughout permanent CFRS facilities and stores in which CFRS are conducted in the following buildings:

New buildings greater than 3000 ft² (278.7 m²) in area

Existing buildings greater than 7500 ft² (694 m²) in area

7.3.7* Storage Rooms.

Storage rooms containing consumer fireworks in a new permanent CFRS facility or store shall be protected with an automatic sprinkler system installed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, and separated from the retail sales area by a fire barrier having a fire resistance rating of not less than 1 hour.

7.3.7.1

Door and window openings in the fire barrier wall shall be protected by self-closing fire doors or fixed fire windows having a fire protection rating of not less than 1 hour and shall be installed in accordance with NFPA 80, *Standard for Fire Doors and Other Opening Protectives*.

7.3.7.1.1

In stores, doors in the fire barrier wall shall not be required to have a fire protection rating.

7.3.7.2

Any other openings or penetrations in the fire barrier wall shall be protected in accordance with NFPA 101, *Life Safety Code*.

7.3.8 Portable Fire Extinguishers.

7.3.8.1 Specification.

Portable fire extinguishers shall be provided as required for extra (high) hazard occupancy in accordance with NFPA 10, *Standard for Portable Fire Extinguishers*.

7.3.8.2 Minimum Number.

No fewer than two portable fire extinguishers with a minimum 2A rating shall be provided, at least one of which shall be of the pressurized-water type.

7.3.8.3 Extinguisher Type.

Where more than one portable fire extinguisher is required, at least one fire extinguisher shall be of the multipurpose dry chemical type if the facility is provided with electrical power.

7.3.8.4 Location.

Portable fire extinguishers for permanent consumer fireworks retail sales facilities and stores shall be located so that the maximum distance of travel required to reach an extinguisher from any point does not exceed 75 ft (23 m), as specified in NFPA 10, *Standard for Portable Fire Extinguishers*.

7.3.9 Fire Alarms.

A fire alarm system shall be provided as required by NFPA 101, *Life Safety Code*.

7.3.10 No-Smoking Signs.

7.3.10.1

Smoking shall not be permitted inside or within 50 ft (15.5 m) of the CFRS area.

7.3.10.2

At least one sign that reads as follows, in letters at least 2 in. (51 mm) high on a contrasting background, shall be conspicuously posted at each entrance or within 10 ft (3.05 m) of every aisle directly serving the CFRS area in a store:

FIREWORKS — NO SMOKING

7.3.11 Separation Distances.

7.3.11.1

CFRS facilities and stores shall not be located within 50 ft (15.2 m) of the following:

Retail propane dispensing station dispensing devices

Aboveground storage tanks for flammable or combustible liquid, flammable gas, or flammable liquefied gas

Compressed natural gas dispensing station dispensing devices

7.3.11.2*

New CFRS facilities and stores shall not be located within 50 ft (15.2 m) of motor vehicle fuel dispensing station dispensing devices.

7.3.11.3

Existing permanent CFRS facilities and stores shall not be located within 25 ft (7.6 m) of motor vehicle fuel dispensing station dispensing devices.

7.3.11.4

Fuel tanks on vehicles or other motorized equipment shall not be considered bulk storage.

7.3.11.5

Fuel storage for generators shall be in accordance with [7.4.9.2](#) .

7.3.11.6*

CFRS areas and storage areas shall not be located within 300 ft (91.2 m) of any bulk plant or bulk terminal for the following:

Flammable or combustible liquid

Flammable gas

Flammable liquefied gas

7.3.12* Mobile Storage Units:

Mobile storage units used for the temporary storage of consumer fireworks shall meet the criteria of [5.3.4](#) for a Type 4 outdoor magazine and shall be located not less than 10 ft (3.05 m) from CFRS facilities and stores.

7.3.13* Fire Safety and Evacuation Plan.

For a CFRS facility or store, an approved fire safety and evacuation plan shall be prepared in writing and maintained current.

7.3.14 Means of Egress.**7.3.14.1 Number of Exits.****7.3.14.1.1**

The minimum number of exits provided from the retail sales area shall be not less than three or as determined in accordance with [NFPA 101, Life Safety Code](#), whichever number is greater.

7.3.14.1.2

Required means of egress from the retail sales area shall not be allowed to pass through storage rooms.

