



Department of Fire Services
Commonwealth of Massachusetts

Facts About Blasting

for Massachusetts Property Owners



www.mass.gov/dfs

Department of Fire Services
Division of Fire Safety

P. O. Box 1025 - State Road
Stow, Massachusetts 01775
978-567-3375 • Fax 978-567-3199

Blasting Facts

- The Institute of Makers of Explosives (IME) reports that in 2012 over 12 million pounds of commercial explosives were sold for use in Massachusetts.
- Explosives are used directly or indirectly in almost every aspect of our lives. Car, trucks, roads, bridges, homes, and office buildings are all built with products that had their origins with explosives. Even baby powder has its origin with explosives!
- Mining and construction are the two most common uses of explosives.

Blasting Regulations

Commercial explosives and the blasting industry are regulated by a number of state and federal agencies. In Massachusetts, 527 CMR 1.00 is the primary regulation that applies to explosives licensing, permitting, storage, sales, use, transportation, and manufacture. 527 CMR 1.00 is administered through the Department of Fire Services, Division of Fire Safety.

Federal agencies that regulate explosives include:

- Alcohol, Tobacco, Firearms and Explosives (ATF) – sales and storage
- Department of Transportation (DOT) – transportation
- Occupational Safety and Health Administration (OSHA) – construction use and handling
- Mining Safety and Health Administration (MSHA) – mining use and handling

Massachusetts Regulations

527 CMR 1.00

Key Parts of the Regulation

Section 1.12.8.39.1 Licenses, Permits, Certificates

- Certificate of Competency
- Explosives Users Certificate
- Use and Handling Permit
- Sale of Explosive Material



Section 65.9.1 Storage

Section 65.9.1 Transportation

Section 65 Use of Explosive Materials (Blasting)

- Blast Analysis
- Blast Design Plan
- Allowable Limits of Effects of Blasting
- Preblast Inspection Surveys
- Blasting Damage Complaint

Section 65.9.15.1.8 - 65.9.15.1.10 Pre/Post Blast Inspection Waiver

Section 65.9.18 Blasting Regulatory Review Form (FP-296)

Important parts of 527 CMR 1.00 for the homeowner to be aware of:

Section 65.9.8 Blast Analysis

A document from the blasting company considering the effects of blasting on adjacent properties.

Section 65.9.8.3 Blast Design Plan

The blast design plan describes the design of the initial blasts and all the necessary safety precautions that will be taken.

Massachusetts Regulations (continued)

Section 65.9.15 Preblast Inspection Surveys

When blasting takes place within 250 feet of a property not owned or controlled by the project, a free survey must be offered to the property owner.

NFPA 495, 2013 Edition Warnings

The blaster must sound warnings when ready to fire a blast.

NFPA 495, 2013 Edition, Chapter 11 Allowable Limits of Effects of Blasting

Limits that are set for vibration and noise that result from a blast. 527 CMR 1.00 Section 65.9.14.4 contains the requirements for the use of a seismograph.

Section 65.9.18 Blasting Regulatory Review

If a property owner thinks that damage occurred as a result of blasting, they should file a regulatory review form with the fire department within 30 days of the blasting.

A Few Things To Remember



If a blasting project is planned near your property, take a close look at your home or business. You may be surprised at how many cracks in walls, floors, and ceilings already exist just from seasonal changes in humidity, age, and normal wear and tear. Most property owners don't notice these cracks until after blasting has started and mistake them for blasting damage.

The limits set for blasting noise and vibration are conservative and are below the threshold of where damage is known to occur.

The limits set in 527 CMR 1.00 are the result of years of study and research by universities and the Federal Government. The United States Bureau of Mines (USBM) RI 8507 Report is the primary source for establishing noise and vibration damage levels.

Who Do You Contact?

In Massachusetts there are two places to go for blasting help.

Local fire departments issue a *Permit to Blast*. The permit is issued only if all the correct planning has taken place and all other conditions of 527 CMR 1.00 have been met.

Through the Department of Fire Services, the Division of Fire Safety issues *Blasting Certificates of Competency* and *Explosives Users Certificates* to blasters and blasting companies. Local fire departments will not issue a blasting permit without these documents. The certificates document that the blaster is competent to conduct blasting operations, and that his company has shown evidence of both bonding and the required insurance.

Other Blasting Information

How is blasting noise and vibration measured?

A seismograph is used to measure blasting noise and vibration. Seismographs are set up next to the closest structure to the blast site. The machines record the ground vibration and noise generated by the blast. The information is used to determine if the blast has exceeded limits set in the regulations.

Does the blaster keep records?

The blaster is required to keep detailed records of each blast. The records contain the size, time, and location of the blast, the amount of explosives used, and the results of the seismograph monitoring.

Will you hear or feel the blast?

You may hear or feel a blast depending on your distance from the blasting site. Humans are sensitive to noise and sound. What you feel does not necessarily mean that damage is occurring. Let the blasting company know if you are being startled or if you have other concerns about what is taking place.

What if I am sure that blasting damage has occurred?

If you feel that damage has occurred to your property, fill out a *Blasting Regulatory Review Form*. The form (FP-296) is available from the local fire department (and on the DFS website under *Fire Prevention Forms*), and must be submitted to the local fire department within 30 days of the blasting incident. The blasting company will then be required to submit records to the fire department for the blasts in question. The records will be reviewed by both the fire department and the Division of Fire Safety for any violations of the regulations. The blasting company, or its insurance company, is also required to respond to the claimant and to investigate the claim.

What precautions can be taken before blasting starts?

If you are offered a preblast survey, accept the offer. The survey is an inventory of existing conditions of the property. It is also an opportunity for the property owner to ask questions and the blasting company to educate citizens. If you have any concerns or questions, raise them during the preblast survey. The blasting company should be ready and willing to answer questions and address concerns.

Useful Numbers

Department of Fire Services - Stow Headquarters

P. O. Box 1025 – State Road, Stow, MA 01775

(978) 567-3100

www.mass.gov/dfs



Department of Fire Services - Springfield Campus

P. O. Box 51025 - 100 Grochmal Avenue

Springfield, MA 01151-1055

(978) 567-3100, Fax (978) 567-3819

Division of Fire Safety

Main Telephone: (978) 567-3375, Fax: (978) 567-3199

- Code Compliance & Enforcement Unit - Stow
Telephone: (978) 567-3375, Fax: (978) 567-3199
- Code Compliance & Enforcement Unit - Springfield
Telephone: (978) 567-3813, Fax: (978) 567-3819

Contact your local fire department at:



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