

**STUDY MATERIAL FOR THE
CERTIFICATE OF FITNESS
EXAMINATION FOR
MAGAZINE KEEPER
(E-15)**

NOTICE OF EXAMINATION

TITLE: Examination for the Certificate of Fitness for Magazine Keeper (E-15)

DATE OF TEST

Applicants must make an appointment with the Explosive Unit at 718-999-1595 prior to arriving at 9 Metrotech, Brooklyn. All applicants with appointments must arrive before 8:30 AM for processing.

QUALIFICATION REQUIREMENTS

1. Applicants must be at least **18** years of age.
2. Applicants must have a reasonable understanding of the English language.
3. Applicant must provide **two forms of identification**, at least one identification must be government issued photo identification, such as a State-issued Drivers' License or Non Drivers License or a passport.
4. Applicants must present a **letter of recommendation** from his/her employer. The letter must be on official letterhead, and must state the applicant's full name, experience and the address where the applicant will work. If the applicants are self-employed or the principal of the company, they must submit a notarized letter attesting to their qualifications. The sample letters are available at the link below
http://www.nyc.gov/html/fdny/html/c_of_f/cof_requirements.shtml or the Public Certification Unit, 1st floor, 9 Metrotech Center, Brooklyn.
5. Applicants must submit **two passport-size photos**.
6. Applicants must be **United States citizens**. Proof must be provided before taking the test. The acceptable documents are listed below.

***Acceptable documents for proof of U.S. citizenship:** American Passport, Certificate of Naturalization, Certificate of Citizenship, US or US Territory Birth Certificate (US Territories are American Samoa, Guam, Mariana Islands, Marshall Islands, Puerto Rico, Virgin Islands and Wake Island), US DOS Consular Report of Birth Abroad.

APPLICATION INFORMATION

Application Fees: \$25 for originals and \$5 for renewals. The fee may be paid by cash, money order, credit card, debit card or personal check made payable to the "New York City Fire Department".

Fingerprint fees: \$75 money order only, payable to "Fire Department City of New York". This fingerprint fee is **ONLY** required for taking your initial test.

The \$25 and \$75 fees must be payable by all applicants prior to taking the C of F test.

RENEWAL REQUIREMENTS

You will receive a courtesy notice of renewal 90 days before the expiration date. You will be able to renew your C of F 60 days before the expiration date. It is your responsibility to renew your Certificate. Please be advised that the C of F will expire in 1 year. It is very important to renew your C of F before it expires.

Please renew **by mail**, not in person at FDNY headquarters. For renewal, send

- (1) either the renewal coupon or a photocopy of your current C of F, and
- (2) two new color passport size photos, and
- (3) a fee of \$5, money order or personal check (do not send cash) payable to “Fire Department City of New York“

to :

FDNY (Explosive Unit Rm #3N-2)
9 Metro Tech Center,
Brooklyn, NY 11201

Late renewals (90 days after the expiration date, up to 1 year) will incur a \$30 renewal fee. Certificates expired over one year past expiration date will not be renewed. New tests will be required.

FDNY also reserves the right to require the applicants to take a re-examination upon submission of renewal applications.

TEST INFORMATION

The E-15 test will consist of **30** multiple-choice questions, administered on a “touch screen” computer monitor. It is a time-limit test. A passing score of at least 70% is required in order to secure a Certificate of Fitness. For additional information and forms, please call 718-999-1595.

WEBSITE

Please always check for the latest revised booklet at FDNY website before you take the test, the Certificate of Fitness Study Material link, below

http://www.nyc.gov/html/fdny/html/c_of_f/cof_study_materials.shtml

This study material will help you prepare for the written examination for the Certificates of Fitness for Magazine Keeper (E-15). This study material includes information taken from the Fire Prevention Code and the recently adopted International Fire Code. The study material does not contain all of the information you need to know in order to work safely when storing, handling, or using explosives. It is your responsibility to become familiar with all applicable rules and regulations of the City of New York, even if they are not covered in this material.