7.3.14.2 Egress Travel Distance.

Exits provided for the retail sales area of tents, membrane structures, canopies, and permanent CFRS facilities, including Class C stores, shall be located so that the maximum egress travel distance, measured from the most remote point to an exit along the natural and unobstructed path of egress travel, does not exceed 75 ft (22.9 m).

7.3.14.3 Egress Capacity.

Egress capacity shall be based on 0.7 in./person (18 mm/person) for stairs or 0.4 in./person (10 mm/person) for level components and ramps.

7.3.14.4 Aisles.

Aisles serving as a portion of the exit access in CFRS areas shall comply with this paragraph.

7.3.14.4.1 Aisle Width.**7.3.14.4.1.1**

Aisles shall have a minimum clear width of 48 in. (1.2 m).

7.3.14.4.1.2

The required width of aisles shall be maintained unobstructed at all times the facility is occupied by the public.

7.3.14.4.2* Aisle Arrangements.**7.3.14.4.2.1**

Not less than one aisle shall be provided and arranged so that travel along the aisle leads directly to an exit.

7.3.14.4.2.2

Other required exits shall be located at, or within 10 ft (3.05 m) of, the end of an aisle or a cross-aisle.

7.3.14.4.2.3

Aisles shall terminate at an exit, another aisle, or a cross-aisle.

7.3.14.4.2.4

Dead-end aisles shall be prohibited.

7.3.14.4.2.5

Where more than one aisle is provided, not less than one cross-aisle shall have an unobstructed connection with every aisle, other than cross-aisles.

7.3.14.4.2.6

~~Cross-aisle connections shall be provided for each aisle at intervals not greater than 50 ft (15.2 m) as measured along the aisle.~~

7.3.14.4.2.7

~~Where cross-aisles are required, not less than one cross-aisle shall have at least one end terminate at, or within 10 ft (3.05 m) of, an exit.~~

7.3.14.5 Doors and Doorways.

~~Doors and doorways used in the means of egress shall comply with this paragraph.~~

7.3.14.5.1

~~Egress doors shall be not less than 36 in. (910 mm) in width [providing a minimum of 32 in. (813 mm) clear width].~~

7.3.14.5.2

~~Every egress door that has a latching device shall be provided with panic hardware complying with NFPA 101, *Life Safety Code*.~~

7.3.14.5.3

~~Means of egress doors shall be of the side-hinge swinging type and shall be arranged to swing in the direction of egress travel.~~

7.3.14.5.4

~~Delayed egress locks shall be prohibited.~~

7.3.14.6 Exit Signs.**7.3.14.6.1**

~~Exits shall be marked by an approved exit sign in accordance with NFPA 101, *Life Safety Code*.~~

7.3.14.6.2

~~Exit signs shall be required to be self-luminous or internally or externally illuminated.~~

7.3.14.7 Illumination of Mean of Egress.

~~The means of egress, including the exit discharge, shall be illuminated whenever the facility is occupied, in accordance with NFPA 101, *Life Safety Code*.~~

7.3.14.8 Emergency Lighting.

~~Emergency lighting shall be provided for CFRS facilities and stores and shall comply with NFPA 101, *Life Safety Code*.~~

7.3.15* Retail Sales Displays.**7.3.15.1 General.**

~~The requirements of this section shall apply only to CFRS areas, unless otherwise specifically indicated.~~

7.3.15.2* Flame Breaks.**7.3.15.2.1***

~~Where continuous displays of consumer fireworks are located on shelving, cases, counters, and similar display fixtures, a flame break shall be provided so that the maximum distance between flame breaks does not exceed 16 ft (4.9 m) where measured along the length of the display.~~

7.3.15.2.2

~~Flame breaks shall have a flame-break rating of not less than 5 minutes as determined in accordance with PYR 1128, *Standard Method of Fire Test for Flame Breaks*.~~

7.3.15.2.2.1

~~Combustible flame breaks shall have a flame spread index not greater than 75, as determined in accordance with ASTM E 84, *Standard Test Method for Surface Burning Characteristics of Building Materials*.~~

7.3.15.2.3

~~The flame break shall extend as follows:~~

~~From the display surface to not less than 6 in. (150 mm) above the full height of the displayed merchandise or to the underside of the display surface directly above~~

~~For the full depth of the displayed merchandise~~

7.3.15.2.4*

Where packaged fireworks merchandise is displayed on the same level as individual unpackaged fireworks devices, the flame break required in 7.3.15.2.1 shall not be required where both of the following criteria are met:

The length of the display level containing individual unpackaged fireworks devices is interrupted by packaged fireworks merchandise, or open space, or any combination thereof, having a continuous length of not less than 8 ft (2.4 m).

