

A “fireworks plant warehouse” is a building or structure, not regularly occupied by employees and that is used strictly for storage of materials that are neither explosives nor pyrotechnic compositions (e.g., equipment or tools). Unlike a fireworks nonprocess building, a fireworks plant warehouse is not subject to regulatory separation distances (see footnote 5 to table 555.223).

Tables of Distances and Barricades

For a magazine to be properly barricaded from a highway, a straight line, from the top of any sidewall of the magazine to a point 12 feet above the center of a highway, must pass through the barricade.

ATF generally does not consider the earthen-covering on an igloo-style magazine a barricade. Whether a mound covering a receptor magazine offers a level of protection equivalent to that of a free-standing barricade depends upon several factors. The Explosives Industry Programs Branch evaluates variance requests for earthen-covered magazines as barricaded based on specific criteria, e.g., magazine construction; amount and type of earth covering; class, type, and weight of explosives stored; and actual distances from inhabited buildings, highways, passenger railways, and other 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 is intended as an aid to compliance with those regulatory requirements—not as a replacement. Questions concerning table of distance requirements may be sent to eipb@atf.gov.

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ATF Publication 5400.25
September 2014



ATF

Table of Distance Requirements



The Federal explosive regulations require outdoor explosives storage magazines to be located at specified minimum distances from inhabited buildings, highways, passenger railways, and other magazines based on the quantity of explosive materials in each magazine. These tables of distances are intended to protect the public in the event of a magazine explosion.

The tables of distances under the Federal explosives regulations are found at:

- 27 CFR § 555.218 for storage of high explosives (including flash powder and bulk salutes), blasting agents, and display fireworks over 10,000 pounds.
- 27 CFR § 555.219 for storage of low explosives.
- 27 CFR § 555.220 for storage of ammonium nitrate and blasting agents from high explosives or blasting agents.
- 27 CFR § 555.222 for distances between fireworks process buildings and between fireworks process and non-process buildings.
- 27 CFR § 555.223 for distances between fireworks process buildings and other areas, e.g., public highways, fireworks plant storage buildings, shipping buildings, etc.
- 27 CFR § 555.224 for storage of 10,000 pounds or less of display fireworks (except bulk salutes).

When determining the distance from a magazine to a highway, measure from the nearest edge of the magazine to the nearest edge of the highway.

If any two or more magazines are separated by less than the specified distance, then the weights in the magazines must be combined and the magazines considered as one magazine covering the entire area of both magazines.

ATF Ruling 2005-2 Public Roads as “Highways” Definition and Examples

“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.” (555.11)

Private roads with no gates, signs, or other means of restricting access, used by the general public as an access road to a parking lot and as access to other public streets, are “highways.”

A private road with a gate at the entrance that is locked at all times and used by a limited number of persons leasing or owning property accessed by the road is not a “highway.”

A private roadway traversing a quarry with a gate intended to restrict access and a “no trespassing” sign is a “highway,” as defined in § 555.11, if the gate is not locked at all times and the general public regularly uses the roadway as a shortcut between two public highways.

ATF Ruling 2005-3 “Inhabited Buildings” Definition and Examples

“Any building regularly occupied in whole or in part as a habitation for human beings, or any church, schoolhouse, railroad station, store, or other structure where people are accustomed to assemble, except any building occupied in connection with the manufacture, transportation, storage, or use of explosive materials.” (555.11)

A structure used to store items other than explosive materials that is visited on a regular basis by one individual is not an “inhabited building” because it is not a structure where people are accustomed to assemble. Where two or more persons occasionally visit a structure, e.g., to repair equipment stored therein, and such visits to the site are infrequent, the structure is not an “inhabited building” because the visits are not “customary.” However, where two or more persons make regular visits to the structure for a common purpose, the structure is an “inhabited building,” and magazines may not be stored closer to the structure than the minimum distances specified in the regulations at 27 CFR Part 555.

Buildings occupied in connection with the manufacture, transportation, storage, or use of explosive materials are not included within the definition of “inhabited building” in relation to magazines located on their own premises or on property owned by another licensee.

Using Tables of Distances at 555.218 and 555.220 for Blasting Agents

High Explosives (HE) Stored Near Blasting Agent (BA)

- Calculate distance using table 555.220, with HE as the donor.
- Calculate the distance using 555.218, with BA as the donor.

- The more restrictive of the two distances is the minimum required distance between magazines of HE and BA.
- Use table at 555.218 to determine required distance to inhabited buildings, highways and passenger railways.
- When determining minimum required distance from detonator storage to BA storage, the detonator magazine is always the donor. (Only the table at 555.220 may be used for this calculation.)

BA Stored Near BA

- Use only the table at 555.220.
- The weight (row) to be used is based upon the donor material (the greater amount).
- The column to be used (BA) is based upon the acceptor material.
- Multiply the distance by 6 when unbarricaded.

HE or BA Stored Near Ammonium Nitrate (AN)

- HE or BA to AN storage: use 555.220 with AN as the receptor—AN alone is never the donor.
- Combine ½ the weight of the AN (with the donor) if the distance from the HE or BA to AN does not meet minimum separation distance.

*Multiply minimum distances in table 220 by 6 when the AN or BA are not barricaded.

(See open letter at <http://www.atf.gov/files/press/releases/2012/09/092412-open-letter-tables-of-distances-sept-2012.pdf>.)

Fireworks Process and Non-Process Buildings for Table 555.222

Any building regularly used by employees for activities not involving the processing or storage of fireworks is considered a nonprocess building and is subject to the separation distances specified in Table 555.222. The separation requirement between fireworks process and nonprocess buildings is intended to protect employees engaged in activities in buildings not used for the processing or storage of fireworks, and in other processing buildings.