



**DEPARTMENT OF TRANSPORTATION
HAZARDOUS MATERIALS REGULATIONS BOARD
WASHINGTON, D.C. 20590**

**Hazardous Materials Regulations
Board**

[49 CFR Part 173]

[Docket No. HM-27; Notice 69-19]

**TRANSPORTATION OF HAZARDOUS
MATERIALS**

Reuse of Spec. 17 Series Steel Drums

The Hazardous Materials Regulations Board is considering amending § 173.28 of the Department's Hazardous Materials Regulations to specify the standards which must be met in order for shippers to reuse certain DOT specification 17-series drums for the shipment of specified classes of hazardous materials.

Interested persons are invited to give their views on this proposal. Communications should identify the docket number and be submitted in duplicate to the Secretary, Hazardous Materials Regulations Board, Department of Transportation, 400 Sixth Street SW., Washington, D.C. 20590. Communications received on or before September 23, 1969, will be considered before final action is taken on the proposal. All comments received will be available for examination by interested persons at the Office of the Secretary, Hazardous Materials Regulations Board, both before and after the closing date for comments.

A review of reports of incidents involving leaking steel drums has revealed that many of the "leakers" reported upon were "single-trip" specification 17-series drums that had been reconditioned or repaired and reused. Followup investigations on several incidents and inspections of drum reconditioning facilities have revealed that such operations do not always produce reconditioned drums which would be of such a quality as to lend themselves to compatibility with established minimum safety standards for new drums. Yet, the reconditioned drums are used under essentially the same transportation conditions as new drums. Deficiencies noted included attempts to repair badly damaged drums, removal of parent metal of a drum during reconditioning with resultant unacceptable reduction in wall thickness, and inadequate inspection and testing of the reconditioned drums prior to reuse for the shipment of hazardous materials.

The Department's regulations now provide that single-trip drums may be

reconditioned and reused only under conditions approved by the Bureau of Explosives of the Association of American Railroads. The regulations do not prescribe standards against which the reconditioning operations might be evaluated. The Board believes that it is the responsibility of Government to clearly set forth safety standards which it expects industry to meet.

This proposal would amend § 173.28 (h) and add paragraphs (m) and (n) to prescribe the conditions under which single-trip drums may be reused for shipment of certain hazardous materials. General requirements for cleaning, reconditioning, inspection, and testing of drums are proposed. A drum marking system is proposed which would include identification of the drum reconditioner through a DOT code number. Procedures would also be prescribed for drum alteration in a new § 173.28(n).

In consideration of the foregoing, it is proposed to make the following amendment to the hazardous materials regulations:

In § 173.28 paragraph (h) would be amended; paragraphs (m) and (n) would be added to read as follows:

§ 173.28 Reuse of containers.

(h) Except as provided in paragraphs (m) and (n) of this section, single-trip containers made under specifications prescribed in Part 178 of this chapter, from which contents have once been removed following use for shipment of any material, must not be used thereafter for shipment of hazardous materials.

(m) Specs. 17C, 17E, and 17H steel drums (§§ 178.115, 178.116, 178.118 of this chapter), from which contents have been removed following use for transportation or storage of any article, may be reused as packagings for shipments of flammable liquids having flash points above 20° F., flammable solids, oxidizing materials, and radioactive materials, as prescribed in this part: *Provided*, That the following requirements, in addition to the other requirements of this section, are complied with prior to each reuse.

(1) Each drum must be thoroughly cleaned to remove all residues and foreign matter, inspected for deterioration or defects, and returned to its original shape and contour. Any drum which shows evidence of deterioration (e.g., visible pitting or significant reduction in

parent metal thickness from rust, corrosion, or cleaning processes), metal fatigue, or other material defects, or which cannot be returned to its original shape and contour must not be certified for reuse. All closure devices must be removed (if removable), inspected for defects, and replaced as necessary. All gaskets and nonmetal plugs or other closure parts must be replaced, including open-head cover gaskets.

(2) The entire surface of each drum must be tested by constant interior air pressure while either completely immersed under water or completely covered with soap suds or oil. The air pressure must be maintained for a period of time sufficient to permit a complete inspection for leaks. The minimum air pressure for the test must be as follows:

Specifi- cation No.	Capacity	Minimum test pres- sure p.s.i.
17C.....	All.....	15
17E.....	Over 12 gallons.....	7
	12 gallons or less.....	5
17H.....	Over 12 gallons.....	7
	12 gallons or less.....	5

If leaking, the drum must not be reused or certified for reuse. Repairs are not authorized.

(3) All previous test markings, commodity identification markings, and labels must be removed.

(4) Marking:

(i) The outside of each drum must be marked on the body within 10 inches of the top head, in letters of a contrasting color with the following information: "TESTED", the test pressure, the month and year of the test, the DOT code number of the tester, and the location where the drum was tested. For example:

TESTED, 15 p.s.i. 2/68,
DOT-1001,
Pittsburgh, Pa.

The code number required for this marking must be obtained from the Office of Hazardous Materials, Department of Transportation, Washington, D.C. 20590, before drums are reconditioned under this section.

(ii) The outside of each removable head, for drums over 5 gallons capacity, must be marked to indicate the gauge of the steel used in making the head (e.g., "16-gauge").

(iii) Marking must conform to the requirements of § 173.24.

and will not be shipped prior to the effective date of this amendment. In each instance, a petitioner stated that such drums are authorized for reuse by the Bureau of Explosives under the provisions of § 173.28(h) in effect at the present time. The Board agrees that 6 months should be provided to allow shipment of drums reconditioned in accordance with the regulations in effect prior to the effective date of these new regulations. A provision is being added to the amendment accordingly. Except as provided by the revised regulations, petitions for extension of the effective date are hereby denied.

In consideration of the foregoing, Amendment 173-31, effective December 31, 1970, is modified and republished in its entirety as follows:

In § 173.28 paragraph (h) is amended; paragraphs (m) and (n) are added to read as follows:

§ 173.28 Reuse of containers.

(h) Except as provided in paragraphs (m) and (n) of this section and subparagraph (1) of this paragraph, single-trip containers made under specifications prescribed in Part 178 of this chapter, from which contents have once been removed following use for shipment of any material, must not be used thereafter for shipment of hazardous materials.

(1) Single-trip containers inspected and tested prior to January 1, 1971, that have been approved for reuse by the Bureau of Explosives may be used until July 1, 1971, under the terms and conditions specified.

(m) Specifications 17C, 17E, and 17H steel drums (§§ 178.115, 178.116, 178.118), from which contents have been removed, may be reused as prescribed in this part as packagings for shipment of flammable liquids, flammable solids, oxidizing materials, and radioactive materials, only if the following requirements, in addition to the other requirements of this section, are complied with prior to each reuse:

(1) Each drum must be thoroughly cleaned to remove all residues and foreign matter, inspected for deterioration or defects, and returned to its original shape and contour. All closure devices

and parts must be removed (if removable), inspected for defects, and replaced as necessary. Each open head cover gasket must be replaced. Any drum which shows evidence of deterioration (e.g., visible pitting; creases; significant reduction in parent metal thickness from rust, corrosion, or cleaning processes; metal fatigue; or other material defects) or which cannot be returned to its original shape and contour does not qualify for reuse.

(2) The entire surface of each closed-head drum (and after December 31, 1971, each open-head drum, except for its removable head and adjacent chime area) must be tested for leakage by constant internal air pressure. The leakage test must be conducted by submersion under water, by completely covering the surface with soap suds or oil, or by some other method that will be equally sensitive. The air pressure must be maintained for a period of time sufficient to permit a complete inspection for leaks. The minimum air pressure for the test must be as follows:

Specification No.	Capacity	Minimum test pressure p.s.i.
17C	All	15
17E	Over 12 gallons	7
	12 gallons or less	5
17H	Over 12 gallons	7
	12 gallons or less	5

If leaking, the drum does not qualify for reuse.

(3) Marking:

(i) All previous test markings, commodity identification markings, and labels must be removed.

(ii) The outside of each drum qualifying for reuse under this section must be marked on the body within 10 inches of the top head with the following information: "Tested" (or "Inspected" as appropriate), the month and year of the test (or inspection, if an open-head drum), and the DOT registration number of the reconditioner. For example:

TESTED 2/70
DOT R1001

The registration number required for this marking must be obtained from the Office of Hazardous Materials, Department of Transportation, Washington, D.C. 20590.

(iii) Markings must be in at least 1/4-inch figures and letters on a contrasting background.

(iv) The printed marking of the month and year of test is not required if each is clearly indicated by other means, such as perforations on a decal.

(n) Any drum meeting one specification which has been altered to meet another specification must be capable of meeting the new specification in all respects.

(1) Each drum so altered must be inspected, tested, and marked in accordance with paragraph (m) of this section. In addition, the drum must—

(i) Bear the specification markings required by the specification under which it was originally manufactured, and

(ii) Bear both the old and the new specification identification in conjunction with the markings required by paragraph (m) of this section with the specification to which the drum is converted shown last, e.g., "17E/17H". For example:

17E/17H
TESTED 2/7
DOT R1001

(18 U.S.C. sec. 831-835, sec. 9, Department of Transportation Act, 49 U.S.C. 1657, Title VI and sec. 902(h), Federal Aviation Act of 1958, (49 U.S.C. 1421-1430 and 1472 (h))

Issued in Washington, D.C., on December 11, 1970.

C. R. BENDER,
Admiral, U.S. Coast Guard,
Commandant.

CARL V. LYON,
Acting Administrator,
Federal Railroad Administration.

ROBERT A. KAYE,
Director, Bureau of Motor Carrier Safety, Federal Highway Administration.

SAM SCHNEIDER,
Board Member, for the
Federal Aviation Administration.

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