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Guide to Fire Extinguisher Inspection, Testing and Maintenance

BY BRIAN O'CONNOR

Portable fire extinguishers are often times our first line of defense against small fires and chances are you aren't too far from one right now. Like any lifesaving equipment you want to ensure that it is operable at all times so it will work when you need it most. With proper inspection, testing and maintenance (ITM) protocols fire extinguishers can be long lasting, reliable options for combating a small fire early on. This blog will address the [NFPA 10, Standard on the Installation or Portable Fire Extinguishers](#) requirements that help ensure your extinguisher is ready.

The requirements are broken down into three different sections on inspection, maintenance and testing. In each section there is information on what needs to be done (Procedures), who is allowed to perform the work (Qualifications), how often each step needs to be done (Frequency) and how to document the work (Recordkeeping).

Inspection Procedures

Performing an inspection is the easiest thing you can do to ensure your extinguisher can be used reliably and effectively in an emergency. At a minimum, inspection needs to consist of the following steps:

- Make sure it is located in its designated place
- Make sure the extinguisher is visible or that there is signage indicating where the extinguisher is located
- Make sure you can easily access the extinguisher
- Ensure the pressure gauge is in the operable range or position
- Make sure it is full, this can be done by just lifting the extinguisher or you can weigh it

- For wheeled extinguishers, make sure the condition of tires, wheels, carriage, hose, and nozzle are acceptable
- For nonrechargeable extinguishers, operate the push-to-test pressure indicators

Qualifications

You are not required to be certified in order to perform an inspection; any knowledgeable, competent person should be able to do it.

Frequency

NFPA 10 requires extinguishers be inspected when they are initially installed and once a month after that. You should inspect extinguishers more frequently if they are installed in locations where they are more prone to rust, impact or tampering.

Recordkeeping

Records of the monthly inspections need to be maintained by either putting a tag or label on the extinguisher or by having it recorded on paper or electronic files. The following items need to be recorded:

- The month and year of the inspection
- The person conducting the inspection

These records need to be maintained for at least 12 months.

Maintenance Procedures

Maintenance procedures must include the procedures detailed in the manufacturer's service manual and a thorough examination of the basic elements of the fire extinguisher, including the following:

- Mechanical parts of all fire extinguishers
- Extinguishing agent
- Expelling means
- Physical condition

This is completed by doing an external examination. An internal examination can also be required as part of your maintenance. Details on how to do an internal examination are located in your fire extinguisher service manual.

Qualifications

Maintenance needs to be performed by a certified person. Certification requires that a person take a test acceptable to the AHJ . A certified person needs to, at the very least, be familiar with the requirements in NFPA 10.

Frequency

Fire extinguishers need to have an external maintenance examination conducted on a yearly basis, at the time of hydrostatic test, or when specifically indicated by an inspection discrepancy. Extinguishers need to have an internal examination conducted at anywhere from 1-6 year intervals depending on the type of extinguisher. For example, a dry chemical, stored pressure fire extinguisher must have an internal examination every 6 years, see NFPA 10 Table 7.3.3.1 for more details on other types of fire extinguishers.

Recordkeeping

Each fire extinguisher shall have a tag or label securely attached that indicates that maintenance was performed. The tag or label needs to identify the following:

- Month and year maintenance was performed
- Person performing the work
- Name of the agency performing the work

Extinguishers also need a verification-of-service collar located around the neck of the container if an internal examination was conducted. That collar needs to have:

- Month and year the work was performed
- Name of the agency performing the work

Hydrostatic Testing Procedures

A hydrostatic test always begins with an internal and external examination of the extinguisher as described in the maintenance section. The extinguisher then has many of its components removed so it is stripped down to pretty much just the shell and hose and is filled with water at a certain pressure for a certain time. The extinguisher must then be completely dried to get rid of all of the water and is then reassembled and recharged. If there is any leakage, distortion or permanent moving of couplings the cylinder fails the hydrostatic test and it must be condemned.

Qualifications

People who do hydrostatic testing need to know what they are doing because it can be dangerous if performed incorrectly. They need to be trained, certified, and have the correct equipment and facility to perform the testing.

Frequency

Like internal maintenance, hydrostatic testing is done at different intervals based on the type of extinguisher you have. These are done either every 5 or 12 years. See Table 8.3.1 in NFPA 10 to see which applies to your type of extinguisher.

Recordkeeping

For low pressure cylinders a label is required to be attached to the extinguisher. It needs to contain:

- The name of the person conducting the test
- The date of the test
- The pressure at which the test was performed

For high pressure cylinders the testers identification number and the date must be stamped onto the shoulder, top, head, neck or foot ring.

This was intended to be a helpful guide to extinguisher ITM but it doesn't contain all the details that the requirements in NFPA 10 contain. Since there are many different types of extinguishers, there are slightly different requirements based on the extinguisher's characteristics. Electronic monitoring, which is a viable option as a replacement for your monthly inspections was also not addressed here.

If you're interested in more information about portable fire extinguishers check out these resources:

- [Location and Placement of Fire Extinguishers - Fact Sheet](#)
- [Where are Fire Extinguishers Required - Blog](#)

Use the comments below to share your experience with fire extinguishers. What challenges have you faces when conducting inspections? What have you found to be the most common violation?

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