The distance between flame breaks does not exceed 32 ft (9.8 m).

7.3.15.2.5

Where a merchandise display level contains packaged fireworks merchandise, such merchandise shall be permitted to be displayed in a continuous length on the same level, where the display does not exceed 32 ft (9.8 m) without the flame break required in 7.3.15.2.1.

7.3.15.2.6

An aisle having a minimum width of 48 in. (1.2 m) shall be permitted to substitute for the flame break required in 7.3.15.2.1.

7.3.15.2.7

Where displays of merchandise face aisles that run along both long sides of the display fixtures or display surface, a flame break shall be installed lengthwise between the abutting display fixtures or along the approximate longitudinal centerline of the display surface so as to separate the merchandise facing one of the aisles from the merchandise that abuts it facing the other aisle.

7.3.15.2.8

Freestanding display racks, pallets, tables, or bins containing packaged fireworks merchandise shall be permitted without flame breaks, provided the dimensions of the area occupied by the fireworks merchandise do not exceed 4 ft (1.2 m) in width, 8 ft (2.4 m) in length, and 6 ft (1.8 m) in height, and the displayed fireworks merchandise is separated from other displays of merchandise by aisles having a minimum clear width of 4 ft (1.2 m).

7.3.15.3 Shelving.**7.3.15.3.1**

Shelving or other surfaces used to support fireworks display merchandise shall be permitted to have not more than 10 percent of the area of the shelf contain holes or other openings.

7.3.15.3.2

The 10 percent limitation on the area of holes or other openings in the shelf used to support fireworks display merchandise shall not be applicable where such merchandise is suspended from or fastened to the shelf or surface or is displayed as packaged merchandise on the surface or in bins.

7.3.15.3.3

Flame breaks and solid display surfaces shall not be required for packaged fireworks merchandise displayed in bins or display racks or on pallets or tables located at the end of a row of display fixtures where the following conditions are met:

Such end displays are separated from the ends of the display fixtures by an open space not less than 3 in. (76 mm) wide.

The fireworks merchandise occupies an area having dimensions not greater than the width of the end of the row of display fixtures and a depth not greater than 36 in. (910 mm).

The minimum required widths of the adjacent aisles are maintained, but in no case is the aisle width less than 48 in. (1.2 m).

7.3.15.4 Covered Fuses.**7.3.15.4.1**

Only consumer fireworks that have been successfully tested in accordance with PYR 1129, *Standard Method of Fire Test for Covered Fuse on Consumer Fireworks*, to determine compliance with the covered fuse requirements of this code shall be permitted where the retail sales of consumer fireworks are conducted.

7.3.15.4.2

The individual consumer fireworks device or the packaging in which the consumer fireworks device or devices are encapsulated for retail sale shall be labeled to indicate compliance with PYR 1129.

7.3.15.5* Aerial Devices.

Aerial devices shall be packaged and displayed for sale in a manner that will limit travel distance of ejected pyrotechnic components if ignition of the fireworks occurs.

7.3.15.6* Horizontal Barriers.

Combustible materials and merchandise shall not be stored directly above the consumer fireworks in retail sales displays unless a horizontal barrier is installed directly above the consumer fireworks as prescribed in 7.4.2.2.5 of NFPA 400, *Hazardous Materials Code*.

7.3.16 Electrical Equipment.

All electrical wiring shall be in accordance with NFPA 70, *National Electrical Code*.

7.3.17 Heating Equipment.**7.3.17.1**

Heating units shall be listed and shall be used in accordance with their listing.

7.3.17.2

Temporary heating sources shall have tip-over and temperature overheat protection.

7.3.17.3

Open-flame and exposed-element heating devices shall be prohibited.

7.3.18 Portable Generators.

Fuel for generators shall be permitted to be Class I, Class II, or Class III liquids and shall be limited to not more than 5 gallons (18.9 L).

