

§ 180.212

49 CFR Ch. I (10–1–05 Edition)

(4) Rebuilding a cylinder with brazed seams is prohibited.

(5) When an end with the original cylinder specification markings is replaced, all markings must be transferred to the rebuilt cylinder.

(e) *Additional rebuilding requirements for DOT 4L cylinders.* (1) The rebuilding of a DOT 4L cylinder must be performed in accordance with paragraph (d) of this section. Rebuilding of a DOT 4L cylinder is:

(i) Substituting or adding material in the insulation space not identical to that used in the original manufacture of that cylinder;

(ii) Making a weld repair not to exceed 150 mm (5.9 inches) in length on the longitudinal seam of the cylinder or 300 mm (11.8 inches) in length on a circumferential weld joint of the cylinder; or

(iii) Replacing the outer jacket.

(2) Reheat treatment of cylinders is prohibited.

(3) After rebuilding, each inner containment vessel must be proof pressure tested at 2 times its service pressure. Each completed assembly must be leak-tested using a mass spectrometer detection system.

(f) *Reheat treatment.* (1) Prior to reheat treatment, each cylinder must be given a visual inspection, internally and externally, in accordance with §180.205(f).

(2) Cylinders must be segregated in lots for reheat treatment. The reheat treatment and visual inspection must be performed in accordance with the specification for the cylinders except as provided in paragraph (f)(4) of this section.

(3) After reheat treatment, each cylinder in the lot must be subjected to a volumetric expansion test and meet the acceptance criteria in the applicable specification or be scrapped.

(4) After all welding and heat treatment, a test of the new weld must be performed as required by the original specification. The test results must be recorded in accordance with §180.215.

[67 FR 51660, Aug. 8, 2002, as amended at 68 FR 24664, May 8, 2003; 68 FR 75764, Dec. 31, 2003]

§ 180.212 Repair of DOT-3 series specification cylinders.

(a) *General requirements for repair of DOT 3 series cylinders.* (1) No person may repair a DOT 3-series cylinder unless—

(i) The repair facility holds an approval issued under the provisions of subpart I of part 107 of subchapter A of this chapter; and

(ii) Except as provided in paragraph (b) of this section, the repair and the inspection are performed under the provisions of an approval issued under subpart H of part 107 of subchapter A of this chapter and conform to the applicable cylinder specification contained in Part 178 of this subchapter.

(2) The person performing the repair must prepare a report containing, at a minimum, the results prescribed in §180.215.

(b) *Repairs not requiring prior approval.* Approval is not required for the following specific repairs:

(1) The removal and replacement of a neck ring or foot ring on a DOT 3A, 3AA, or 3B cylinder that does not affect a pressure part of the cylinder when the repair is performed by a repair facility or a cylinder manufacturer of these types of cylinders. The repair may be made by welding or brazing in conformance with the original specification. After removal and before replacement, the cylinder must be visually inspected and any defective cylinder must be rejected. The heat treatment, testing and inspection of the repair must be performed under the supervision of an inspector and in accordance with the original specification.

(2) External re-threading of a DOT 3AX, 3AAX or 3T cylinder or internal re-threading of a DOT-3 series cylinder to restore the total number of neck threads engaged to the condition specified in the applicable specification. The repair work must be performed by a manufacturer of these types of cylinders. Upon completion of the re-threading, the threaded opening must be inspected by an independent inspection agency and gauged in accordance with Federal Standard H-28 or an equivalent standard containing the same specification limits. The re-threaded cylinder must be stamped

clearly and legibly with the word “RE-THREAD” on the shoulder, head, or neck. No cylinder may be re-threaded more than one time without approval of the Associate Administrator.

[70 FR 34077, June 13, 2005]

§ 180.213 Recertification markings.

(a) *General.* Each cylinder recertified in accordance with this subpart with acceptable results must be marked as specified in this section. Required specification markings may not be altered or removed.

(b) *Placement of markings.* Each cylinder must be plainly and permanently marked on the metal of the cylinder as permitted by the applicable specification. Unless authorized by the cylinder specification, marking on the cylinder sidewall is prohibited.

(1) Recertification and required specification markings must be legible so as to be readily visible at all times. Illegible specification markings may be remarked on the cylinder as provided by the original specification. Recertification markings may be placed on any portion of the upper end of the cylinder excluding the sidewall, as provided in this section. Recertification and required specification markings that are illegible may be reproduced on a metal plate and attached as provided by the original specification.

(2) Previous recertification markings may not be obliterated, except that, when the space originally provided for recertification dates becomes filled, additional dates may be added as follows:

(i) All preceding recertification dates may be removed by peening provided that—

(A) Permission is obtained from the cylinder owner;

(B) The minimum wall thickness is maintained in accordance with manufacturing specifications for the cylinder; and

(C) The original manufacturing test date is not removed.

(ii) When the cylinder is fitted with a footing, additional dates may be marked on the external surface of the footing.

(c) *Recertification marking method.* The depth of recertification markings may not be greater than specified in

the applicable specification. The markings must be made by stamping, engraving, scribing or other method that produces a legible, durable mark.

(1) A cylinder used as a fire extinguisher (§180.209(j)) may be marked by using a pressure sensitive label.

(2) For a DOT 3HT cylinder, the test date and RIN must be applied by low-stress steel stamps to a depth no greater than that prescribed at the time of manufacture. Stamping on the sidewall is not authorized.

(d) *Recertification markings.* Each cylinder that has successfully passed recertification must be marked with the RIN set in a square pattern, between the month and year of the recertification date. The first character of the RIN must appear in the upper left corner of the square pattern; the second in the upper right; the third in the lower right, and the fourth in the lower left. Example: A cylinder recertified in September 1998, and approved by a person who has been issued RIN “A123”, would be marked plainly and permanently into the metal of the cylinder in accordance with location requirements of the cylinder specification or on a metal plate permanently secured to the cylinder in accordance with paragraph (b) of this section. An example of the markings prescribed in this paragraph (d) is as follows:

| | | |
|---|----|------|
| 9 | A1 | 98 X |
| | 32 | |

Where:

“9” is the month of recertification,

“A123” is the RIN,

“98” is the year of recertification, and

“X” represents the symbols described in paragraphs (f)(2) through (f)(7) of this section.

(1) Upon a written request, variation from the marking requirement may be approved by the Associate Administrator.

(2) *Exception.* A cylinder subject to the requirements of §173.301(1) of this subchapter may not be marked with a RIN.

(e) *Size of markings.* The size of the markings must be at least 6.35 mm (¼ in.) high, except RIN characters must be at least 3.18 mm (⅛ in.) high.