



Type 2 Indoor Fire- and theft-resistant	
Bullet/Weather Resistant	Not required if the building provides bullet and weather protection.
Wood Construction	Sides, bottoms and doors of at least 2" hardwood, well braced at corners. Covered with no less than 26-gauge sheet metal. Nails exposed on interior must be countersunk.
Metal Construction	Sides, bottoms and doors at least 12-gauge metal lined inside with non-sparking material. Edges of metal covers must overlap sides by at least 1" when closed.
Quantity Restrictions	No more than 50 pounds or 5,000 detonators. Multiple indoor magazines may be located in the same building if the total quantity does not exceed 50 pounds.
Detonator Boxes (for quantities of 100 or less)	Sides, bottoms and doors at least 12-gauge metal, lined with non-sparking material. One steel padlock with at least 5 tumblers and casehardened shackle of at least 3/8" diameter.

Type 3 Magazines

A "day-box" or other portable magazine for temporary, attended storage, must be fire-, weather- & theft-resistant.

Type 3 Magazines	
Construction	No less than 12-gauge steel, lined with either at least 1/2" plywood or 1/2" Masonite-type hardboard.
Doors	Must overlap sides by at least 1".
Locks (hood not required)	One steel padlock with at least 5 tumblers and casehardened shackle of at least 3/8" diameter.
Unattended Storage	Explosive materials must be removed to an appropriate magazine for unattended storage.

Type 4 Magazines

Building, igloo, tunnel, dugout, box or mobile facility.

Type 4 Magazines	
Fire/weather/theft-resistant	Indoor need not be weather resistant if building provides weather protection.
Construction	Masonry, metal-covered wood, fabricated metal, or combination.
Lining	Walls and floors must be constructed of, or covered with, non-sparking material or lattice work.

Door or Cover	Metal or solid wood covered with metal.
Foundation	Brick, concrete, cement block, stone, or metal or wood posts. If piers or posts used in lieu of continuous foundation, space under the building must be enclosed with fire-resistant material.

Type 5 Magazines

Type 5 Magazines	
Weather/Theft Resistant	Indoor need not be weather resistant if building provides weather protection.
Doors	Constructed of solid wood or metal.
Placards	If required by USDOT for transport of blasting agents, placards must be displayed on magazines.

This overview is intended as general guidance. The Federal explosives regulations at 27 CFR, Part 555 provide specific regulatory requirements for explosive materials. This overview is intended as an aid to compliance with those regulatory requirements not as a replacement.

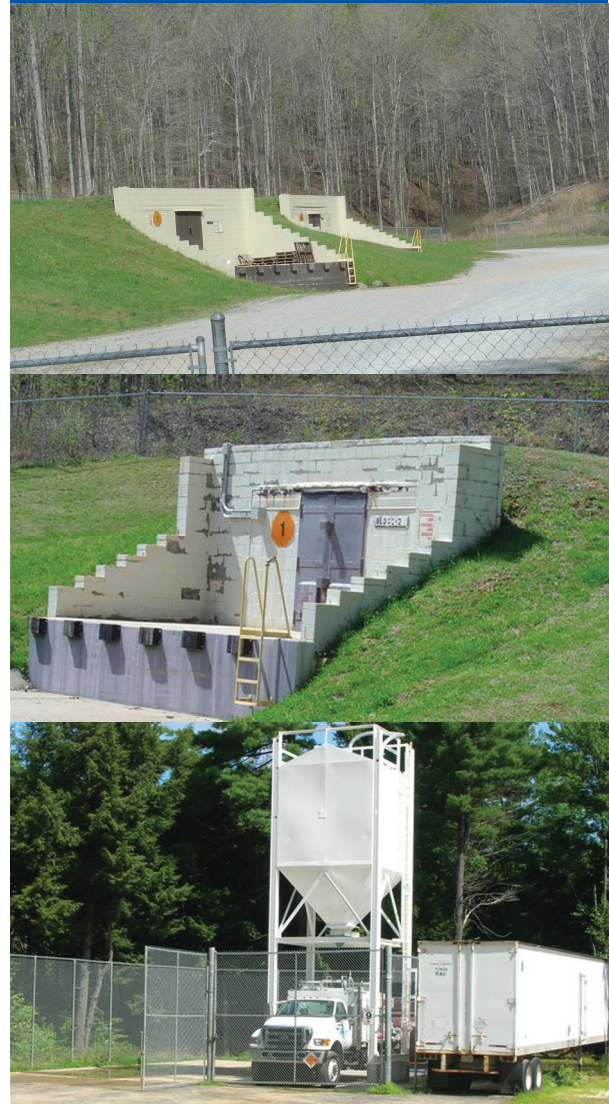
U.S. Department of Justice
 Bureau of Alcohol, Tobacco, Firearms and Explosives
 99 New York Avenue, N.E.
 Washington, DC 20226
www.atf.gov



ATF Publication 5400.17
 October 2011

ATF

Explosives Magazine Construction Requirements



Magazine Explosives Classes Stored	
Type 1	All classes
Type 2	All classes
Type 3	("Day Box") Temporary attended storage of all classes
Type 4	Low explosives, blasting agents & non-mass detonating detonators
Type 5	Blasting agents

Housekeeping & Construction

Hinges/Hasps

Must be installed so they cannot be removed when doors are closed/locked. Must be attached to doors by:

- Welding, or
- Riveting, or
- Bolting (nuts inside door).