Subsection 7.3.18 was revised by a tentative interim amendment (TIA). See page 1.

7.3.19 Operations.**7.3.19.1 General.**

Means of egress, including but not limited to aisles, doors, and exit discharge, shall be clear at all times when the facility or the building is occupied.

7.3.19.2 Distances from Entrances and Exits.**7.3.19.2.1**

No consumer fireworks shall be displayed for sale or stored within 5 ft (1.5 m) of any public entrance in an enclosed building or structure.

7.3.19.2.2

No consumer fireworks shall be displayed for sale or stored within 2 ft (0.6 m) of any exit or private entrance in an enclosed building or structure.

7.3.19.3 Security.**7.3.19.3.1**

CFRS facilities and stores shall be secured when unoccupied and not open for business, unless fireworks are not kept in the facility during such times.

7.3.19.3.2

The fireworks displayed or stored in a CFRS facility or store shall be allowed to be removed and transferred to a temporary storage structure or location.

7.3.19.4

Fireworks shall not be ignited, discharged, or otherwise used within 300 ft (91.5 m) of a CFRS facility or store.

7.3.20* Housekeeping.**7.3.20.1**

CFRS areas and storage rooms shall be kept free of accumulations of debris and rubbish.

7.3.20.2

Any loose pyrotechnic composition shall be removed immediately.

7.3.20.3

Vacuum cleaners or other mechanical cleaning devices shall not be used to clean up any loose pyrotechnic composition.

7.3.20.4

Brooms, brushes, and dustpans used to sweep up any loose powder or dust shall be made of nonsparking materials.

7.3.20.5

Consumer fireworks devices that are damaged shall be removed and not offered for sale.

7.3.20.6

Damaged consumer fireworks shall be permitted to be returned to the dealer or shall be disposed of according to the manufacturer's instructions.

7.3.21* Training.

All personnel handling consumer fireworks shall receive safety training related to the performance of their duties.

7.3.22 Under the Influence.

Any person selling consumer fireworks shall not knowingly sell consumer fireworks to any person who is obviously under the influence of alcohol or drugs.

7.4 Consumer Fireworks Retail Sales (CFRS) Facility Requirements.**7.4.1 Plan.**

Where required, plans for CFRS facilities shall be submitted to the AHJ with the permit application.

7.4.2 Site Plan.

The site plan for tents shall show the location of the tent on the site and indicate the minimum separation distances required by 7.4.7 .

7.4.3 Construction Materials.

The following construction materials requirements shall apply to new permanent CFRS facilities in jurisdictions that have not adopted a local building code, provided that any new building or structure does not exceed one story in height and does not contain a basement:

Buildings having an area up to and including 8000 ft² (743 m²) shall be permitted to be constructed of any approved construction materials.

Buildings having an area greater than 8000 ft² (743 m²) shall be constructed in accordance with one of the following:

Buildings shall be constructed of noncombustible or limited combustible materials.

Buildings with exterior walls having a fire resistance rating of not less than 2 hours shall be permitted to have the roof decking and its supporting structure and interior partitions constructed of combustible materials.

Roof coverings for any building shall have a minimum rating of Class C as determined in accordance with ASTM E 108, *Standard Test Methods for Fire Tests of Roof Coverings*, or ANSI/UL 790, *Standard for Standard Test Methods for Fire Tests of Roof Coverings* .

7.4.4 Multiple Tenant Buildings.**7.4.4.1**

Where a new CFRS facility is located in a building containing other tenants, the CFRS facility shall be separated from the other tenants by fire barriers complying with NFPA 101, *Life Safety Code*, without openings and having a fire resistance rating of not less than 2 hours.

7.4.4.2

Where the new CFRS facility is protected per NFPA 13, *Standard for the Installation of Sprinkler Systems*, the fire resistance rating of the fire barrier required by 7.4.4.1 shall be permitted to be not less than 1 hour.

7.4.4.3

Any penetrations of the fire barrier shall be protected in accordance with NFPA 101, *Life Safety Code* .

7.4.5 Fire Protection.**7.4.5.1 Automatic Sprinkler System Alarm.**

Any waterflow alarm device shall be arranged to activate audible and visual alarms throughout the CFRS facility in accordance with NFPA 72, *National Fire Alarm and Signaling Code* .

