

CHAPTER 33

EXPLOSIVES AND FIREWORKS

3301.1 Scope. ~~The provisions of this chapter shall govern the possession, manufacture, storage, handling, sale and use of explosives, explosive materials, fireworks and small arms ammunition.~~

Exceptions:

- ~~1. The Armed Forces of the United State, Coast Guard or National Guard.~~
- ~~2. Explosives in forms prescribed by the official United States Pharmacopoeia.~~
- ~~3. The possession, storage and use of small arms ammunition when packaged in accordance with DOTn packaging requirements.~~
- ~~4. The possession, storage, and use of not more than 1 pound (0.454 kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and 10,000 small arms primers for hand loading of small arms ammunition for personal consumption.~~
- ~~5. The use of explosive materials be federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities.~~
- ~~6. Special industrial explosive devices which in the aggregate contain less than 50 pounds (23 kg) of explosive materials.~~
- ~~7. The possession, storage and use of blank industrial power load cartridges when packaged in accordance with DOTn packaging regulations.~~
- ~~8. Transportation in accordance with DOTn 49 CFR Parts 100-185.~~
- ~~9. Items preempted by federal regulations.~~

The provisions ORS 480.010 through 480.095, ORS 480.200 through ORS 480.290 and OAR 837-012-1200 through OAR 837-012-1420 shall govern the manufacture, sale, possession and transfer of explosives.

The provisions of ORS 480.110 through to ORS 480.165 and the following OARs shall govern sale, storage and use for fireworks and pyrotechnics:

1. Wholesale Fireworks Sales, OAR 837-012-0700 through OAR 837-012-0570.
2. Public Display, OAR 837-012-0700 through OAR 837-012-0970.
3. Retail Sales, OAR 837-012-0600 through OAR 837-012-0675.
4. Agricultural Use, OAR 837-012-0305 through OAR 837-012-0370.
5. Civil Penalties, OAR 837-012-1000 through OAR 837-012-1160.

A link to current Oregon Revised Statutes (ORS) and Oregon Administrative Rules (OAR) can be found at www.sfm.state.or.us

3301.1.1 Explosive material Small arms ammunitions standard. ~~In addition to the requirements of this chapter~~ NFPA 495 shall govern the possession, manufacture, ~~transportation~~, storage, sale, handling and use of ~~explosive materials~~ small arms ammunition.

3301.1.3 (Not adopted) Fireworks. *The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.*

Exceptions:

- 1. Storage and handling of fireworks as permitted in Section 3304.*
- 2. Manufacture, assembly and testing of fireworks as permitted in Section 3305.*
- 3. The use of fireworks for fireworks displays as allowed in Section 3308.*

4. *The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and regulations, provided such fireworks comply with CPSC 16 CFR, Parts 1500 and 1507, and DOTn 49 CFR, Parts 100-185, for consumer fireworks.*

3301.1.6 Manufacture, assembly and testing of explosives, explosive materials and fireworks. *The manufacture, assembly and testing of explosives, ammunition, blasting agents and fireworks shall comply with the requirements of NFPA 495 and 1124.*

3301.2 (Not adopted) Permits required. *Permits shall be required as set forth in Section 105.6 and regulated in accordance with this section.*

3301.2.1 (Not adopted) Residential uses. *No person shall keep or store, nor shall any permit be issued to keep or store, any explosives at any place of habitation, or within 100 feet (30 480 mm) thereof.*

Exception: Storage of smokeless propellant, black powder, and small arms primers for personal use and not for resale in accordance with Section 3306.

3301.2.2 (Not adopted) Sale and retail display. *No person shall construct a retail display nor offer for sale explosives, explosive materials, or fireworks upon highways, sidewalks, public property, or in Group A or E occupancies.*

3301.2.3 Not adopted) Permit restrictions. *The fire code official is authorized to limit the quantity of explosives, explosive materials, or fireworks permitted at a given location. No person, possessing a permit for storage of explosives at any place, shall keep or store an amount greater than authorized in such permit. Only the kind of explosive specified in such permit shall be kept or stored.*

3301.2.4 (Not adopted) Financial responsibility. *Before a permit is issued, as required by Section 3301.2, the applicant shall file with the jurisdiction a corporate surety bond in the principal sum of \$100,000 or a public liability insurance policy for the same amount, for the purpose of the payment of all damages to persons or property which arise from, or are caused by, the conduct of any act authorized by the permit upon which any judicial judgment results. The fire code official is authorized to specify a greater or lesser amount when, in his or her opinion, conditions at the location of use indicate a greater or lesser amount is required. Government entities shall be exempt from this bond requirement.*

3301.2.4.2 (Not adopted) Fireworks display. *The permit holder shall furnish a bond or certificate of insurance in an amount deemed adequate by the fire code official for the payment of all potential damages to a person or persons or to property by reason of the permitted display, and arising from any acts of the permit holder, the agent, employees or subcontractors.*

3301.3 (Not adopted) Prohibited explosives. *Permits shall not be issued or renewed for possession, manufacture, storage, handling, sale or use of the following materials and such materials currently in storage or use shall be disposed of in an approved manner.*

1. *Liquid nitroglycerin.*
2. *Dynamite containing more than 60-percent liquid explosive ingredient.*
3. *Dynamite having an unsatisfactory absorbent or one that permits leakage of a liquid explosive ingredient under any conditions liable to exist during storage.*
4. *Nitrocellulose in a dry and uncompressed condition in a quantity greater than 10 pounds (4.54 kg) of net weight in one package.*
5. *Fulminate of mercury in a dry condition and fulminate of all other metals in any condition except as a component of manufactured articles not hereinafter forbidden.*

6. *Explosive compositions that ignite spontaneously or undergo marked decomposition, rendering the products of their use more hazardous, when subjected for 48 consecutive hours or less to a temperature of 167° F (75° C).*
7. *New explosive materials until approved by DOTn, except that permits are allowed to be issued to educational, governmental or industrial laboratories for instructional or research purposes.*
8. *Explosive materials condemned by DOTn.*
9. *Explosive materials containing an ammonium salt and a chlorate.*
10. *Explosives not packed or marked as required by DOTn 49 CFR, Parts 100-185.*

Exception: *Gelatin dynamite.*

3301.4 (Not adopted) Qualifications. *Persons in charge of magazines, blasting, fireworks display, or pyrotechnic special effect operations shall not be under the influence of alcohol or drugs which impair sensory or motor skills, shall be at least 21 years of age, and shall demonstrate knowledge of all safety precautions related to the storage, handling or use of explosives, explosive materials or fireworks.*

3301.5 (Not adopted) Supervision. *The fire code official is authorized to require operations permitted under the provisions of Section 3301.2 to be supervised at any time by the fire code official in order to determine compliance with all safety and fire regulations.*

3301.6 (Not adopted) Notification. *Whenever a new explosive material storage or manufacturing site is established, including a temporary job site, the local law enforcement agency, fire department, and local emergency planning committee shall be notified 48 hours in advance, not including Saturdays, Sundays and holidays, of the type, quantity and location of explosive materials at the site.*

3301.7 (Not adopted) Seizure. *The fire code official is authorized to remove or cause to be removed or disposed of in an approved manner, at the expense of the owner, explosives, explosive materials or fireworks offered or exposed for sale, stored, possessed or used in violation of this chapter.*