Locks

Must be protected by ¼" steel hoods to prevent sawing/lever action. Does not apply to doors secured on inside via bolt, lock, or bar that cannot be actuated from the outside.

Each door must have:

- 2 mortise locks;
- 2 padlocks fastened in separate hasps & staples;
- A combination of mortise lock and padlock;
- A mortise lock requiring 2 keys; or
- A 3-point lock.
- Padlocks must have at least 5 tumblers and casehardened shackles at least ⅜" diameter.

Lighting

- Must meet National Electrical Code and/or NFPA 70-81 standards.
- Electrical switches and wiring must be located outside of the magazine. Battery-activated safety lights or lanterns are acceptable.

Ground

- Must slope away for drainage or provide other adequate means for drainage.

Housekeeping

- Magazines must be clean, dry, and free of grit, paper, empty packages/containers and rubbish.
- No spark-producing utensils kept in magazines.
- Explosive leakage stains must be cleaned, and deteriorated explosives must be destroyed per manufacturer instructions.

- The surrounding area must be kept clear of rubbish, brush, dry grass, or trees (less than 10' tall), for no less than 25' radius. Volatile materials must be kept at least 50' away from outdoor magazines. Live foliage to stabilize an earthen covering is acceptable.

Locations of Outdoor Magazines
No closer to inhabited buildings, passenger railways, public highways, or other magazines than minimum distances specified in pertinent tables of distances.
Locations of Indoor Magazines
May not be located in residence or dwelling.
Vehicular Magazines
Immobilize by removing wheels or installing a kingpin locking device when unattended.

Type 1 Magazines

Permanent structure; must be bullet-, fire-, weather- & theft-resistant. (See also ATF Ruling 76-18)

Type 1 Magazines	
Item	Requirements
Masonry Wall	Brick, concrete, tile, cement block, or cinder block no less than 6" thick. Hollow masonry spaces filled with well-tamped, coarse, dry sand or weak concrete (1 part cement/8 parts sand with water to dampen while tamping).
Metal Wall	Fabricated sectional sheet steel or aluminum (no less than 14-gauge) securely fastened to metal framework. Interior walls lined with brick, solid cement blocks, hardwood (no less than 4" thick) or at least 6" sand fill between interior and exterior walls.
Interior Walls (Masonry and metal walls)	Constructed of, or covered with, non-sparking material. No sparking material exposed to contact with explosives. Ferrous metal nails in floor and walls must be blind nailed, countersunk, or covered with non-sparking material.
Wood Wall	Exterior walls must be covered with iron or aluminum no less than 26-gauge. Inner walls must be covered with non-sparking material constructed to provide at least 6" space between outer and inner walls. Space filled with coarse dry sand or weak concrete.
Foundation	Brick, concrete, cement block, stone, or wood posts. If piers or posts used in lieu of continuous foundation, enclose the space under buildings with metal.
Floors	Strong enough to bear maximum storage weight and non-sparking (pallets constructed of, or covered with, non-sparking material acceptable).

<p>Roof (Bullet-resistant ceiling /roof)</p>	<p>For buildings w/out fabricated metal roofs, outer roof must be covered with no less than 26-gauge iron or aluminum, fastened to at least ⅞" sheathing.</p> <p>If bullet could be fired directly through the roof into magazine at an angle to strike explosives, the roof must:</p> <ul style="list-style-type: none"> • Include a sand tray lined w/layer of non-porous material, filled with at least 4" coarse, dry sand—located at tops of inner walls covering entire ceiling area (except ventilation); or • Be a fabricated metal roof of 1" plate steel lined with 4" hardwood. (For each additional ⅛" plate steel, hardwood lining may be decreased by 1".) • For roofs not of fabricated metal, outer roof must be covered with no less than 26-gauge iron or aluminum, fastened to at least ⅞" sheathing.
<p>Doors</p>	<p>Must be constructed of at least ¼" plate steel, lined with at least 2" hardwood.</p>
<p>Ventilation (no openings except for entrances and ventilation)</p>	<p>Ventilation must be provided to prevent dampness and heating of explosives. Vent openings must be screened. Openings in side walls and foundations must be offset or shielded for bullet-resistance. Magazines with foundation and roof ventilators with air circulating between side walls and floors, or side walls and ceiling must have a wooden lattice lining (or equivalent) to prevent stacking explosives against walls.</p>
<p>Igloo, Army-type structure, tunnel, and dugout</p>	<p>Must be built of reinforced concrete, metal, masonry, or combination. If not bullet-resistant, must have earth mound covering of at least 24" on top, sides and rear. Interior walls and floors must be constructed of, or covered with, non-sparking material.</p>

Type 2 Magazines

Box, trailer, semitrailer, or other mobile facility.

Type 2 Outdoor Bullet-, fire-, weather-, theft-resistant & ventilated	
Size	Securely fasten to a fixed object if less than 1 cubic yard in size.
Ground	Support magazine to prevent direct contact with ground.
Construction	Exterior and doors to be of at least ¼ steel lined with at least 2 hardwood. Any top openings must have lids with water-resistant seals, or which overlap the sides by at least 1 when closed.