7.4.5.2 Portable Fire Extinguishers.

Portable fire extinguishers for temporary CFRS facilities shall be installed and located so that the maximum distance of travel required to reach an extinguisher from any point does not exceed 35 ft (10.6 m).

7.4.5.3 Public Notification.

In permanent CFRS facilities greater than 3000 ft^2 (278.6 m^2) in area, a public address system or a means for manually activating audible and visible alarm indicating devices located throughout the facility in accordance with *NFPA 72, National Fire Alarm and Signaling Code*, shall be provided at a constantly attended location when the CFRS facility is occupied.

7.4.6 Site Requirements.

7.4.6.1 Clearance to Combustibles.

The area located within 30 ft (9 m) of a CFRS facility shall be kept free of accumulated dry grass, dry brush, and combustible debris.

7.4.6.2 Parking.

No motor vehicle or trailer used for the storage of consumer fireworks shall be parked within 10 ft (3 m) of a CFRS facility, except when delivering, loading, or unloading fireworks or other merchandise and materials used, stored, or displayed for sale in the facility.

7.4.6.3 Fireworks Discharge.

At least one sign that reads as follows, in letters at least 4 in. (102 mm) high on a contrasting background, shall be conspicuously posted on the exterior of each side of the CFRS facility:

NO FIREWORKS DISCHARGE

WITHIN 300 FEET

7.4.7 Separation Distances.

7.4.7.1 Permanent Facilities.

7.4.7.1.1 New Facilities.

New permanent consumer fireworks retail sales facilities shall be separated from adjacent permanent buildings and structures in accordance with [Table 7.4.7.1.1](#).

Table 7.4.7.1.1 Separation Distances Between New Permanent Buildings and Structures

Separation Distances		Exterior Wall Fire Resistance Rating (hr)	Exterior Wall Opening Protection Rating (hr)
ft	m		
<10	<3.05	2	$4 \frac{1}{2}$
≥ 10 to < 60	≥ 3.05 to < 18.3	4	$3 \frac{1}{4}$
≥ 60	≥ 18.3	0	0

7.4.7.1.2 Existing Facilities.

Existing permanent CFRS facilities shall be separated from adjacent permanent buildings and structures by not less than 10 ft (3.05 m) or shall be separated by a wall with a 1 hour fire resistance rating.

7.4.7.2 Temporary Facilities.

Temporary CFRS facilities shall be located as specified in [Table 7.4.7.2](#).

Table 7.4.7.2 Temporary CFRS Facilities — Minimum Separation Distances

	Buildings		Combustibles ^a		Tents ^b		Vehicle Parking		Stands ^c		Storage of Consumer Fireworks ^d	
	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m
Tents ^b	20	6.1	20	6.1	20	6.1	10	3.05	20	6.1	20	6.1
Stands ^c	20	6.1	10	3.05	20	6.1	10	3.05	5 ^e	1.5 ^e	20	6.1

^a The required clearances to combustibles shall also comply with [7.4.6.1](#).

^b *Tents* refers to temporary retail sales of consumer fireworks in tents, canopies, and membrane structures.

^c *Stands* refers to temporary CFRS stands.

^d The separation distance shall be allowed to be reduced to 10 ft (3.05 m) where the consumer fireworks are stored in a mobile storage unit.

^e Where stands are separated from each other by less than 20 ft (6.1 m), the aggregate area of such stands shall not exceed 800 ft² (74 m²).

7.4.8 Means of Egress.**7.4.8.1 General.****7.4.8.1.1**

Means of egress in CFRS facilities shall comply with the applicable requirements of [NFPA 101, Life Safety Code](#), as modified by [7.3.14](#) and [7.4.8](#).

7.4.8.1.2*

Means of egress in tents and membrane structures used for retail sales of consumer fireworks shall also comply with [NFPA 102, Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures](#), as modified by [7.3.14](#) and [7.4.8](#).

7.4.8.2

The evacuation plan shall be posted in a conspicuous location that is accessible to the public as well as to persons employed or otherwise working in the CFRS facility.

7.4.8.3

Exit signs shall not be required to be illuminated in tents that are not open for business after dusk.

7.4.8.4

Emergency lighting shall not be required in tents that are not open for business after dusk.

