
GROUND LADDER TESTING

OBJECTIVE:

To provide guidance for the testing of all CCFR ground ladders.

GUIDELINE:

37.1 Inspection

37.1.1 The current edition of NFPA 1932 shall be used as a reference for the testing of ground ladders. *NFPA is a guideline it is not an adopted standard that we are required to meet all of the elements.*

37.1.2 Ladders shall be visually inspected once a month and after each use for obvious physical damage. (see NFPA 1932 6.1.3 for a listing of all possible defects)
Pulleys and other moving parts shall be cleaned and lubricated as needed using only manufacturer approved materials.

37.1.3 Damaged ladders shall be removed from service and clearly marked as out of service. The ladder shall have a tag attached stating: The date, who took it out of service, the apparatus it belongs to and the defect found.

37.1.4 Ladders with gouges, dents or other physical damage shall undergo an applicable load test. If the ladder passes the load test it may be placed back in service.

37.1.5 All ladder repairs shall meet manufacturers specifications and be completed in accordance with their direction. **TEMPORARY REPAIRS SHALL NOT BE DONE!**

37.1.6 Ladders that do not meet manufactures specifications will be taken out of service and destroyed.

37.1.7 Ladders that are slated for destruction will not be used for other purposes i.e. single fly sections shall not be used as a shorter ladder.

37.2 MAINTENANCE:

- 37.2.1** A maintenance coordinator shall be appointed by the department. The maintenance coordinator shall coordinate the testing of all ground ladders with the shifts that are on duty. Maintain all service records for all ladders and make recommendations staff for replacement of equipment. **This is a labor intensive task and requires multiple people to be done safely.**
- 37.2.2** The Ladder Maintenance Coordinator shall report the status of annual ladder testing to the Career Division Chief.
- 37.2.3** 50% of the ladders in the department will be load tested annually. Stations 1,2,5 will be done on even years. Stations 3 & 4 will be completed on odd years.
- 37.2.4** Ground ladders will not be painted except for the top and bottom 18-inches for identification.
- 37.2.5** Pawl assemblies on extension ladders shall be kept clean and lubricated.
- 37.2.6** Halyards shall be replaced when frayed or kinked.
- 37.2.7** Heat sensor stickers shall be inspected for indications of high heat and replaced if missing or damaged. (See NFPA 1932 6.2.10..2 for sticker placement) Only the manufacturer approved stickers may be used.

37.3 SERVICE TESTING

37.3.1 *WARNING: NEVER USE NFPA 1931 AS THE TESTING STANDARD*****

- 37.3.2** Service Load Testing shall be completed on all new ladders:
- before being placed in service (this may be completed by the manufacturer),
 - every other year,
 - anytime there is a question about the safety of a ladder,
 - when visible dents or gouges are present,
 - impact loading may have occurred, D
 - direct flame contact may have occurred,
 - after any repairs (except halyard repair),
 - anytime there is a change in the heat indicator.
- 37.3.3** PPE shall be worn during ladder testing, Boots with toe protection, gloves and helmets.
- 37.3.4** Any ladder showing signs of failure shall be taken out of service and destroyed.
- 37.3.5** Load tests shall be conducted as not to shock or impact load the ladders.

37.3.6 All ladders shall have a testing records file maintained by the Ladder Maintenance Coordinator.

37.4 TESTING PROCEEDURE

37.4.1 Horizontal bend testing shall be done on all ladders except folding ladders.

37.4.2 Ladders shall be placed in a horizontal position fully extended and supported 6-inches from each end on a 1-inch diameter cylindrical support.

37.4.3 All loads shall be applied 16-inches lengthwise and spread equally across the beams.

37.4.4 Ladders shall be preloaded with 350 pounds of weight for 1 minute. The weight shall be applied by a CCFR approved method. The weight shall be removed and the deflection measured at the center of the ladder. Folding Ladders, the preload weight is 160 pounds for 1-minute.

37.4.5 The test load of 500 pounds shall be placed on the ladder for 5 minutes. The deflection shall be measured at the center of the ladder. Folding ladders test load is 225 pounds for 5 minutes.

37.4.6 The difference shall not exceed the table in NFPA 1932 7.2.1.4.6 There shall also not be any visible permanent change or failure of any hardware.

37.4.7 All ladders failing either the deflection test or having visible damage sufficient to fail the test shall be taken out of service.

37.4.8 Roof Hooks: If the ladder is equipped with roof hooks the ladder shall be suspended solely by the roof hooks. A safety strap shall be placed to prevent injury in the event of a ladder failure.

37.4.9 A test load of 1,000 pounds shall be placed on the ladder spread across as many rungs as needed for 1-minute.

37.4.10 If there is failure of any part or a permanent physical change, the ladder is to be taken out of service until repaired to manufacturer specifications or it shall be destroyed.

37.4.11 Extension Ladders All extension ladders shall have the extension hardware load tested during the required service test.

37.4.11.1 Extension ladders shall be raised 1 rung above the bedded position and placed at a 75.5 degree angle for testing.

37.4.11.2 1,000 pounds of weight shall be placed on the rungs of the fly section in increments for a test period of 1 minute. The base shall be positioned or supported to prevent the ladder from slipping on the ground.

37.5. Reports

37.5.1 An annual report will be given to the Division Chief once a year stating: All ladder testing has been completed for the department or any ladders that were not tested, Amount of failed equipment, projected needs for the department and a proposed plan for the timing of the following years ladder testing.