3301.8 (Not adopted) Establishment of quantity of explosives and distances. *The quantity of explosives and distances shall be in accordance with Sections 3301.8.1 and 3301.8.1.1.*

3301.8.1 (Not adopted) Quantity of explosives. *The quantity-distance(Q-D) tables in Sections 3304.5 and 3305.3 shall be used to provide the minimum separation distances from potential explosion sites as set forth in Tables 3301.8.1(1) through 3301.8.1(3). The classification and weight of the explosives are primary characteristics governing the use of these tables. The net explosive weight shall be determined in accordance with Sections 3301.8.1 through 3301.8.1.4.*

[NOTE: Tables 3301.8.1(1) through 3301.8.1.3(3) are also not adopted]

3301.8.1.1 (Not adopted) Mass-detonating explosives. *The total net explosive weight of Division 1.1, 1.2 or 1.5 explosives shall be used. See Table 3304.5.2(2) or Table 3305.3 as appropriate.*

Exception: *When the TNT equivalence of the explosive material has been determined, the equivalence is allowed to be used to establish the net explosive weight.*

3301.8.1.2 (Not adopted) Nonmass-detonating explosives (excluding Division 1.4). *Nonmass-detonating explosives shall be as follows:*

1. *Division 1.3 propellants. The total weight of the propellants alone shall be the net explosive weight. The net weight of propellant shall be used. See Table 3304.5.2(3).*
2. *Combinations of bulk metal powder and pyrotechnic compositions. The sum of the net weights of metal powders and pyrotechnic compositions in the containers shall be the net explosive weight. See Table 3304.5.2(3).*

3301.8.1.3 (Not adopted) Combinations of mass-detonating and nonmass-detonating explosives (excluding Division 1.4). *Combination of mass-detonating and nonmass-detonating explosives shall be as follows:*

- 1. When Division 1.1 and 1.2 explosives are located in the same site, determine the distance for the total quantity considered first as 1.1 and then as 1.2. The required distance is the greater of the two. When the Division 1.1 requirements are controlling and the TNT equivalence of the 1.2 is known, the TNT equivalent weight of the 1.2 items shall be allowed to be added to the total explosive weight of Division 1.1 items to determine the net explosive weight for Division 1.1 distance determination. See Table 3304.5.2(3) or Table 3305.3 as appropriate.*
- 2. When Division 1.1 and 1.3 explosives are located in the same site, determine the distances for the total quantity considered first as 1.1 and then as 1.3. The required distance is the greater of the two. When the Division 1.1 requirements are controlling and the TNT equivalence of the 1.3 is known, the TNT equivalent weight of the 1.3 items shall be allowed to be added to the total explosive weight of Division 1.1 items to determine the net explosive weight for Division 1.1 distance determination. See Table 3304.5.2(2), 3304.5.2(3) or 3305.3, as appropriate.*
- 3. When Division 1.1, 1.2 and 1.3 explosives are located in the same site, determine the distances for the total quantity considered first as 1.1, next as 1.2 and finally as 1.3. The required distance is the greatest of the three. As allowed by paragraphs 1 and 2 above, TNT equivalent weights for 1.2 and 1.3 items are allowed to be used to determine the net weight of explosives for Division 1.1 distance determination. Table 3304.5.2(2) or 3305.3 shall be used when TNT equivalency is used to establish the net explosive weight.*
- 4. For composite pyrotechnic items Division 1.1 and Division 1.3, the sum of the net weights of the pyrotechnic composition and the explosives involved shall be used. See Tables 3304.5.2(2) and 3304.5.2(3).*

3301.8.1.4 (Not adopted) Moderate fire – no blast hazards. *Division 1.4 explosives. The total weight of the explosive material alone is the net weight. The net weight of the explosive material shall be used. See Table 3304.5.2(4).*

3302.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

BLASTER. (Not adopted) *A person qualified in accordance with Section 3301.4 to be in charge of and responsible for the loading and firing of a blast.*

DETONATING CORD. (Not adopted) *A flexible cord containing a center core of high explosive used to initiate other explosives.*

DISCHARGE SITE. (Not adopted) *The immediate area surrounding the fireworks mortars used for an outdoor fireworks display.*

DISPLAY SITE. (Not adopted) *The immediate area where a fireworks display is conducted. The display area includes the discharge site, the fallout area, and the required separation distance from the mortars to spectator viewing areas. The display area does not include spectator viewing areas or vehicle parking areas.*

EXPLOSIVE. (Not adopted) *A chemical compound, mixture or device, the primary or common purpose of which is to function by explosion. The term includes, but is not limited to, dynamite, black powder, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, igniters and display fireworks, 1.3G (Class B, Special).*

The term “Explosive” includes any material determined to be within the scope of USC Title 18: Chapter 40 and also includes any material classified as an explosive other than consumer fireworks, 1.4G (Class C, Common) by the hazardous materials regulations of DOTn 49 CFR Parts 100-185.

High explosive. (Not adopted) Explosive material, such as dynamite, which can be caused to detonate by means of a No. 8 test blasting cap when unconfined.

Low explosive. (Not adopted) Explosive material that will burn or deflagrate when ignited. It is characterized by a rate of reaction that is less than the speed of sound. Examples of low explosives include, but are not limited to, black powder, safety fuse, igniters, igniter cord, fuse lighters, fireworks, 1.3 G (Class B special) and propellants, 1.3C.

Mass-detonating explosives. (Not adopted) Division 1.1, 1.2 and 1.5 explosives alone or in combination, or loaded into various types of ammunition or containers, most of which can be expected to explode virtually instantaneously when a small portion is subjected to fire, severe concussion, impact, the impulse of an initiating agent, or the effect of a considerable discharge of energy from without. Materials that react in this manner represent a mass explosion hazard. Such an explosive will normally cause severe structural damage to adjacent objects. Explosive propagation could occur immediately to other items of ammunition and explosives stored sufficiently close to and not adequately protected from the initially exploding pile with a time interval short enough so that two or more quantities must be considered as one for quantity-distance purposes.

UN/DOTn Class 1 explosives. Not adopted The former classification system used by DOTn included the terms “high” and “low” explosives as defined herein. The following terms further define explosives under the current system applied by DOTn for all explosive materials defined as hazard Class 1 materials. Compatibility group letters are used in concert with the Division to specify further limitations on each division noted, (i.e., the Letter G identifies the material as a pyrotechnic substance or article containing a pyrotechnic substance and similar materials).

Division 1.1. Explosives that have a mass explosion hazard. A mass explosion is one which effects almost the entire load instantaneously.

Division 1.2. Explosives that have a projection hazard but not a mass explosion hazard.

Division 1.3. Explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.

Division 1.4. Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package.

Division 1.5. Very insensitive explosives. This division is comprised of substances that have a mass explosion hazard but which are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport.

Division 1.6. Extremely insensitive articles which do not have a mass explosion hazard. This division is comprised of articles that contain only extremely insensitive detonating

substances and which demonstrate a negligible probability of accidental initiation or propagation.