7.4.8.5

Exit openings from tents shall have a clear opening width of not less than 44 in. (1100 mm).

7.4.9 Source of Ignition.**7.4.9.1 Temporary Electrical Equipment.**

Battery-powered equipment, electrical equipment, and electrical cords that are used in conjunction with a CFRS facility area shall be listed and shall be used in accordance with their listing.

7.4.9.1.1

Temporary wiring installed in temporary structures, including tents and canopies, shall comply with Article 590 of [NFPA 70, National Electrical Code](#).

7.4.9.1.2

Where temporary electrical conductors are placed on top of an outdoor surface to connect the permanent power source to the temporary CFRS facility's temporary electrical system, the conductors shall be provided with physical protection against damage caused by pedestrian or vehicular traffic.

7.4.9.2 Portable Generators.

Subsection 7.4.9.2 was revised by a tentative interim amendment (TIA). See page 1.

7.4.9.2.1

Portable generators shall be located not less than 20 ft (6.1 m) from the CFRS facility.

7.4.9.2.2

Generator fuels shall be stored not less than 20 ft (6.1 m) from the CFRS facility.

7.4.9.2.3*

Where the generator fuel storage is located not less than 50 ft (15.2 m) from the CFRS facility, the quantity of such fuel shall not be limited by 7.3.18.

7.4.9.3 Cooking Equipment.**7.4.9.3.1**

Cooking equipment of any type shall not be permitted within 20 ft (6.1 m) of tents, canopies, or membrane structures used for the storage or sale of consumer fireworks.

7.4.9.3.2

Open flame cooking equipment of any type shall not be allowed within 50 ft (15.2 m) of tents, canopies, or membrane structures used for the storage or sale of consumer fireworks.

7.4.10 Occupied Floor Area Limitations.**7.4.10.1**

The floor area occupied by the retail displays of consumer fireworks in permanent CFRS facilities shall not exceed 40 percent of the available floor area within the retail sales area.

7.4.10.2

Not less than 50 percent of the available floor area within the retail sales area shall be open space that is unoccupied by retail displays and used only for aisles and cross-aisles.

7.4.11 Quantity Limitations.**7.4.11.1*** Height of Sales Displays.

To provide for visual access of the retail sales area by the employees and customers, partitions, counters, shelving, cases, and similar space dividers shall not exceed 6 ft (1.8 m) in height above the floor surface inside the perimeter of the retail sales area.

7.4.11.1.1

Merchandise on display or located on shelves or counters or other fixtures shall not be displayed to a height greater than 6 ft (1.8 m) above the floor surface within the CFRS area.

7.4.11.1.2

Where located along the perimeter of the consumer fireworks retail sales area, the maximum height of sales displays shall be limited to 12 ft (3.66 m).

7.4.12 Flame Breaks.

In CFRS facilities the longitudinal flame break required in 7.3.15.2.7 shall not be required where the display fixture or surface is adjacent to an aisle that is not used for public egress.

7.4.13 Height of Sales Displays.

To provide for visual access of the retail sales area by the employees and customers, partitions, counters, shelving, cases, and similar space dividers shall not exceed 6 ft (1.8 m) in height above the floor surface inside the perimeter of the retail sales area.

7.4.13.1

Merchandise on display or located on shelves, counters, or other fixtures shall not be displayed to a height greater than 6 ft (1.8 m) above the floor surface within the CFRS area.

7.5 Stores.**7.5.1 General.****7.5.1.1***

For the purpose of this chapter, stores in which retail sales of consumer fireworks are conducted shall not be considered CFRS facilities as defined in 3.3.29.1 where both of the following conditions exist:

The area of the retail sales floor occupied by the retail displays of consumer fireworks does not exceed 25 percent of the area of the retail sales floor in the building or 600 ft^2 (55.5 m^2), whichever is less.

The consumer fireworks are displayed and sold in a manner approved by the AHJ and comply with the applicable provisions of this code, federal and state law, and local ordinances.

7.5.1.2

Consumer fireworks displayed for sale in stores shall comply with the following:

Such fireworks shall be under the visual supervision of a store employee or other responsible party while the store is open to the public.

Such fireworks shall be packaged fireworks merchandise.

