

Reference Material:

NFPA 1960: Standard for Fire Hose Connections, Spray Nozzles, Manufacturer's Design of Fire Department Ground Ladders, Fire Hose, and Powered Rescue Tools (**NFPA 1931 Chapters**)

NFPA 1930: Standard on Fire and Emergency Service Use of Thermal Imagers, Two-Way Portable RF Voice Communication Devices, Ground Ladders, Rescue Tools, Fire Hose, and Fire Hose Appliances (**NFPA 1932 Chapters**)
National Fire Protection Association (800) 344-3555 or www.nfpa.org

LEARNING OBJECTIVES

1. Definition - Define the terms and phrases commonly used with ground ladder operation and testing.
 - a. NFPA 1931
 - (1) Butt
 - (2) Combination ladders
 - (3) Fly Section
 - (4) Pawls
 - (5) Staypoles
 - (6) Single Ladder
 - (7) Duty rating
 - b. NFPA 1932
 - (1) Folding Ladder
 - (2) Multipurpose ladder
 - (3) Rungs
 - (4) Service Test
 - (5) Working length
 - (6) Angle of Inclination
 - (7) Dogs
2. Design - Understand the design requirements for ground ladders as stated in **NFPA 1960**
 - a. Hardware
 - (1) Tip
 - (2) Butt
 - (3) Pawls
 - (4) Halyard
 - (5) Pulleys
 - (6) Hooks
 - (7) Stay poles
 - (8) Strength
 - b. Requirements
 - (1) Beams
 - (2) Rungs
 - (3) Duty rating
 - (a) Angle of Inclination
 - (b) Rung Weight Rating
 - (4) Beam guides
 - (5) Standards
 - (6) Labels & Ladder Markings
 - (7) Label Tests
 - (8) Storage
 - (9) Heat sensors
 - c. Types
 - (1) Wood
 - (2) Aluminum
 - (3) Fiberglass
 - (4) Folding
 - (5) Extension
 - (6) Roof
 - (7) Combination
 - (8) Pompier
 - d. Design Verification testing
 - (1) Ladder Section Twist Test
3. Inspection/Maintenance - Understand the inspection and maintenance of ground ladders as stated in **NFPA 1930**
 - a. Procedures
 - b. Documentation
 - c. Requirement
 - d. Decals
 - e. Use
 - (1) angle of inclination
 - (2) staypole
 - f. Storage
 - g. Maintenance
 - h. Physical damage
 - i. Heat label
 - j. Repairs
 - k. Paint
 - l. Out of service criteria
 - m. Inspection
 - n. Pawl Housing
 - (1) pawl hooks
 - (2) finger
 - o. Halyard wire rope safety factor
4. Service Testing - Understand the procedure, documentation and frequency of testing of ground ladders as stated in **NFPA 1930**
 - a. Testing
 - (1) Horizontal Bend test
 - (2) Extension Ladder Hardware test
 - (3) Frequency
 - (4) Roof Hook
 - (5) combo & extension ladders
 - (6) Equipment
 - (7) Documentation
 - (8) Qualification