

FIRE HOSE TESTING

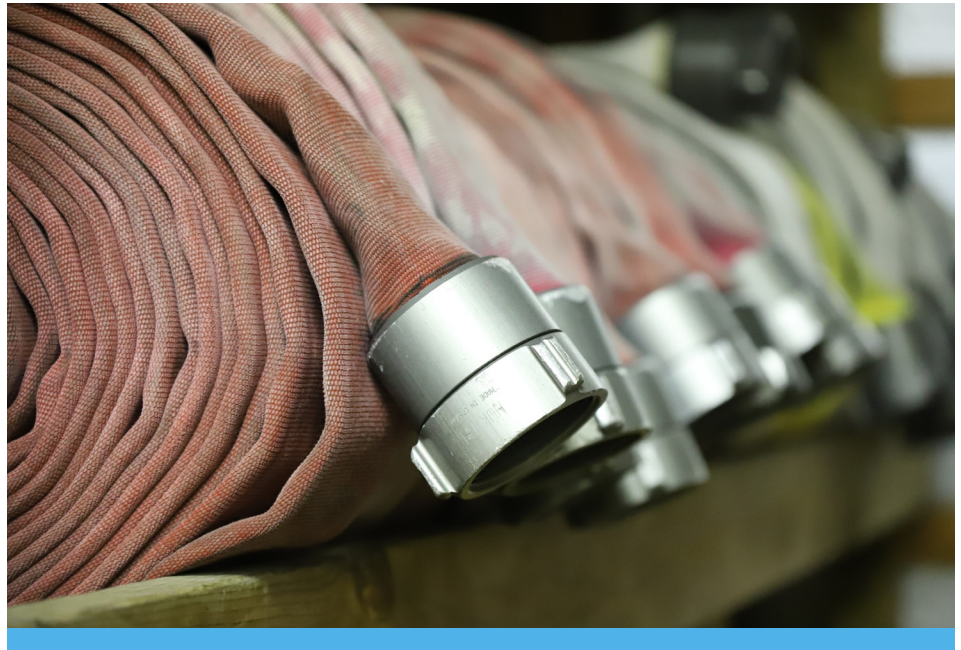
Equipment failure can result in catastrophic injury to responders, bystanders or both. Routine testing of fire hose, couplings, appliances and nozzles is necessary to provide a reasonable level of safety for users and to increase the likelihood the equipment will perform as designed.

The National Fire Protection Association (NFPA) 1962, Standard for the Care, Use, Inspection, Service Testing, and Replacement of Fire Hose, Couplings, Nozzles, and Fire Hose Appliance provides guidance on acceptable procedures for testing these vital pieces of equipment and reducing the potential for an unfortunate incident to occur.

While an industry suggested shelf life for hose has not been determined, a replacement schedule should be established and take into consideration the: use, age and testing results of the hose.

Fire Hose Testing Includes:

- Removal of fire hose from apparatus or storage;
- Labeling and recording of all information for each length of hose;
- Inspection of all fire hose, nozzles, couplings and appliances in accordance with NFPA Standards; and
- Rolling and repacking of fire hose in the same place and manner as it was removed.



Some of the key points of NFPA 1962 include:

- Hose manufactured prior to July 1987 should be removed from service.
- Hose that is in service should be service tested at least annually. Hose held in storage for longer than 1 year shall be service tested before being placed into service.
- Service-testing of nozzles – Testing should be done at least as frequently as the hose to which it is attached.

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- Attack fire hose should be service tested to a minimum of 300 psi or a service test pressure marked on the hose.
 - Supply fire hose should be service tested to a minimum of 200 psi or a service test pressure marked on the hose.
 - Hose removed from service for repair or because it has been condemned should be tagged with a distinctive tag with the reason for removal from service noted on the tag.
 - Personnel responsible for the repair and maintenance or repair of fire hose should ensure that a report of the work performed to repair each length is recorded on the permanent hose record.

Fire Hose Testing & Inspection Sample Procedures:

- Each length of hose should be assigned an ID number for the use in recording the testing history throughout the service life of the hose.
- Hose shall be laid out 300' or less on a horizontal surface in as straight of a line as possible.
- A physical inspection shall be completed on each section to determine if the hose and couplings have been vandalized, are free of debris, and exhibit no signs of mildew, rot, or damage by chemicals, burns, cuts, abrasion, and vermin.
- Any section failing the physical inspection should be removed from the service test area and repaired as necessary or condemned.
- Inspection of all fire hoses, nozzles, couplings, and appliances in accordance with NFPA Standards:
 - Hose should be connected to the outlet water supply valve and a test cap with bleeder valve attached to the far end of the hose in the test layout. If a pump on a fire apparatus is used, the hose test valve should not be attached to any discharge outlet at or adjacent to the pump operator's position.
 - With the test cap open, the pressure shall be raised gradually to 45 +/- 5 psi allowing all air to be removed from the system.
 - Close the test cap slowly as well as the outlet water supply valve.
 - Secure the hose directly behind the test cap to avoid whipping or other uncontrolled reacting in the event of a hose burst.
 - With the hose at 45 +/- 5 psi, it shall be checked for leakage at each coupling and mark around the circumference at the back of each coupling to determine, after hose has been drained, if the coupling or collar has slipped during the test.
 - All persons other than those necessary to complete the procedure should clear the area.

- Pressure should be increased at a rate not greater than 15 psi per second until the service test pressure is attained for the duration of the stabilization period.
- Stabilization period should be not less than 1 minute per 100ft of hose in the test layout.
- While the hose is at the service test pressure, the hose should be inspected for leaks.
- Inspecting personnel should maintain at least 15ft to the left side of the nearest hose line in the test layout.
- If the test layout does not hold the service test pressure for the duration, the service test should be terminated and the length(s) of hose that leaked will have failed the test.
- After the service duration, the test cap should be opened to drain the test layout.

WARNING: Because there is a potential for catastrophic failure during the service testing of fire hose, it is vital that safety precautions be taken to prevent exposure of anyone to this danger.

ADDITIONAL RESOURCES

For a more thorough explanation of the NFPA 1962 fire hose testing requirements, please visit the NFPA website at www.nfpa.org

REFERENCES

- NFPA 1962: Standard for the Care, Use, Inspection, Service Testing, and Replacement of Fire Hose, Couplings, Nozzles, and Fire Hose Appliance, 2018 Edition. In NFPA National Fire Codes Online. Retrieved from <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1962>
- The Impact of NFPA 1962 on Fire Department Hose Testing, Inspection, and Care. Fire Apparatus & Emergency Equipment, 10/02/2013. Retrieved from <https://www.fireapparatusmagazine.com/articles/print/volume-18/issue-10/features/the-impact-of-nfpa-1962-on-fire-department-hose-testing-inspection-and-care.html>

ANNUAL SERVICE HOSE TEST

Test Engineer

Test Date

Hose ID Number	Hose Location	Hose Size	Hose Condition	Purchase Date	Last Test Date	Remarks

Hose ID number: This is the identification number provided by the fire department for each section of hose.

Hose location: Define location of the hose; crosslay 1, preconnect 1, hose bed, storage, etc.

Hose size: List the size of the hose by diameter

Hose condition: Use poor, fair, good, replace, etc.

Purchase date: Write in the date of purchase

Last test date: Write in the last known test date