Explosives Storage Magazines

Overview
Explosives storage magazines are regulated by multiple state and federal agencies, each with its own specific laws, regulations and codes. This information sheet is intended to provide general information related to the 2020 Minnesota State Fire Code (MSFC).

Explosives classification, UN/DOTn Division

- 1.1: Explosives that are a mass explosion hazard.
  - Ex. Dynamite
- 1.2: Explosives that have a projection hazard but not a mass explosion hazard.
  - Ex. Hand grenades
- 1.3: Explosives that have a fire hazard and either a minor blast or a minor projection hazard.
  - Ex. Display fireworks
- 1.4: Explosives that have a minor explosion hazard.
  - Ex. Consumer fireworks and automotive air bag gas generators
- 1.5: Very insensitive explosives.
  - Ex. Blasting agents
- 1.6: Extremely insensitive articles that do not have a mass explosion hazard.
  - Ex. Special effects squibs

- Blasting agent: A material or mixture consisting of fuel and oxidizer, intended for blasting that cannot be detonated under specific testing conditions when unconfined.

Explosives magazine types

- Type 1: Ventilated permanent structure such as a building or igloo that is bullet, fire, theft and weather-resistant.
- Type 2: Ventilated portable or mobile structure such as a box, skid-magazine or trailer that is fire, theft and weather resistant. Must also be bullet resistant if stored outdoors.
- Type 3: A fire, theft and weather-resistant day box or portable structure for temporary storage.
- Type 4: Permanent, portable or mobile structure such as a building, igloo, box or trailer that is fire, theft and weather-resistant.
- Type 5: Permanent, portable or mobile structure such as a building, igloo, box, trailer or vehicle that is theft-resistant.
Indoor magazine requirements

- Fire and theft resistant.
- Painted or colored red.
- Fitted with wheels, casters or rollers allowing for removal in an emergency.
- Minimum of 3 inch tall, ½ inch stroke lettering reading “Explosives – Keep fire away.”
- At least one vertical side of the magazine shall not exceed the minimum exit door clear width.
- Not more than 50 pounds of explosives stored within magazines.

What classification of explosives can be stored in what type of magazine

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<thead>
<tr>
<th>UN/DOTn Division</th>
<th>Magazine Type Required</th>
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<td>1.1</td>
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<td>1.5 Blasting Agents</td>
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X - Magazine type permitted
NP - Magazine type not permitted

Explosives magazine placards
MSFC section 5604.6.5 requires placarding on properties where Type 1, 2, 4 or 5 magazines are located.

- Sign lettering shall be a minimum of 3 inches tall, ½ inch stroke reading “Explosives – Keep Off.”
- Signs shall be located to minimize the possibility of a bullet hitting the magazine.

Access road signs
MSFC Section 5604.6.5.1 requires signage at all access roads to explosives manufacturing and storage sites with lettering not less than 2 inches high stating:

DANGER!
NEVER FIGHT EXPLOSIVES FIRES.
EXPLOSIVES ARE STORED ON THIS SITE
CALL_______.
In agreement between the Minnesota State Fire Marshal Division (SFMD) and Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), these sections should not be enforced if:

- The magazine is not a permanent installation such as a Type 2, 3, 4 or 5 on a construction site or similar location, and
- The magazine is unguarded, and
- The magazine is within public view, and
- Only if this location is identified within the Public Service Answering Point (PSAP) or similar approved location to inform emergency responders to the unique situation in the event of an emergency.

This agreement is meant to address theft, tampering or terrorism concerns unique to explosives magazines.

Free access to the MSFC requirements in Chapter 56 for Explosives and Fireworks is available on the International Code Council’s website.