

FIRE DEPARTMENT • CITY OF NEW YORK



**STUDY MATERIAL
FOR THE EXAMINATION FOR
CERTIFICATE OF FITNESS
FOR**

EXPLOSIVES SAFETY CONTROL

E- 25

NOTICE OF EXAMINATION FOR

Title: Examination for the Certificate of Fitness for Explosives Safety Control (E-25)

Date of Test: Applicants must arrive before 8:30 AM for processing. Computer tests are conducted Monday to Friday (except legal holidays) 9:00 A.M. to 2:30P.M.

QUALIFICATION REQUIREMENTS

1. Applicants must be at least 18 years of age.
2. Applicants must have a reasonable understanding of the English language.
3. 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, character, physical condition, and experience.
4. Applicants must present one (1) form of satisfactory identification i.e., Driver's License or passport.
5. Applicants must submit two (2) passport-size photos.

APPLICATION INFORMATION

Application Fees: \$25.00 for originals; \$5.00 for renewals. The fee may be paid with credit card (no debit), in cash, money order, or personal check payable to New York City Fire Department. The \$25.00 fee must be payable by all applicants prior to taking the Certificate of Fitness test. Application forms are available at the public Certification Unit, 1st floor, 9 MetroTech Center, Brooklyn, NY 11201.

Fingerprint Fees: \$75.00 money order only, made out to NYS Criminal Justice Services. This fee is collected upon passing the test.

TEST INFORMATION

Test: The test will be of the multiple choice type given on a touch-screen computer terminal. A passing score of at least 70% is required in order to secure a Certificate of Fitness. Call (718) 999- 1988 for additional information.

This study material will help you prepare for the written examination for the Certificate of Fitness for **Explosives Safety Control (E-25)**. This study material includes information taken from the Fire Prevention Code, Rules of the City of New York and the Blaster's Guidelines. 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 a multiple choice test to qualify for the Certificate of Fitness. 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.

The Certificate of Fitness you will be testing for is **(E-25 Explosives Safety Control)**. Possession of this Certificate does not allow you to transport, handle or use explosives in any manner. You are prohibited from doing any work that will place you in contact with explosives of any type. This certificate does allow you to be in close proximity to a site where explosives are being handled or used by individuals with the proper Certificate of Fitness.

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

There are several kinds of persons who work with explosives. Each one should know and understand what they are permitted to do. Every person who works with explosives in N.Y.C. must have an F.D.N.Y. Certificate of Fitness (license). Following is a list of explosives Certificates of Fitness. A person may only perform work with explosives that their level of license allows.

The Blaster is the most highly qualified person at the blasting site, having total responsibility for the use of explosives, record keeping and safety of both workers and the public. The Blaster lays out all shots, supervises explosives loading and setting off the shots. Only the Blaster may give permission to fire a blast.

The Powder Carrier is essentially an apprentice Blaster, assisting the Blaster with loading: (preparing primer cartridges and charges, wiring / hookup, setting off the shots) and paperwork, such as recording such as recording quantities of explosives used and shot times.

Explosives Loaders help the Blaster and Powder Carrier in transporting explosives to and from the magazines and handling explosives during loading operations.

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

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.

Explosives at a work site must be under the constant supervision of a Certificate of Fitness holder at all times. Explosives are never to be left unattended at any time. Due to the obvious hazards of explosives, no smoking is permitted under any circumstances whenever handling or working with explosives. There are no exceptions.

All explosives must be stored in magazines specially made for that purpose. As an added safety measure, magazines should be sand bagged and placed a minimum distance off 100 feet apart. Since detonators and high explosives must never be stored together there must be a minimum of two magazines at every jobsite. One for detonator storage and the other for high explosives. Magazines must be kept locked when any explosives are stored within them. Only the Blaster, Powder Carrier and Magazine Keeper may possess keys to the magazines.

Both the inside of the magazines and the area surrounding them for 25 feet must be kept clean. Dead Grass, Shrubbery, empty cartons and other combustible materials pose a dangerous fire hazard. Smoking, burning 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 of the magazines.

When loading explosives, a New York City Fire Department certified Blaster must be present. On a blasting job, the Blaster has total responsibility for safety, ensuring that the powder crew performs only those duties for which they are licensed and that they follow safe procedures at all times. Only authorized persons should be allowed at the blast site during loading operations.

All Detonators (Caps) are sensitive and should be protected from accidental initiation by heat or impact. Caps and Powder should never be transported together on a shaft cage. They should be separated for safety reasons. Electric caps are also sensitive to stray electricity from radios, cell phones, high voltage power lines, subway electrified rails and electrical storms. When an electrical storm approaches, blasting operations should be suspended and should not begin again until the storm has completely left the area. The recommended safe distance for radio transmission is 100 feet.

All handling and use of high explosives shall be performed by the loading crew. You must take care not to interfere with or distract any member of the loading crew from their assigned task, which is to safely load and detonate the shot. Once the shot has been loaded only those persons required to complete the tying in of the holes should remain in the blast area. Once all preparations have been made and safety precautions taken, the shot should be fired as soon as possible after loading is completed. An audible whistle warning signal must be given before each shot is fired. The following signals are used:

One Long Whistle	Preparing to blast
Two Short Whistles	Ready to blast
Three Short Whistles	All clear

The Whistle warning system should be familiar to all personnel working in or near the blast area. The warning system should be posted where it can be easily seen. Signs reading **“DANGER – BLASTING AREA – NO RADIO TRANSMITTING”** should also be posted in the area surrounding the job site.

After a blast, workers should not return to the work area until all smoke, fumes and dust have cleared. In tunnel and subway work, the waiting time is referred to as “smoke time”. The amount of time allowed is usually 20 minutes. This allows the air to safely clear.

Upon returning to the blast site, special attention should be given to any evidence of misfires, unexploded or burning explosive materials. A misfire is the failure of an explosive charge to detonate at the proper time. Any suspected unfired explosives or detonators should be treated as if they were live explosives. If any of these situations are observed, all personnel should remain out of the area until it is safe to return as determined by the Blaster.

Should you encounter any individual who appears suspicious or does not belong on the blast site, notify the Blaster immediately. If the Blaster is not available, alert someone else on the Blasting staff immediately.

In the event of an emergency or if you can not locate a member of the blasting staff, leave the blast site by walking a safe distance and call 911.

If your status changes with your present employer such as changing jobs or if you are arrested, you must immediately notify the FDNY.