You must pass both a multiple-choice test and an oral test to qualify for the Certificate of Fitness. You must pass the multiple-choice test before you take the oral test. A passing score of 70% is required in the multiple-choice test. All questions on the multiple-choice test have four alternative answers. Only one answer is correct for each question. If you do not answer a question your answer will be scored as incorrect. Read each question carefully before marking your answer. You can always come back to "**REVIEW**" your answers. There is no penalty for guessing on the multiple-choice test.

Sample Questions

1. All explosives and blasting caps must be stored in:

- (A) the blaster's truck.
- (B) a magazine.
- (C) the site supervisor's shed.
- (D) underground vaults.

The correct answer is "**B**". You would tap alternative "**B**" on your answer computer screen.

2. The word "EXPLOSIVES" painted on the rear of a truck carrying explosives must be painted in which color?

- (A) Black.
- (B) Red.
- (C) Green.
- (D) White.

The correct answer is "**D**". You would tap alternative "**D**" on your answer computer screen.

STORAGE, HANDLING AND USE OF EXPLOSIVES

The key to preventing explosives accidents is to follow proper blasting procedures. Safe blasting practices must be followed at all times. Safe practices are required from the moment explosives are delivered to the magazine to the inspection that is made after the blast.

There are several kinds of persons who work with explosives. It is important that each person know and understand what they are permitted to do. A person working with explosives should never try to do something that they have not been trained do. Every person who works with explosives must have a Certificate of Fitness. A person should not do anything with explosives unless they have a Certificate of Fitness for what they are doing.

The Blaster is the most highly qualified person at the blasting site. The blaster has total responsibility for the use of explosives and record keeping. The blaster has responsibility for the safety of the public. The blaster is responsible for all work with explosives. The blaster plans the blasting work, supervises loading of the blast, and is responsible for setting off the blast. Only the blaster may give permission to fire a blast.

The Powder Carrier is essentially an "apprentice" blaster. The powder carrier helps to load holes with explosives. The powder carrier assists the blaster in preparing primer cartridges and in wiring charges.

Explosives Loaders help the blaster in tunnel and shaft work. The explosives loader helps load the tunnel face to prepare for the blast.

Explosives Handlers are the drivers of the trucks used to deliver explosives to the blast site. Explosives handlers are responsible for the safe transport and handling of explosive materials and record keeping pertaining to pick-ups and deliveries. They are not permitted to do any other work with explosives.

The Magazine Keeper accepts delivery of explosives at the work site. The magazine keeper keeps records of explosives as they are received, used, and returned. The magazine keeper is responsible for the safe keeping of explosives in the magazines. Magazine keepers are not permitted to do any other work with explosives.

Storage

The blaster, powder carrier or magazine keeper may accept deliveries of explosives at the work site. All explosives and blasting caps must be stored in magazines specially made for that purpose. A magazine must be approved and have a permit to store explosives. Magazines must be under the direct supervision of a magazine keeper holding a Certificate of Fitness. The only duties of the magazine keeper are to guard the magazine and to maintain accurate records.

The magazines must be kept locked when they have explosives or blasting caps in them. The magazines should be unlocked only when materials are delivered to the magazine, or are removed

for delivery to the blast site. Only the magazine keeper, the blaster or the powder carrier may have access to the keys to the storage magazines.

Accurate records of all explosive materials must be kept. These records are required to meet the regulations of the Fire Department of New York City. Separate records are required for blasting caps and sticks of dynamite. The picture below shows the form that is used for blasting caps.

The blasting cap record shows when blasting caps were received at the job site. The record also shows who received the blasting caps and how many blasting caps were delivered. The record shows when any blasting caps were taken from the magazine to be used in a blast.

A-66A (7/84) 98-133-0313

**FIRE DEPARTMENT
CITY OF NEW YORK**
BUREAU OF FIRE PREVENTION
9 Metrotech Center
Brooklyn, NY 11201-3857

NOTICE!
Superintendent, Blaster and Magazine Keeper shall inspect job area, carrying Boxes and magazines and sign the Blasting cap record at the completion of each work day.

NOTICE!
This slip is the property of the Fire Department; it must be kept in magazine at all times, and must not be surrendered, except to a duly authorized representative of the Fire Department.