EXPLOSIVE MATERIAL. (Not adopted) *The term “explosive” material means explosives, blasting agents, and detonators.*

FALLOUT AREA. (Not adopted) *The area over which aerial shells are fired. The shells burst over the area, and unsafe debris and malfunctioning aerial shells fall into this area. The fallout area is the location where a typical aerial shell dud falls to the ground depending on the wind and the angle of mortar placement.*

FIREWORKS. (Not adopted) *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 1.4G fireworks or 1.3G fireworks as set forth herein.*

Fireworks, 1.4G. *(Formerly known as Class C, Common Fireworks.) Small fireworks devices containing restricted amounts of pyrotechnic composition designed primarily to produce visible or audible effects by combustion. Such 1.4G fireworks which comply with the construction, chemical composition and labeling regulations of the DOTn for Fireworks, UN 0336, and the U.S. Consumer Product Safety Commission as set forth in CPSC 16 CFR: Parts 1500 and 1507, are not explosive materials for the purpose of this code.*

Fireworks, 1.3G. *(Formerly Class B, Special Fireworks.) Large fireworks devices, which are explosive materials, intended for use in fireworks displays and designed to produce audible or visible effects by combustion, deflagration or detonation. Such 1.3G fireworks include, but are not limited to, firecrackers containing more than 130 milligrams (2 grains) of explosive composition, aerial shells containing more than 40 grams of pyrotechnic composition, and other display pieces which exceed the limits for classification as 1.4G fireworks. Such 1.3G firework, are also described as Fireworks, UN0335 by the DOTn.*

FIREWORKS DISPLAY. (Not adopted) *A presentation of fireworks for a public or private gathering.*

MAGAZINE. (Not adopted) *A building, structure or container, other than an operating building, approved for storage of explosive materials.*

Indoor. *A portable structure, such as a box, bin or other container, constructed as required for Type 2, 4 or 5 magazines in accordance with NFPA 495, NFPA 1124 or DOTy 27 CFR Part 55 so as to be fire resistant and theft resistant.*

Type 1. *A permanent structure, such as a building or igloo, that is bullet resistant, fire resistant, theft resistant, weather resistant and ventilated in accordance with the requirements of NFPA 495, NFPA 1124, or DOTy 27 CFR Part 55.*

Type 2. *A portable or mobile structure, such as a box, skid-magazine, trailer or semitrailer, constructed in accordance with the requirements of NFPA 495, NFPA 1124 or DOTy 27 CFR, Part 55 that is fire resistant, theft resistant, weather resistant and ventilated. If used outdoors, a Type 2 magazine is also bullet resistant.*

Type 3. *A fire-resistant, theft-resistant and weather-resistant “day box” or portable structure constructed in accordance with NFPA 495, NFPA 1124, or DOTy 27 CFR Part 55 used for the temporary storage of explosive materials.*

Type 4. *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 and constructed in accordance with NFPA 495, NFPA 1124, or DOTy 27 CFR, Part 55.*

Type 5. *A permanent, portable or mobile structure such as a building, igloo, box, bin, tank, semitrailer, bulk trailer, tank trailer, bulk truck, tank truck or other mobile container that is theft resistant, which is constructed in accordance with NFPA 495, NFPA 1124, or DOTy 27 CFR, Part 55.*

MORTAR. (Not adopted) *a tube from which fireworks shells are fired into the air.*

PROXIMATE AUDIENCE. (Not adopted) *An audience closer to pyrotechnic devices than allowed by NFPA 1123.*

PYROTECHNIC COMPOSITION. (Not adopted) *A chemical mixture that produces visible light displays or sounds through a self-propagating, heat-releasing chemical reaction which is initiated by ignition.*

PYROTECHNIC SPECIAL EFFECT. (Not adopted) *A visible or audible effect for entertainment created through the use of pyrotechnic materials and devices.*

PYROTECHNIC SPECIAL-EFFECT MATERIAL. (Not adopted) *A chemical mixture used in the entertainment industry, to produce visible or audible effects by combustion, deflagration or detonation. Such a chemical mixture predominantly consists of solids capable of producing a controlled, self-sustaining and self-contained exothermic chemical reaction that results in heat, gas sound, light or a combination of these effects. The chemical reaction functions without external oxygen.*

READY BOX. (Not adopted) *A weather-resistant container with a self-closing or automatic-closing cover that protects fireworks shells from burning debris. Tarpaulins shall not be considered as ready boxes.*

SPECIAL INDUSTRIAL EXPLOSIVE DEVICE. (Not adopted) *An explosive power pack containing an explosive charge in the form of a cartridge or construction device. The term includes but is not limited to explosive rivets, explosive bolts, explosive charges for driving pins or studs, cartridges for explosive-actuated power tools and charges of explosives used in automotive air bag inflators, jet tapping of open hearth furnaces and jet perforation of oil well casings.*

THEFT RESISTANT. (Not adopted) *Construction designed to deter illegal entry into facilities for the storage of explosive materials.*

3303.1 (Not adopted) General. *Records of the receipt, handling, use or disposal of explosive materials, and reports of any accidents, thefts, or unauthorized activities involving explosive materials shall conform to the requirements of this section.*

3303.2 (Not adopted) Transaction record. *The permittee shall maintain a record of all transactions involving receipt, removal, use or disposal of explosive materials. Such a record shall be maintained for a period of 5 years, and shall be furnished to the fire code official for inspection upon request.*

Exception: *Where only Division 1.4G (consumer fireworks) are handled, records need only be maintained for a period of 3 years.*

3303.3 (Not adopted) Loss, theft or unauthorized removal. *The loss, theft or unauthorized removal of explosive materials from a magazine or permitted facility shall be reported to the fire official, local law*

enforcement authorities, and the U.S. Department of Treasury, Bureau of Alcohol, Tobacco and Firearms within 24 hours.

Exception: Loss of Division 1.4G (consumer fireworks) need not be reported to the Bureau of Alcohol, Tobacco and Firearms.

3303.4 (Not adopted) Accidents. Accidents involving the use of explosives, explosive materials and fireworks, which result in injuries or property damage, shall be reported to the fire code official immediately.

3303.5 (Not adopted) Misfires. The pyrotechnic display operator or blaster in charge shall keep a record of all aerial shells that fail to fire or charges that fail to detonate.

3303.6 (Not adopted) Hazard communication. Manufacturers of explosive materials and fireworks shall maintain records of chemicals, chemical compounds and mixtures required by DOL 29 CFR, Part 1910.1200, and Section 407.

3303.7 (Not adopted) Safety rules. Current safety rules covering the operation of magazines, as described in Section 3304.7, shall be posted on the interior of the magazine in a visible location.

3304.1 (Not adopted) General. Storage of explosives and explosive materials, small arms ammunition, small arms primers, propellant-actuated cartridges and smokeless propellants in magazines, shall comply with the provisions of this section.

3304.2 (Not adopted) Magazine required. Explosives and explosive materials, and Division 1.3G fireworks shall be stored in magazines constructed, located, operated and maintained in accordance with the provisions of Section 3304 and NFPA 495 or NFPA 1124.

Exceptions:

1. Storage of fireworks at display sites in accordance with Section 3308.5 and NFPA 1123 or NFPA 1126.
2. Portable or mobile magazines not exceeding 120 square feet (11 m²) in area shall not be required to comply with the requirements of the International Building Code.

3304.3 (Not adopted) Magazines. The storage of explosives and explosive materials in magazines shall comply with Table 3304.3.

3304.3.1 (Not adopted) High explosives. Explosive materials classified as Division 1.1 or 1.2 or formerly classified as Class A by the U.S. Department of Transportation shall be stored in Type 1, 2 or 3 magazines.

