

South Carolina Department of Labor, Licensing and Regulation
Division of Labor
Office of Occupational Safety and Health
Columbia, South Carolina 29211

OSH Program Directive Number 81-1910.157-2

Subject: Subarticle 6, 1910.157 (f) (2), (f) (2) (i) and (f) (4) – Hydrostatic Testing of Dry Chemical Cartridge Portable Fire Extinguishers.

Standard: Subarticle 6, 1910.157 (f) (2), (f) (2) (i) and (f) (4), Rules and Regulations, Commissioner of Labor, State of South Carolina.

Cross Reference to Federal Standards: 29 CFR 1910.157 (f) (2), (f) (2) (i) and (f) (4).

Background: Presently, Subarticle 6, Subpart L, Section 1910.157 (f) (2) (i) does not provide for exceptions when fire extinguishers have been repaired by soldering, welding, brazing or use of patching compounds.

- a. The source for the development of the Subpart L standards included NFPA 10-1970 and coordination with the NFPA during the recent changes to NFPA 10. The provisions of NFPA 10-1978, 5-1.3 (examination of cylinder condition) includes a note which states “For welding or brazing on mild steel shells, consult the manufacturer of the extinguisher”. These recent changes reflect the intent of Appendix B to Subpart L which contains a cross reference listing of current national consensus standards. The standards contain information and guidelines which are considered acceptable in complying with requirements in the specific sections of Subpart L.
- b. As indicated by the manufactures instructions, specified repairs can be made and subsequent hazards reduced by following the procedures, limitations, standards and quality assurance which ensure safety.

Interpretation: Repairs will be permitted on dry chemical, cartridge type extinguisher shells constructed of mild steel when such repairs are by silver brazing and are performed in conformance with the pertinent requirements of the extinguisher’s manufacturer.

- a. Repairs shall only be performed by trained persons deemed competent and approved by the employer.

- b. The employer shall have available and provide the Compliance Officer the employer's written designation of the approved competent person and the current manufacturer's instructions which provide for repairs, test and/or maintenance of any fire extinguishers covered by this instruction.
- c. After completion of allowable repairs, the unit shall be hydrastatically tested in accordance with the manufacturers written test instructions.
- d. Allowable Repairs and Hydrostatic Test Requirements. The following allowable repairs and test requirements are considered within the scope of Subarticle 6, Section 1910.157 (f) (2), (f) (2) (i), and (f) (4):
 - 1. Hand Portable Mild Steel, Dry Chemical Cartridge Operated Extinguishers.
 - (a) Repairs shall be by means of silver brazing only.
 - (b) Silver brazing is restricted to extinguisher components such as the carrying handle lug, nozzle holster nuts, hanger attachment, visual seal attachment, etc., which are specifically within the manufacturer's limitations.
 - (c) Silver brazing shall not be allowed where the mild steel shell is damaged as by tearing, etc., of the parent metal from the shell.
 - 2. Wheeled Extinguishers.
 - (a) Welding is restricted to such elements of the wheeled conveyance as the handle, axle shroud, nitrogen cylinder stand, etc., which are specifically within the manufacturer's limitations and do not affect the safety factor.
 - (b) Welding shall not be allowed where the mild steel shell is damaged, as by the tearing, etc., of the parent metal from the shell.
 - (c) Hydrostatic testing as required in Subarticle 6, Sections 1910.157 (f) (1), (f) (2) and (f) (4) shall be conducted after allowable repairs are made directly to the pressure vessel.

NOTE: The manufacturer's instructions for allowable repairs and hydrostatic testing are not exempted from other applicable OSHA standards unless by a particular directive, variance or other official notification.

Effective Date: This directive is effective upon receipt and will remain in effect until cancelled or superseded by amendment to the Regulation or Program Directive.

William M. Lybrand, Director
September 11, 1981