BLASTING CAP RECORD

License No. _____ Contractor _____
Expiration Date _____ Location _____

RECEIVED						TAKEN OUT				
Date	Caps On Hand	Caps Received	Hour	Man in Charge	No. of CoF	Caps	Hour	By whom	No. of CoF	Inspector

Blasting Cap Record

The picture below shows the record that is kept for sticks of dynamite. The record keeps track of when explosives were received and when they were taken out. This way all explosive materials are accounted for at all times.

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Superintendent, Blaster and Magazine Keeper shall inspect job area, carrying Boxes and magazines and sign the Blasting cap record at the completion of each work day.

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DYNAMITE RECORD

License No. _____ Contractor _____
Expiration Date _____ Location _____

RECEIVED						TAKEN OUT				
Date	Sticks On Hand	Sticks Received	Hour	Man in Charge	No. of CoF	Sticks	Hour	By whom	No. of CoF	Inspector

Dynamite Record

The blasting cap record and the dynamite record may be kept in the magazine or the watchperson's shanty. The records must be surrendered to a duly authorized Fire Department representative when requested.

Only the amount of explosives that will be used for the next blast that is being loaded should be removed from the magazine. Any explosives that are not used for the blast must be returned to the magazine as soon as possible. Explosives taken from the magazine should be carried only in their original containers or special carrying boxes. The original containers or special carrying boxes should be used to return unused explosives to the magazines

The magazines must be kept clean. Areas within 25 feet of the magazines must be kept clean and free of all rubbish. Dead grass and shrubbery and other obstructions must be removed. Empty cartons, packing materials and other combustible materials pose a dangerous fire hazard. Smoking, open flames, matches, lighters, etc. are prohibited inside or within 100 feet of a storage magazine. Persons should not be permitted to loiter in the area near the magazine.

Explosives and blasting caps may not be kept in the same magazine. Two separate magazines are required. One magazine is used to store explosives. Another magazine is used to store the blasting caps. The magazine for explosives and blasting caps should be at least 100 feet apart. A special variance is required if the magazines must be closer than 100 feet apart.

The amount of explosives that may be kept in a magazine depends on the class of the permit for the magazine. The permit must be kept in the magazine and ready for inspection. The classes of magazines and the maximum amount of explosives that can be stored are as follows:

First Class	1,000 pounds
Second Class	500 pounds
Third Class	250 pounds
Fourth Class	100 pounds
Fifth Class	25 pounds

Only three deliveries may be made to the same site in one day. The initial amount delivered to a site cannot be more than what is permitted by the class of the magazine. For example, a site with a Fourth Class permit cannot receive more than 100 pounds of explosives in any delivery.

Each class of magazine shall be allowed three daily deliveries in the amount of its storage capacity. For example, a site with a First Class permit can receive three deliveries of 1,000 pounds each totaling 3,000 pounds for the day.

The Blaster, Powder Carrier, and the Magazine Keeper must inspect the magazines at the end of each workday. They must also inspect the job area and the carrying boxes. After the inspection they must sign the Dynamite, Blasting Cap, and Shot records. Any explosive materials that were not used during the day must be returned to the vendor.

Whenever a Magazine Keeper is relieved by another magazine keeper, both should inspect the magazine. They should check the explosives on hand and both sign the Magazine Record Slip in

each other's presence. The Magazine Record Slip may be kept in the magazine or the watchperson's shanty. The Magazine Record Slip should be given upon request only to an authorized representative of the Fire Department. The conditions of the magazines are inspected regularly by representatives from the Fire Department. These inspections are also recorded on the Magazine Record Slip. The illustration on the next page shows the Magazine Record Slip.

EU071764 (3/87) 16-870203 REC-N

MAGAZINE SLIP

MAGAZINE KEEPERS WHEN RELIEVING AND BEING RELIEVED MUST CHECK THE EXPLOSIVES ON HAND AND SIGN THE MAGAZINE RECORD SLIP IN THE PRESENCE OF EACH OTHER.

NOTICE!
THIS SLIP IS THE PROPERTY OF THE FIRE DEPARTMENT; IT MUST BE KEPT IN MAGAZINE AT ALL TIMES, AND MUST NOT BE SURRENDERED, EXCEPT TO A DULY AUTHORIZED REPRESENTATIVE OF THE FIRE DEPARTMENT.

FIRE DEPARTMENT • CITY OF NEW YORK
BUREAU OF FIRE PREVENTION
EXPLOSIVE UNIT
9 Metrotech Center
Brooklyn, NY 11201-3857

POST SIGNS READING
BLASTING
NO TRANSMITTING

THIS DEPARTMENT MUST BE NOTIFIED WHEN BLASTING OPERATIONS ARE SUSPENDED FOR MORE THAN 48 HOURS.

IN ALL ACCIDENTS OR FAULTY BLASTS:
THE CONTRACTOR AND THE BLASTER ARE REQUIRED TO SUSPEND BLASTING AND IMMEDIATELY NOTIFY THE F.D.N.Y.

License No. _____ Issued To _____
Expires _____ Location _____

INSPECTION		Sticks of Powder	Conditions of Magazine	Name of Man In Charge	Certificate of Fitness No. _____	Signature of Inspector
Date	Time					

Magazine Record Slip

Blasting Procedures

On a blasting job, the blaster has total responsibility for the use of explosives, record keeping and public safety. The blaster must ensure that only safe procedures are used. The blaster must also make sure that workers at the job site perform only those duties for which they have a Certificate of Fitness.

Blasting must be done only between the hours of 7:00 a.m. and 7:00 p.m., or between the hours of sunrise and sunset. Blasting may not be done during hours of darkness unless a special permit has been granted by the Fire Commissioner. Blasting is done only on Monday through Saturday. A special permit is required to blast on **Sundays**.

All types of detonators are sensitive to accidental initiation by heat or impact. Detonators should be handled carefully and protected from excessive heat. Electric detonators are also sensitive to extraneous electricity. This could come from radios, high voltage power lines, or electrical storms. For this reason all blasting operations should be suspended when an electrical storm approaches. Blasting operations should not begin again until the storm has completely left the area.

A shot should be fired as soon as possible after loading is completed. An audible blast warning signal must be given before the shot is fired. The following signals are used.

One long whistle.....Preparing to blast
 Two whistles.....Ready to blast
 Three short whistles.....All clear

The warning procedure should be familiar to all personnel working in or near the blasting area. The warning procedure should be posted where it can be easily seen.

Workers should not return to the blast area until all smoke, fumes and dust have cleared. The blast site must be inspected by the blaster before an "**ALL CLEAR**" is given. Workers should not return to the work area until an "all clear" signal is given. In tunnel or subway work, the waiting time is sometimes referred to as "smoke time." The amount of time allowed is usually about 20 minutes. After the last shot has been fired for the day on a job, the Fire Department should be notified. This is done by calling the fire company responsible for the area where the magazine is located. Arrangements will be made for an inspection.

Any explosives not used during the day must be returned to the vendor. If any unused explosives cannot be returned at the end of the day or before dark, the Bureau of Fire Prevention Explosives Unit must be notified. After the last shot has been fired for the day on a job, the Fire Department should be notified. This is done by calling the fire company responsible for the area where the magazine is located. Arrangements will be made for an inspection.

Shot Records

The blaster must keep a record of all shots made under his supervisions during his working shift. The shot record is kept on the form shown in the illustration on the next page. This form is provided by the Fire Department. The shot record shows the number of sticks and caps received from the magazine. The Shot Record indicates the date and time of each shot. The Shot Record shows the number of sticks and caps that were actually shot. The record shows what was done with any sticks and caps that were not used in a blast.

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 CITY OF NEW YORK
 BUREAU OF FIRE PREVENTION**
 9 Metrotech Center
 Brooklyn, NY 11201-3857

NOTICE
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NOTICE
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**SHOT RECORD AND BLASTER'S
 DAILY REPORT**

License No. _____ Contractor _____

Expiration Date _____ Location _____

Date	Sticks	Caps	Time	Sticks	Caps	Time	Sticks	Caps	Disposition
	Received			Shot			Balance		

Blaster's Shot Report

The shot records are kept in the magazine for inspection by the Fire Department Blasting Inspector or other authorized representative.

FIRE EXTINGUISHERS

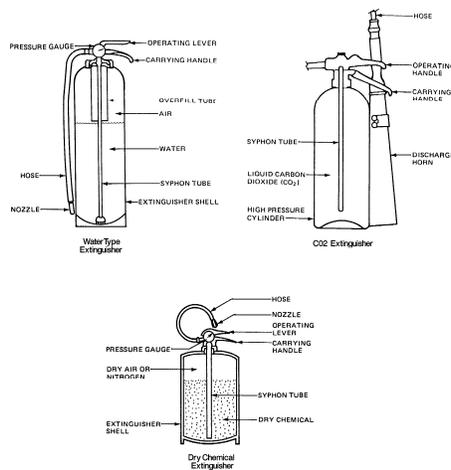
The user of explosives must be familiar with the different types of fire extinguishers that are present. The user must know how to operate the extinguishers in a safe and efficient manner. He/she must know the difference between the various types of extinguishers and when they should be used. The three classes of fires and the right kind of extinguishers are described below.

Class A fires occur when ordinary combustible materials are ignited. For example, wood and paper fires are classified as class A fires. Water type extinguishers should be used to extinguish these fires. The water type extinguishers cool the fire while quenching the flame.

Class B fires occur when flammable liquids or greases are ignited. These fires must be extinguished by smothering the flame. The flame may be smothered using CO₂, dry chemical or foam extinguishers. Water type extinguishers are not effective for class B fires.

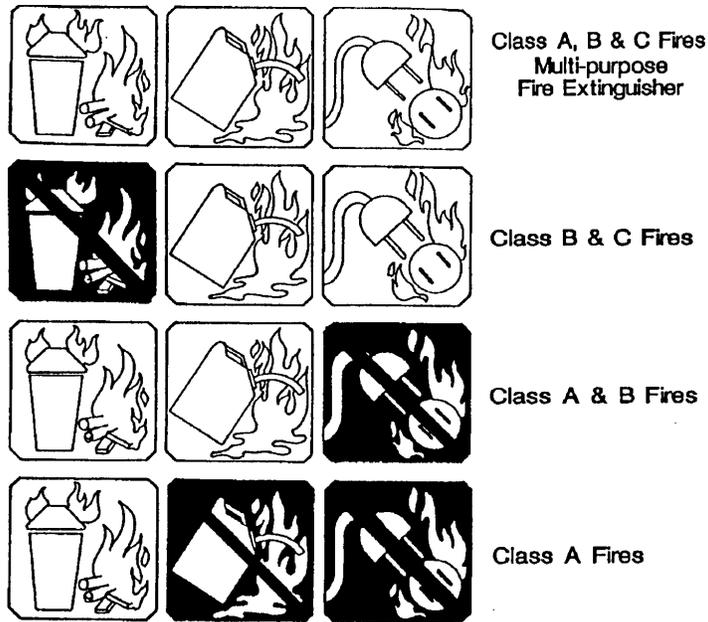
Class C fires occur when electrical equipment catches fire. These fires must be fought with fire extinguishers that do not conduct electricity. CO₂ and dry chemical extinguishers must be used to extinguish electrical fires. Foam and water type extinguishers must not be used to extinguish electrical fires.

Examples of Water type, CO₂ and Dry Chemical extinguishers are shown on the next page.



Typical Fire Extinguishers

Symbols may also be painted on the extinguisher. The symbols indicate what kind of fires the extinguishers may be used on. Examples of these symbols are shown on the next page.



Typical Symbols Painted on Fire Extinguishers

The symbol with the shaded background and the slash indicate that when the extinguisher must not be used. The explosives user must understand these symbols.

Generally, operation instructions are clearly painted on the side of the fire extinguisher. They clearly describe how to use the extinguisher in case of an emergency. Examples of these instructions are shown below.



Operation Instructions for a Fire Extinguisher