Exceptions:

1. Black powder shall be stored in a Type 1, 2, 3, or 4 magazine.
2. Cap-sensitive explosive material that is demonstrated not to be bullet sensitive, shall be stored in a Type 1, 2, 3, 4 or 5 magazine.

3304.3.2 (Not adopted) Low explosives. Explosive materials that are not cap sensitive shall be stored in a Type 1, 2, 3, 4, or 5 magazine.

3304.3.3 (Not adopted) Detonating cord. For quantity and distance purposes, detonating cord of 50 grains per foot shall be calculated as equivalent to 8 pounds (4 kg) of high explosives per 1,000 feet (305 m). Heavier or lighter core loads shall be rated proportionally.

3304.4 (Not adopted) Prohibited storage. *Detonators shall be stored in a separate magazine for blasting supplies and shall not be stored in a magazine with other explosive materials.*

(Not adopted) Table 3304.3

3304.5 (Not adopted) Location. *The use of magazines for storage of explosives and explosive materials shall comply with Sections 3304.5.1 through 3304.5.3.3.*

3304.5.1 (Not adopted) Indoor magazines. *The use of indoor magazines for storage of explosives and explosives materials shall comply with the requirements of this section.*

3304.5.1.1 (Not adopted) Use. *The use of indoor magazines for storage of explosives and explosive materials shall be limited to occupancies of Group F, H, M or S and research and development laboratories.*

3304.5.1.2 (Not adopted) Construction. *Indoor magazines shall comply with the following construction requirements:*

- 1. Construction shall be fire resistant and theft resistant.*
- 2. Exterior shall be painted red.*
- 3. Base shall be fitted with wheels, casters or rollers to facilitate removal from the building in an emergency.*
- 4. Lid or door shall be marked with conspicuous white lettering not less than 3 inches (76 mm) high and minimum 1/2 inch (12.7 mm) stroke, reading EXPLOSIVES – KEEP FIRE AWAY.*
- 5. The least horizontal dimension shall not exceed the clear width of the entrance door.*

3304.5.1.3 (Not adopted) Quantity limit. *Not more than 50 pounds (23 kg) of explosives or explosive materials shall be stored within an indoor magazine.*

Exception: Day boxes used for the storage of in-process material in accordance with Section 3305.6.4.1.

3304.5.1.4 (Not adopted) Prohibited use. *Indoor magazines shall not be used within buildings containing Group R occupancies.*

3304.5.1.5 (Not adopted) Location. *Indoor magazines shall be located within 10 feet (3048 mm) of an entrance and only on floors at or having ramp access to the exterior grade level.*

3304.5.1.6 (Not adopted) Number. *Not more than two indoor magazines shall be located in the same building. Where two such magazines are located in the same building, one magazine shall be used solely for the storage of not more than 5,000 detonators.*

3304.5.1.7 (Not adopted) Separation distance. *When two magazines are located in the same building, they shall be separated by a distance of not less than 10 feet (3048 mm).*

3304.5.2 (Not adopted) Outdoor magazines. *All outdoor magazines other than Type 3 shall be located so as to comply with Table 3304.5.2(2) or Table 3304.5.2(3) as set forth in Tables 3301.8.1(1) through 3301.8.1(3). Where a magazine or group of magazines, as described in Section 3304.5.2.2, contains different classes of explosive materials, and Division 1.1 materials are present, the required separations for the magazine or magazine group as a whole shall comply with Table 3304.5.2(2).*

(Not adopted) Table 3304.5.2(1)

(Not adopted) Table 3304.5.2(2)

(Not adopted) Table 3304.5.2(3)

3304.5.2.1 (Not adopted) Separation. *Where two or more storage magazines are located on the same property, each magazine shall comply with the minimum distances specified from inhabited buildings, public transportation routes and operating buildings. Magazines shall be separated from each other by not less than the intermagazine distances (IMD) shown for the separation of magazines.*

3304.5.2.2 (Not adopted) Grouped magazines. *Where two or more magazines are separated from each other by less than the intermagazine distances (IMD), such magazines as a group shall be considered as one magazine and the total quantity of explosive materials stored in the group shall be treated as if stored in a single magazine. The location of the group of magazines shall comply with the intermagazine distances (IMD) specified from other magazines or magazine groups, inhabited buildings (IBD), public transportation routes (PTR) and operating buildings (ILD) or IPD) as required.*

3304.5.3 (Not adopted) Special requirements for Type 3 magazines. *Type 3 magazines shall comply with Sections 3304.5.3.1 through 3304.5.3.3.*

3304.5.3.1 (Not adopted) Location. *Wherever practicable, Type 3 magazines shall be located away from neighboring inhabited buildings, railways, highways, and other magazines in accordance with Table 3304.5.2(2) or 3304.5.2(3).*

3304.5.3.2 (Not adopted) Supervision. *Type 3 magazines shall be attended when explosive materials are stored within. Explosive materials shall be removed to appropriate storage magazines for unattended storage at the end of the work day.*

3304.5.3.3 (Not adopted) Use. *Not more than two Type 3 magazines shall be located at the same blasting site. Where two Type 3 magazines are located at the same blasting site, one magazine shall be used solely for the storage of detonators.*

3304.6 (Not adopted) Construction. *Magazines shall be constructed in accordance with Section 3304.6.1 through 3304.6.5.2.*

3304.6.1 (Not adopted) Drainage. *The ground around a magazine shall be graded so that water drains away from the magazine.*

3304.6.2 (Not adopted) Heating. *Magazines requiring heat shall be heated as prescribed in NFPA 495 by either hot water radiant heating within the magazine or by indirect warm air heating.*

3304.6.3 (Not adopted) Lighting. *When lighting is necessary within a magazine, electric safety flashlights or electric safety lanterns shall be used, except as provided in NFPA 495.*

3304.6.4 (Not adopted) Nonsparking materials. *In other than Type 5 magazines, there shall be no exposed ferrous metal on the interior of a magazine containing packages of explosives.*

3304.6.5 (Not adopted) Signs and placards. Property upon which Type 1 magazines and outdoor magazines of Types 2, 4 and 5 are located shall be posted with signs stating: *EXPLOSIVES – KEEP OFF*. These signs shall be of contrasting colors with a minimum letter height of 3 inches (76 mm) with a minimum brush stroke of 0.5 inch (12.7 mm). The signs shall be located to minimize the possibility of a bullet shot at the sign hitting the magazine.

3304.6.5.1 (Not adopted) Access road signs. At the entrance to explosive material manufacturing and storage sites, all access roads shall be posted with the following warning sign or other approved sign:

DANGER!
NEVER FIGHT EXPLOSIVE FIRES
EXPLOSIVES ARE STORED ON THIS SITE
CALL _____

The sign shall be weather resistant with a reflective surface and have lettering at least 2 inches (51 mm) high.

3304.6.5.2 (Not adopted) Placards. Type 5 magazines containing Division 1.5 blasting agents shall be prominently placarded as required during transportation by DOTn 49 CFR, Part 172 and DOTy 27 CFR, Part 55.

3304.7 (Not adopted) Operation. Magazines shall be operated in accordance with section 3304.7.1 through 3304.7.9.

3304.7.1 (Not adopted) Security. Magazines shall be kept locked in the manner prescribed in NFPA 495 at all times except during placement or removal of explosives or inspection.

3304.7.2 (Not adopted) Open flames and lights. Smoking, matches, flame-producing devices, open flames, firearms and firearms cartridges shall not be permitted inside of or within 50 feet (15 240 mm) of magazines.

3304.7.3 (Not adopted) Brush. The area located around a magazine shall be kept clear of brush, dried grass, leaves, trash, debris, and similar combustible materials for a distance of 25 feet (7620 mm).

3304.7.4 (Not adopted) Combustible storage. Combustible materials shall not be stored within 50 feet (15 240 mm) of magazines.

3304.7.5 (Not adopted) Unpacking and repacking explosive materials. Containers of explosive materials, except fiberboard containers, and packages of damaged or deteriorated explosive materials or fireworks shall not be unpacked or repacked inside or within 50 feet (15 240 mm) of a magazine or in close proximity to other explosive materials.

3304.7.5.1 (Not adopted) Storage of opened packages. Packages of explosive materials that have been opened shall be closed before being placed in a magazine.

3304.7.5.2 (Not adopted) Nonsparking tools. Tools used for the opening and closing of packages of explosive materials, other than metal slitters for opening paper, plastic or fiberboard containers, shall be made of nonsparking materials.

3304.7.5.3 (Not adopted) Disposal of packaging. *Empty containers and paper and fiber packaging materials that previously contained explosive materials shall be disposed of or reused in a approved manner.*

3304.7.6 (Not adopted) Tools and equipment. *Metal tools, other than nonferrous transfer conveyors and ferrous metal conveyor stands protected by a coat of paint, shall not be stored in a magazine containing explosive materials or detonators.*

3304.7.7 (Not adopted) Contents. *Magazines shall be used exclusively for the storage of explosive materials, blasting materials and blasting accessories.*

3304.7.8 (Not adopted) Compatibility. *Corresponding grades and brands of explosive materials shall be stored together and in such a manner that the grade and brand marks are visible. Stocks shall be stored so as to be easily counted and checked. Packages of explosive materials shall be stacked in a stable manner not exceeding 8 feet (2438 mm) in height.*

3304.7.9 (Not adopted) Stock rotation. *When explosive material is removed from a magazine for use, the oldest usable stocks shall be removed first.*

3304.8 (Not adopted) Maintenance. *Maintenance of magazines shall comply with Sections 3304.8.1 through 3304.8.3.*

3304.8.1 (Not adopted) Housekeeping. *Magazine floors shall be regularly swept and be kept clean, dry and free of grit, paper, empty packages and rubbish. Brooms and other cleaning utensils shall not have any spark-producing metal parts. Sweepings from magazine floors shall be disposed of in accordance with the manufacturer's approved instructions.*

3304.8.2 (Not adopted) Repairs. *Explosive materials shall be removed from the magazine before making repairs to the interior of a magazine. Explosive materials shall be removed from the magazine before making repairs to the exterior of the magazine where there is a possibility of causing a fire. Explosive materials removed from a magazine under repair shall either be placed in another magazine or placed a safe distance from the magazine, where they shall be properly guarded and protected until repairs have been completed. Upon completion of repairs, the explosive materials shall be promptly returned to the magazine. Floors shall be cleaned before and after repairs.*

3304.8.3 (Not adopted) Floors. *Magazine floors stained with liquid shall be dealt with according to instructions obtained from the manufacturer of the explosive material stored in the magazine.*

3304.9 (Not adopted) Inspection. *Magazines containing explosive materials shall be opened and inspected at maximum seven-day intervals. The inspection shall determine whether there has been an unauthorized or attempted entry into a magazine or an unauthorized removal of a magazine or its contents.*

3304.10 (not adopted) Disposal of explosive materials. *Explosive materials shall be disposed of in accordance with Sections 3304.10.1 through 3304.10.7.*

3304.10.1 (Not adopted) Notification. *The fire code official shall be notified immediately when deteriorated or leaking explosive materials are determined to be dangerous or unstable and in need of disposal.*

3304.10.2 (Not adopted) Deteriorated materials. *When an explosive material has deteriorated to an extent that it is in an unstable or dangerous condition, or when a liquid has leaked from an explosive material, the person in possession of such material shall immediately contact the material's manufacturer to obtain disposal and handling instructions.*

3304.10.3 (Not adopted) Qualified person. *The work of destroying explosive materials shall be directed by persons experienced in the destruction of explosive materials.*

3304.10.4 (Not adopted) Storage of misfires. *Explosive materials and fireworks recovered from blasting of display misfires shall be placed in a magazine until an experienced person has determined the proper method for disposal.*

3304.10.5 (Not adopted) Disposal sites. *Sites for the destruction of explosive materials and fireworks shall be approved and located at the maximum practicable safe distance from inhabited buildings, public highways, operating buildings, and all other exposures to ensure keeping air blast and ground vibration to a minimum. The location of disposal sites shall be no closer to magazines, inhabited buildings, railways, highways and other rights-of-way than is allowed by Tables 3304.5.2(1), 3304.5.2(2) and 3304.5.2(3). When possible, barricades shall be utilized between the destruction site and inhabited buildings. Areas where explosives are detonated or burned shall be posted with adequate warning signs.*

3304.10.6 (Not adopted) Reuse of site. *Unless an approved burning site has been thoroughly saturated with water and has passed a safety inspection, 48 hours shall elapse between the completion of a burn and the placement of scrap explosive materials for a subsequent burn.*

3304.10.7 (Not adopted) Personnel safeguards. *Once an explosive burn operation has been started, personnel shall relocate to a safe location where adequate protection from air blast and flying debris is provided. Personnel shall not return to the burn area until the person in charge has inspected the burn site and determined that it is safe for personnel to return.*

3305.1 (Not adopted) General. *The manufacture, assembly and testing of explosives, ammunition, blasting agents and fireworks shall comply with the requirements of this section and NFPA 495 or NFPA 1124.*

Exceptions:

- 1. The hand loading of small arms ammunition prepared for personal use and not offered for resale.*
- 2. The mixing and loading of blasting agents at blasting sites in accordance with NFPA 495.*
- 3. The use of binary explosives or phosphoric materials in blasting or pyrotechnic special effects applications in accordance with NFPA 495 or NFPA 1126.*

3305.2 (Not adopted) Emergency planning and preparedness. *Emergency plans, emergency drills, employee training and hazard communication shall conform to the provisions of this section and Sections 404, 405, 406 and 407.*

3305.2.1 (Not adopted) Hazardous Materials Management Plans and Inventory Statements required. *Detailed Hazardous Materials Management Plans (HMMP) and Hazardous Materials Inventory Statements (HMIS) complying with the requirements of Section 407 shall be prepared and submitted to the local emergency planning committee, the fire code official, and the local fire department.*

3305.2.2 (Not adopted) Maintenance of plans. *A copy of the required HMMP and HMIS shall be maintained on-site and furnished to the fire code official on request.*

3305.2.3 (Not adopted) Employee training. *Workers who handle explosives or explosive charges or dispose of explosives shall be trained in the hazards of the materials and processes in which they are to be engaged and with the safety rules governing such materials and processes.*

3305.2.4 (Not adopted) Emergency procedures. *Approved emergency procedures shall be formulated for each plant which will include personal instruction in any emergency that may be anticipated. All personnel shall be made aware of an emergency warning signal.*

3305.3 (Not adopted) Interplant separation of operating buildings. *Explosives manufacturing building and fireworks manufacturing buildings, including those where explosive charges are assembled, manufactured, prepared or loaded utilizing Division 1.1, 1.2, 1.3, 1.4 or 1.5 explosives, shall be separated from all other buildings, including magazines, within the confines of the manufacturing plant, at a distance not less than those in Table 330 or 3304.5.2(3), as appropriate.*

Exception: *Fireworks, manufacturing buildings separated in accordance with NFPA 1124.*

The quantity of explosives in an operating building shall be the net weight of all explosives contained therein. Distances shall be based on the hazard division requiring the greatest separation, unless the aggregate explosive weight is divided by approved walls or shields designed for that purpose. When dividing a quantity of explosives into smaller stacks, a suitable barrier or adequate separation distance shall be provided to prevent propagation from one stack to another.