* Such fireworks shall be packaged and displayed for sale in a manner that will limit travel distance of ejected pyrotechnical components if ignition of the fireworks occurs.

Where consumer fireworks meeting the descriptions of [C.3.1.2](#) or [C.3.1.3](#) for aerial devices and audible ground devices, respectively, are sold, such devices shall be displayed for sale in an area of the store that is physically separated from the rest of the store in a manner that restricts entry by the public, and the area of the store shall be provided with not less than two means of egress, so located that there is no common path of travel and the distance to reach an egress point from the area does not exceed 35 ft (10.7 m).

7.5.2 Egress.

Means of egress in stores shall comply with [NFPA 101, Life Safety Code](#), unless otherwise specified in [7.3.14](#).

7.5.3 Alarm Notification.

In Class B stores, a public address system or a means for manually activating audible and visible alarm indicating devices located throughout the facility in accordance with [NFPA 72, National Fire Alarm and Signaling Code](#), shall be provided at a constantly attended location when the store is occupied.

7.5.4

Flame breaks shall be allowed to be omitted in stores protected throughout with an automatic sprinkler system installed in accordance with [NFPA 13, Standard for the Installation of Sprinkler Systems](#).

7.6 Stands.**7.6.1 Site Plan.**

The site plan for stands shall show the location of the stand on the site and indicate the minimum separation distances required by [7.4.7](#).

7.6.2 Temporary Stands.**7.6.2.1 Portable Fire Extinguisher.**

Temporary CFRS stands of less than 200 ft^2 (18.6 m^2) shall be required to have only one portable fire extinguisher.

7.6.2.2 Fire Safety and Evacuation Plan.

An approved fire safety and evacuation plan shall not be required for temporary CFRS stands.

7.6.2.3 Means of Egress.**7.6.2.3.1**

Retail sales areas within temporary CFRS stands shall have a minimum of two exits.

7.6.2.3.2

Exits provided for temporary fireworks retail sales stands shall be located such that the maximum egress travel distance as measured from the most remote point to an exit along the natural and unobstructed path of egress travel does not exceed 35 ft (10.6 m).

7.6.2.3.3

Customers shall not be permitted inside a temporary CFRS stand unless it complies with the means of egress requirements in [7.3.14](#).

7.6.2.3.4

Exit signs shall not be required to be illuminated in stands that are not open for business after dusk, or in temporary CFRS stands where the interior is not accessible to the public.

7.6.2.3.5

Emergency lighting shall not be required in stands that are not open for business after dusk or for temporary CFRS stands where the interior is not accessible to the public.

7.6.3 Minimum Separation Distances.

Temporary CFRS stands shall be separated from adjacent buildings and structures in accordance with [Table 7.4.7.2](#).

7.6.4 Stands Not Open to the Public.

7.6.4.1 Minimum Clear Width of Aisles.

~~In temporary CFRS stands where the interior is not accessible to the public, the minimum clear width of the aisle shall be permitted to be not less than 28 in. (710 mm).~~

7.6.4.2 Egress Doors.**7.6.4.2.1**

~~Egress doors provided for temporary CFRS stands where the interior is not accessible to the public shall be permitted to be not less than 28 in. (710 mm) in width.~~

7.6.4.2.2

~~For temporary CFRS stands where the interior is not accessible to the public, latching devices on doors shall be permitted without panic hardware.~~

7.6.4.3 Height of Sales Displays.

~~In temporary CFRS stands where the interior is not accessible to the public, the maximum height of sales displays shall be limited to 8 ft (2.44 m).~~

7.6.4.4 Flame Breaks.

~~Temporary CFRS stands where the interior is not accessible to the public shall not be required to comply with 7.3.15.2.~~

7.6.4.5 Covered Fuses.

~~Individual consumer fireworks items displayed for sale in temporary CFRS stands where the interior is not accessible to the public shall not be required to have covered fuses.~~

7.6.4.6 Sales Display.

~~The following shall apply to the sales display of consumer fireworks in temporary CFRS stands that do not allow access to the interior of the stand by the public:~~

~~Consumer fireworks shall be displayed in a manner that prevents the fireworks from being handled by persons other than those operating, supervising, or working in the temporary CFRS stand.~~

~~The handling requirements of 7.6.4.6 (1) shall not apply to packaged assortments, boxes, or similarly packaged containers of one or more items, regardless of type.~~

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Committee Statement

Committee Statement: The deletion of this chapter implements the Standards Council Decision #14-1 removing retail sales of consumer fireworks from the scope of the Pyrotechnics Committee.

