

**D.O.T. Document HM220A**

The U. S. Department of Transportation recently released new regulations in an effort to clarify the regulations on periodic inspection and testing of cylinders. Document HM220A was issued as a final rule with an effective date of October 1, 1996. The document can be found in the May 28, 1996 Federal Register (Vol. 61, Number 103, pages 26764). The important changes include:

1. Clarification that visual inspections, internal and external, are required each time a cylinder is retested.
2. New requirements for accuracy of pressure gauges and expansion indicating devices (burettes, etc.) used in water jacket testing:
 - i) Certified gauges with accuracy of ½% of full range.
 - ii) Pressure gauges readable to ±1% of test pressure, mid-point interpolation of analog gauges is permitted.
 - iii) Pressure gauges must be readable from 90% -110% of test pressure.
 - iv) Expansion indicating devices must be accurate to ±½ %, or better, of its full scale and readable to ± 1% or 0.1 cubic centimeter, whichever is larger.
 - v) Water jacket test equipment must be verified accurate to ± 1% each day by the use of a calibrated cylinder.

Note: The above requirements for pressure gauges and daily verification of system accuracy will also apply to proof-pressure testers in the very near future!
3. New wording concerning "condemned cylinders and how to mark them.
4. Requirements for cylinders retested by the proof-pressure test method to include the letter "s" next to the test date.
5. A clarification that anyone who hydrotests a DOT specification cylinder using either the water jacket test or proof pressure test must have a RIN.
6. New & clearer wording on how to obtain a RIN.
7. Clarification of what is required to obtain a RIN including:
 - i) Current copies of 49CFR that apply to retesting of cylinders.
 - ii) Current copies of all exemptions governing exempt cylinders that are inspected, retested and marked at that location.
 - iii) Copies of each CGA pamphlet incorporated by reference that applies to the retest activities.
8. Recordkeeping requirements – records to be maintained until expiration of the retest period or until cylinder is again retested, whichever comes first.

Also, system verification records must be kept in daily logs.
9. The paragraph describing retesting of specification cylinders used as fire extinguishers is rewritten and renumbered from 173.34(3)(18) to 173.34(e)(19).

Note: Paragraph (B)(2)(ii) still contains an error regarding the test interval for 3A, 3AA and 3AL cylinders, especially those used as CO2 extinguishers. We believe the correct test interval is 5 years as required by NFPA 10.

Note: This rewrite essentially contains everything that was previously in 173.34(e)(18) and E-8886. Basically, all Amerex hand portable dry chemical and halon extinguishers using DOT specification cylinders can be proof pressure tested every 12 years. Larger extinguishers such as stored pressure wheeled extinguishers can also be proof pressure tested, but after the initial 12 year interval, subsequent retests will be required every 7 years.