When distance is used as the sole means of separation within a building, such distance shall be established by testing. Testing shall demonstrate that propagation between stacks will not result. Barriers provided to protect against explosive effects shall be designed and installed in accordance with approved standards.

3305.4 (Not adopted) Separation of manufacturing operating buildings from inhabited buildings, public traffic routes and magazines. *When an operating building on an explosive materials plant site is designed to contain explosive materials, such a building shall be located away from inhabited buildings, public traffic routes, and magazines in accordance with Table 3304.5.2(2) or 3304.5.2(3) as appropriate, based on the maximum quantity of explosive materials permitted to be in the building at one time (see Section 3301.8).*

Exception: *Fireworks manufacturing buildings constructed and operated in accordance with NFPA 1124.*

3305.4.1 (Not adopted) Determination of net explosive weight for operating buildings. *In addition to the requirements of Section 3301.8 to determine the net explosive weight for materials stored or used in operating buildings, quantities of explosive materials stored in magazines located at distances less than intraline distances from the operating building shall be added to the contents of the operating building to determine the net explosive weight for the operating building.*

3305.4.1.1 (Not adopted) Indoor magazines. *The storage of explosive materials in indoor magazines in operating buildings shall be limited to a net explosive weight not to exceed 50 pounds (23 kg).*

3305.4.1.2 (Not adopted) Outdoor magazines with a net explosive weight less than 50 pounds. *The storage of explosive materials in outdoor magazines located at less than intraline distances from operating buildings shall be limited to a net explosive weight not to exceed 50 pounds (23 kg).*

3305.4.1.3 (Not adopted) Outdoor magazines with a net explosive weight greater than 50 pounds. *The storage of explosive materials in outdoor magazines in quantities exceeding 50 pounds (23 kg) net explosive weight shall be limited to storage in outdoor magazines located not less than intraline distances from the operating building in accordance with Section 3304.5.2.*

3305.4.1.4 (Not adopted) Net explosive weight of materials stored in combination indoor and outdoor magazines. *The aggregate quantity of explosive materials stored in any combination of indoor magazines or outdoor magazines located at less than the intraline distances from an operating building shall not exceed 50 pounds (23 kg).*

3305.5 (Not adopted) Buildings and equipment. *Buildings or rooms that exceed the maximum allowable quantity per control area of explosive materials shall be operated in accordance with this section and constructed in accordance with the requirements of the International Building Code for Group H occupancies.*

Exception: *Fireworks manufacturing buildings constructed and operated in accordance with NFPA 1124.*

3305.5.1 (Not adopted) Explosive dust. *Explosive dust shall not be exhausted to the atmosphere.*

3305.5.1.1 (Not adopted) Wet collector. *When collecting explosives dust, a wet collector system shall be used. Wetting agents shall be compatible with the explosives. Collecting systems shall be interlocked with process power supplies so that the process cannot continue without the collector systems also operating.*

3305.5.1.2 (Not adopted) Waste disposal and maintenance. *Explosives dust shall be removed from the collection chamber as often as necessary to prevent overloading. The entire system shall be cleaned at a frequency that will eliminate hazardous concentrations of explosives dust in pipes, tubing and ducts.*

3305.5.2 (Not adopted) Exhaust fans. *Squirrel cage blowers shall not be used for exhausting hazardous fumes, vapors or gases. Only nonferrous fan blades shall be used for fans located within the duct work and through which hazardous materials are exhausted. Motors shall be located outside the duct.*

3305.5.3 (Not adopted) Work stations. *Work stations shall be separated by distance, barrier or other approved alternatives so that fire in one station will not ignite material in another work station. Where necessary, the operator shall be protected by a personnel shield located between the operator and the explosive device or explosive material being processed. This shield and its support shall be capable of withstanding a blast from the maximum amount of explosives allowed behind it.*

(Not adopted) Table 3305.3

3305.6 (Not adopted) Operations. *Operations involving explosives shall comply with Sections 3305.6.1 through 3305.6.10.*

3305.6.1 (Not adopted) Isolation of operations. *When the type of material and processing warrants, mechanical operations involving explosives in excess of 1 pound (0.454 kg) shall be carried on at isolated stations or at intraplant distances, and machinery shall be controlled from*

remote locations behind barricades or at separations so that workers will be at a safe distance while machinery is operating.

3305.6.2 (Not adopted) Static controls. *The work area where the screening, grinding, blending and other processing of static-sensitive explosives or pyrotechnic materials is done shall be provided with approved static controls.*

3305.6.3 (Not adopted) Approved containers. *Bulk explosives shall be kept in approved, nonsparking containers when not being used or processed. Explosives shall not be stored or transported in open containers.*

3305.6.4 (Not adopted) Quantity limits. *The quantity of explosives at any particular work station shall be limited to that posted on the load limit signs for the individual work station. The total quantity of explosives for multiple workstations shall not exceed that established by the intraplant distances in Table 3305.3 or 3304.5.2(3), as appropriate.*

3305.6.4.1 (Not adopted) Magazines. *Magazines used for storage in processing areas shall be in accordance with the requirements of Section 3304.5.1. All explosive materials shall be removed to appropriate storage magazines for unattended storage at the end of the work day. The contents of indoor magazines shall be added to the quantity of explosives contained at individual workstations and the total quantity of material stored, processed or used shall be utilized to establish the intraplant separation distances indicated by Table 3305.3 or 3304.5.2(3), as appropriate.*

3305.6.5 (Not adopted) Waste disposal. *Approved receptacles with covers shall be provided for each location for disposing of waste material and debris. These waste receptacles shall be emptied and cleaned as often as necessary but not less than once each day or at the of each shift.*

3305.6.6 (Not adopted) Safety rules. *General safety rules and operating instructions governing the particular operation or process conducted at that location shall be available at each location.*

3305.6.7 (Not adopted) Personnel limits. *The number of occupants in each process building and in each magazine shall not exceed the number for proper conduct of production operations.*

3305.6.8 (Not adopted) Pyrotechnic and explosives composition quantity limits. *Not more than 500 pounds (227 kg) of pyrotechnic or explosive composition, including not more than 10 pounds (5 kg) of salute powder shall be allowed at one time in any process building or area. All compositions not in current use shall be kept in covered nonferrous containers.*

***Exception:** Composition that has been loaded or pressed into tubes or other containers as consumer fireworks.*

3305.6.9 (Not adopted) Posting limits. *The maximum number of occupants and maximum weight of pyrotechnic and explosive composition permitted in each process building shall be posted in a conspicuous location in each process building or magazine.*

3305.6.10 (Not adopted) Heat sources. *Fireworks, explosives or explosive charges in explosive materials manufacturing, assembly or testing shall not be stored near any source of heat.*

***Exception:** Approved drying or curing operations.*

3305.7 (Not adopted) Maintenance. *Maintenance and repair of explosives-manufacturing facilities and areas shall comply with Section 3304.8.*

3305.8 (Not adopted) Explosive materials testing sites. *Detonation of explosive materials or ignition of fireworks for testing purposes shall be done only in isolated areas at sites where distance, protection from missiles, shrapnel or flyrock, and other safeguards provides protection against injury to personnel or damage to property.*

3305.8.1 (Not adopted) Protective clothing and equipment. *Protective clothing and equipment shall be provided to protect persons engaged in the testing, ignition or detonation of explosive materials.*

3305.8.2 (Not adopted) Site security. *When tests are being conducted or explosives are being detonated, only authorized persons shall be present. Areas where explosives are regularly or frequently detonated or burned shall be approved and posted with adequate warning signs. Warning devices shall be activated before burning or detonating explosives to alert persons approaching from any direction that they are approaching a danger zone.*

3305.9 (Not adopted) Waste disposal. *Disposal of explosive materials waste from manufacturing, assembly or testing operations shall be in accordance with Section 3304.10.*

3306.1 (Not adopted) General. *Indoor storage and display of black powder, smokeless propellants and small arms ammunition shall comply with this section and NFPA 495.*

3306.2 (Not adopted) Prohibited storage. *Small arms ammunition shall not be stored together with Division 1.1, Division 1.2 or Division 1.3 explosives unless the storage facility is suitable for the storage of explosive materials.*

3306.3 (Not adopted) Packages. *Smokeless propellants shall be stored in approved shipping containers conforming to DOTn 49 CFR, Part 173.*

3306.3.1 (Not adopted) Repackaging. *The bulk repackaging of smokeless propellants, black powder, and small arms primers shall not be performed in retail establishments.*

3306.3.2 (Not adopted) Damaged packages. *Damaged containers shall not be repackaged. Exception: Approved repackaging of damaged containers of smokeless propellants into containers of the same type and size as the original container.*

3306.4 (Not adopted) Storage in Group R occupancies. *The storage of small arms ammunition in group R occupancies shall comply with Sections 3306.4.1 and 3306.4.2.*

3306.4.1 (Not adopted) Black powder and smokeless propellants. *Propellants for personnel use in quantities not exceeding 20 pounds (9 kg) of black powder or 20 pounds (9 kg) of smokeless powder shall be stored in original containers in occupancies limited to Group R-3. Smokeless powder in quantities exceeding 20 pound (9 kg) but not exceeding 50 pounds (23 kg) kept in a wooden box or cabinet having walls of at least 1 inch (25 mm) nominal thickness shall be allowed to be stored in occupancies limited to Group R-3. Quantities exceeding these amounts shall not be stored in any Group R occupancy.*

3306.4.2 (Not adopted) Small arms primers. *No more than 10,000 small arms primers shall be stored in occupancies limited to Group R-3.*

3306.5 (Not adopted) Display and storage in Group M occupancies. *The display and storage of small arms ammunition in Group M occupancies shall comply with this section.*

3306.5.1 (Not adopted) Display. *Display of small arms ammunition in Group M occupancies shall comply with Sections 3306.5.1.1 through 3306.5.1.3.*

3306.5.1.1 (Not adopted) Smokeless propellant. *No more than 20 pounds (9 kg) of smokeless propellants, each in containers of 1 pound (0.454 kg) or less capacity, shall be displayed in Group M occupancies.*

3306.5.1.2 (Not adopted) Black powder. *No more than 1 pound (0.454 kg) of black powder shall be displayed in Group M occupancies.*

3306.5.1.3 (Not adopted) Small arms primers. *No more than 10,000 small arms primers shall be displayed in Group M occupancies.*

3306.5.2 (Not adopted) Storage. *Storage of small arms ammunition shall comply with sections 3306.5.2.1 through 3306.5.2.3.*

3306.5.2.1 (Not adopted) Smokeless propellants. *Commercial stocks of smokeless propellants shall be stored as follows:*

1. *Quantities exceeding 20 pounds (9 kg), but not exceeding 100 pounds (45 kg) shall be stored in portable wooden boxes having walls of at least 1 inch (25 mm) nominal thickness.*
2. *Quantities exceeding 100 pounds (45 kg), but not exceeding 800 pounds (363 kg), shall be stored in nonportable storage cabinets having walls at least 1 inch (25 mm) nominal thickness. Not more than 400 pounds (182 kg) shall be stored in any one cabinet, and cabinets shall be separated by a distance of at least 25 feet (7620 mm) or by a fire partition having a fire-resistance rating of at least 1 hour.*
3. *Storage of quantities exceeding 800 pounds (363 kg), but not exceeding 5,000 pounds (2270 kg) in a building shall comply with all of the following:*
 - 3.1 *The warehouse or storage room is inaccessible to unauthorized personnel.*
 - 3.2 *Smokeless propellant shall be stored in nonportable storage cabinets having wood walls at least 1 inch (25 mm) nominal thickness and having shelves with no more than 3 feet (914 mm) of separation between shelves.*
 - 3.3 *No more than 400 pounds (182 kg) is stored in any one cabinet.*
 - 3.4 *Cabinets shall be located against walls of the storage room or warehouse with at least 40 feet (12 192) between cabinets.*
 - 3.5 *The minimum required separation between cabinets shall be 20 feet (6096 mm) provided that barricades twice the height of the cabinets are attached to the wall, midway between each cabinet. The barricades must extend a minimum of 10 feet (3048 mm) outward, be firmly attached to the wall, and be constructed of steel not less than 0.25 inch thick (6.4 mm), 2-inch (51 mm) nominal thickness wood, brick, or concrete block.*
 - 3.6 *Smokeless propellant shall be separated from materials classified as combustible liquids, flammable liquids, flammable solids, or oxidizing materials by a distance of 25 feet (7620 mm) or by a fire partition having a fire-resistance rating of 1 hour.*
 - 3.7 *The building shall be equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.*
4. *Smokeless propellants not stored according to Item 1, 2, or 3 above shall be stored in a Type 2 or 4 magazine in accordance with Section 3304 and NFPA 495.*

3306.5.2.2 (Not adopted) Black powder. *Commercial stocks of black powder in quantities less than 50 pounds (23 kg) shall be allowed to be stored in Type 2 or 4 indoor or outdoor magazines. Quantities greater than 50 pounds (23 kg) shall be stored in outdoor Type 2 or 4 magazines. When black powder and smokeless propellants are stored together in the same magazine, the total quantity shall not exceed that permitted for black powder.*

3306.5.2.3 (Not adopted) Small arms primers. *Commercial stocks of small arms primers shall be stored as follows:*

1. *Quantities exceeding 20 pounds (9 kg), but not exceeding 100 pounds (45 kg) shall be stored in portable wooden boxes having walls of at least 1 inch (25 mm) nominal thickness.*
2. *Quantities exceeding 750,000 small arms primers stored in a building shall comply with all of the following:*
 - 2.1 *The warehouse or storage building shall not be accessible to unauthorized personnel.*
 - 2.2 *Small arms primers shall be stored in cabinets. No more than 200,000 small arms primers shall be stored in any one cabinet.*
 - 2.3 *Shelves in cabinets shall have vertical separations of at least 2 feet (610 mm).*
 - 2.4 *Cabinets shall be located against walls of the warehouse or storage room with at least 40 feet (12 192 mm) between cabinets.*
 - 2.5 *The minimum required separation between cabinets shall be allowed to be reduced to 20 feet (6096 mm) provided that barricades twice the height of the cabinets are attached to the wall, midway between each cabinet. The barricades shall be firmly attached to the wall, and shall be constructed of steel not less than 1/4 inch thick (6.4 mm), 2-inch (51 mm) nominal thickness wood, brick, or concrete block.*
 - 2.6 *Small arms primers shall be separated from materials classified as combustible liquids, flammable liquids, flammable solids, or oxidizing materials by a distance of 25 feet (7620 mm) by a fire partition having a fire-resistance rating of 1 hour.*
 - 2.7 *The building shall be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.*
3. *Small arms primers not stored in accordance with Item 1 or 2 of this section shall be stored in a magazine meeting the requirements of Section 3304 and NFPA 495.*

3308.1 (Not adopted) General. *Outdoor firework displays, use of pyrotechnics before a proximate audience and pyrotechnic special effects motion picture, television, theatrical and group entertainment productions shall comply with Sections 3308.2 through 3308.10 and NFPA 1123 or NFPA 1126.*

3308.2 (Not adopted) Permit application. *Prior to issuing permits for a fireworks display, plans for the fireworks display, inspections of the display site, and demonstrations of the display operations shall be approved. A plan establishing procedures to follow and actions to be taken in the event that a shell fails to ignite in, or discharge from, a mortar or fails to function over the fallout area or other malfunctions shall be provided to the fire code official.*

3308.2.1 (Not adopted) Outdoor fireworks displays. *In addition to the requirements of Section 403, permit applications for outdoor fireworks displays using Division 1.3G fireworks shall include a diagram of the location at which the fireworks display will be conducted, including the site from which fireworks will be discharged; the location of buildings, highways, overhead obstructions and utilities; and the lines behind which the audience will be restrained.*

3308.2.2 (Not adopted) Use of pyrotechnics before a proximate audience. *Where the separation distances required in Section 3308.4 and NFPA 1123 are unavailable or cannot be secured, fireworks displays shall be conducted in accordance with NFPA 1126 for proximate audiences. Applications*

for use of pyrotechnics before a proximate audience displays shall include plans indicating the required clearances for spectators and combustibles, crowd control measures, smoke control measures, and requirements for standby personnel and equipment when provision of such personnel or equipment is required by the fire code official.

3308.3 (Not adopted) Approved fireworks displays. *Approved fireworks displays shall include only the approved fireworks 1.3G, fireworks 1.4G, fireworks 1.4S and pyrotechnics articles, 1.4G, which shall be handled by an approved, competent operator. The approved fireworks shall be arranged, located, discharged and fired in a manner that will not pose a hazard to property or endanger any person.*

3308.4 (Not adopted) Clearance. *Spectators, spectator parking areas, and dwellings, buildings or structures shall not be located within the display site.*

Exceptions:

- 1. This provision shall not apply to pyrotechnic special effects and fireworks displays using Division 1.4G materials before a proximate audience in accordance with NFPA 1126.*
- 2. This provision shall not apply to unoccupied dwellings, buildings and structures with the approval of the building owner and the fire code official.*

3308.5 (Not adopted) Storage of fireworks at display site. *The storage of fireworks at the display site shall comply with the requirements of this section and NFPA 1123 or NFPA 1126.*

3308.5.1 (Not adopted) Supervision and weather protection. *Beginning as soon as fireworks have been delivered to the display site, they shall not be left unattended.*

3308.5.2 (Not adopted) Weather protection. *Fireworks shall be kept dry after delivery to the display site.*

3308.5.3 (Not adopted) Inspection. *Shells shall be inspected by the operator or assistants after delivery to the display site. Shells having tears, leaks, broken fuses or signs of having been wet shall be set aside and shall not be fired. Aerial shells shall be checked for proper fit in mortars prior to discharge. Aerial shells that do not fit properly shall not be fired. After the fireworks display, damaged, deteriorated or dud shells shall either be returned to the supplier or destroyed in accordance with the supplier's instructions and Section 3304.10.*

Exception: *Minor repairs to fuses shall be allowed. For electrically ignited displays, attachment of electric matches and similar tasks shall be allowed.*

3308.5.4 (Not adopted) Sorting and separation. *After delivery to the display site and prior to the fireworks display, all shells shall be separated according to size and their designation as salutes.*

Exception: *For electrically fired displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size or their designation as salutes.*

3308.5.5 (Not adopted) Ready boxes. *Display fireworks, 1.3G, that will be temporarily stored at the site during the fireworks display shall be stored in ready boxes located upwind and at least 25 feet (7620 mm) from the mortar placement and separated according to size and their designation as salutes.*

Exception: For electrically fired fireworks displays, or fireworks displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size, their designation as salutes, or for the use of ready boxes.

3308.6 (Not adopted) Installation of mortars. Mortars for firing fireworks shells shall be installed in accordance with NFPA 1123 and shall be positioned so that shells are propelled away from spectators and over the fallout area. Under no circumstances shall mortars be angled toward the spectator viewing area. Prior to placement, mortars shall be inspected for defects, such as dents, bent ends, damaged interiors and damaged plugs. Defective mortars shall not be used.

3308.7 (Not adopted) Handling. Aerial shells shall be carried to mortars by the shell body. For purpose of loading mortars, aerial shells shall be held by the thick portion of the fuse and carefully loaded into mortars.

3308.8 (Not adopted) Fireworks display supervision. Whenever in the opinion of the fire code official or the operator a hazardous condition exists, the fireworks display shall be discontinued immediately until such time as the dangerous situation is corrected.

3308.9 (Not adopted) Post-fireworks display inspection. After the fireworks display, the firing crew shall conduct an inspection of the fallout area for the purpose of locating unexploded aerial shells or live components. This inspection shall be conducted before public access to the site shall be allowed. Where fireworks are displayed at night and it is not possible to inspect the site thoroughly, the operator or designated assistant shall inspect the entire site at first light.

A report identifying any shells that fail to ignite in, or discharge from, a mortar or fail to function over the fallout area or otherwise malfunction shall be filed with the fire code official.

3308.10 (Not adopted) Disposal. Any shells found during the inspection required in Section 3308.9 shall not be handled until at least 15 minutes have elapsed from the time the shells were fired. The fireworks shall then be doused with water and allowed to remain for at least 5 additional minutes before being placed in a plastic bucket or fiberboard box. The disposal instructions of the manufacturer as provided by the fireworks supplier shall then be followed in disposing of the fireworks in accordance with Section 3304.10.

3309.1 (Not adopted) General. Where the temporary storage of consumer fireworks, 1.4G is allowed by Section 3301.1.3, Exception 4, such storage shall comply with the applicable requirements of NFPA 1124.