Response Message:

[Public Input No. 4-NFPA 1124-2013 \[Sections 7.3.1.1, 7.3.1.2\]](#)

[Public Input No. 17-NFPA 1124-2013 \[Section No. 7.3.3\]](#)

[Public Input No. 5-NFPA 1124-2013 \[Sections 7.3.6, 7.3.7\]](#)

[Public Input No. 12-NFPA 1124-2013 \[Section No. 7.3.18\]](#)

[Public Input No. 6-NFPA 1124-2013 \[Section No. 7.4.4.2\]](#)

[Public Input No. 7-NFPA 1124-2013 \[Section No. 7.4.5.1\]](#)

[Public Input No. 13-NFPA 1124-2013 \[Section No. 7.4.9.2\]](#)

[Public Input No. 14-NFPA 1124-2013 \[Section No. 7.4.9.2.3\]](#)

[Public Input No. 8-NFPA 1124-2013 \[Section No. 7.5.4\]](#)

[Public Input No. 15-NFPA 1124-2013 \[Section No. 7.6.2.3.1\]](#)

[Public Input No. 16-NFPA 1124-2013 \[New Section after 7.6.4.2.2\]](#)



First Revision No. 7-NFPA 1124-2014 [Section No. A.3.3.42]

A.3.3.34 Mine.

A mine is not an aerial shell or a comet a fireworks device designed to project stars and/or other effects or components into the air from a mortar. A black powder lift charge at the base of the mine ignites its contents and projects them into the air usually to an altitude that is lower than that reached by an aerial shell of the same diameter. The visual effect is similar to that of a flowerpot. Mines are not aerial shells or comets. [1123, 2014]. [1123, 2010 2014]

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First Revision No. 4-NFPA 1124-2014 [Section No. G.1.1]

G.1.1 NFPA Publications.

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

NFPA 1, *Fire Code*, 2012 2015 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2012 2015 edition.

NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*, 2012 2015 edition.

NFPA 99, *Health Care Facilities Code*, 2012 2015 edition.

NFPA 101[®], *Life Safety Code*[®], 2012 2015 edition.

NFPA 102, *Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures* NFPA 220, *Standard on Types of Building Construction*, 2011 2015 edition.

NFPA 259, *Standard Test Method for Potential Heat of Building Materials*, 2008 2013 edition.

NFPA 1122, *Code for Model Rocketry*, 2013 edition.

NFPA 1127, *Code for High Power Rocketry*, 2013 edition.

PYR-1128, *Standard Method of Fire Test for Flame Breaks*, 2013 edition.

PYR-1129, *Standard Method of Fire Test for Covered Fuse on Consumer Fireworks*, 2013 edition.

NFPA 5000, *Building Construction and Safety Code* [®], 2012 edition.

NFPA Fire Protection Guide to Hazardous Materials, 43th 14th edition, 2002 2010.

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First Revision No. 5-NFPA 1124-2014 [Section No. G.3]

G.3 References for Extracts in Informational Sections.

NFPA 101®, *Life Safety Code*®, 2012 2015 edition.

NFPA 1123, *Code for Fireworks Display*, 2010 2014 edition.

NFPA 5000®, *Building Construction and Safety Code*®, 2012 edition.

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First Revision No. 30-NFPA 1124-2014 [Chapter H]

Annex H Cross-Reference Table for Chapter 7 Reorganization

Annex H

H.4

To assist in following requirements in the 2003 and 2006 editions, refer to Table H.1 to determine appropriate cross-references between editions.

Table H.1 Chapter 7 Cross Reference from the 2006 Edition to the 2003 Edition

Topic	2006 Edition	2003 Edition
Applicability	7.1	7.1
	7.1.1	7.1.1
New	7.1.1.1	New
Existing	7.1.1	7.1.1 New
	7.1.1.2	New
Minimum Requirements	7.1.1.3	New
Modernization or Renovation	7.1.1.4	New
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Committee Statement

Committee Statement: This cross reference table is no longer needed since chapter 7 has been deleted.

Response Message: