



DEPARTMENT OF TRANSPORTATION  
MATERIALS TRANSPORTATION BUREAU  
WASHINGTON, D.C. 20590

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Title 49—Transportation

CHAPTER I—DEPARTMENT OF TRANSPORTATION, MATERIALS TRANSPORTATION BUREAU

SUBCHAPTER C—OFFICE OF HAZARDOUS MATERIALS OPERATIONS

[Docket No. HM-109; Amdt. Nos. 173-98, 179-16]

PART 173—SHIPPERS

PART 179—SPECIFICATIONS FOR TANK CARS

Tank Car Tank Head Shields

The amendment to Part 179 of the Hazardous Materials Regulations is to prescribe more flexibility and clarity in the specifications for applying the head shields to DOT 112A and 114A tank car tanks.

This amendment also provides for a change in tank car display so that cars with head shields will display a distinctive specification marking. This will be accomplished by substituting the letter "S" in place of "A" in DOT 112A and DOT 114A cars that have head shields meeting the requirements of Part 179 of the Hazardous Materials Regulations.

On March 11, 1975, the Hazardous Materials Regulations Board published a notice of proposed rule making, Docket No. -109; Notice No. 75-1 (40 FR 11362) which proposed this amendment. All written comments received have been considered. The issues raised in the comments are briefly discussed below:

**Steel Specifications**—Seven commenters pointed out that AAR specification TA 128A is obsolete and unobtainable. Accordingly, this steel has been deleted.

**Width of Head Shields**—Although it was not proposed to amend the present

minimum 9-foot width requirement, this requirement was questioned by several commenters. A maximum width of six feet was suggested by some, and others felt that the top corners of the shield should not extend beyond the outside profile of the tank. The Bureau believes that the 9-foot minimum width requirement is essential in order to adequately protect the tank head from puncture. However, there may be tanks of smaller diameter on which the outer edges of the 9-foot width shield would extend beyond the tank profile. Therefore, paragraph (a)(2)(ii) in section 179.100-23 has been revised to require a smaller head shield on tank cars having heads less than nine feet in diameter.

**Bottom of Shields**—Six commenters stated that the head shield should not be required to contact the top of the center sill. We believe that supporting the shield by having it resting atop the center sill will greatly reduce the possibility producing a stress concentration on the tank head at the mounting brackets.

**Specification Markings**—Several com-

menters objected to the placement of an "S" in the tank specification marking, in order to identify cars with head shields. We realize that cars so equipped are easily seen and readily identifiable but believe that a distinctive specification marking provides a more accurate record of cars equipped with head shields particularly in the "UMLER" file.

In order to provide for the use of 112S/114S tank cars, a new sentence has been added in paragraph (a)(3) of § 173.31 which authorizes 112S tank cars to be used when 112A tank cars are authorized and 114S tank cars to be used when 114A are authorized.

One commenter questioned the use of one-half of a tank car tank head as a head shield. The Bureau believes that the configuration of a half head will adequately protect the tank's head and that since the method of attachment is to be in the same manner as the current authorized shield, it will afford similar protection.

Although not addressed in Notice 75-1, comments were received concerning the compliance date for retrofit on existing cars. Due to the severity of the consequences of a tank head puncture, the Bureau believes that safety requires adherence to the retrofit schedule as originally established. It is the purpose of this amendment to permit more design flexibility in adhering to that schedule.

In consideration of the foregoing, §§ 173.31, 179.100 and 179.101 of Title 49 Code of Federal Regulations are amended as follows:

1. § 173.31 paragraph (a)(3) is revised to read as follows:

§ 173.31 Qualification, maintenance, and use of tank cars.

(a) \* \* \*

(3) Unless otherwise specifically provided in Part 173, when class DOT-105AW, 105-ALW, 106A, 109A-ALW, 110AW, 111A, 112AW, or 114AW tank car tanks are prescribed, the same class tanks having higher marked test pressures than those prescribed may also be used. When class DOT-111AW1 tank car tanks are prescribed, class 111AW3 tank car tanks may also be used. When class DOT-112A tank car tanks are prescribed, class DOT-112S tanks having equal or higher marked test pressures than those prescribed may also be used. When class DOT-114A tank car tanks are prescribed, class DOT-114S tanks having equal or higher marked test pressures than those prescribed may also be used.

\* \* \* \* \*

2. In § 179.100-23 paragraphs (a)(1), (a)(2), (a)(2)(i), (ii), (v), and (vi) are revised; paragraph (a)(2)(vii) is added to read as follows:

§ 179.100-23 Head shields.

(a) \* \* \*

(1) At least 1/2-inch thick, and made from steel produced in accordance with specifications ASTM A242, A572-GR50, A515-70, A516-GR70, or AAR TC-128B.

(2) In the shape and size of the lower half of the head of the tank car or in the shape of a trapezoid with the following dimensions:

(i) A minimum width at the top of the center sill of four feet six inches, measured in a straight line between extreme edges;

(ii) A minimum width at the top of shield of nine feet measured in a straight line between the extreme edges; (For cars with diameters less than nine feet, the width of the head shield must not extend beyond outermost portion of the head and be not less than three inches from the outermost point of the head.)

\* \* \* \* \*

(v) All inside edges of the shield chamfered to a minimum of 1/8-inch;

(vi) A minimum height of four feet six inches, and

(vii) Located so that the bottom of the shield touches the top of the center sill.

\* \* \* \* \*

3. In § 179.101-1, Footnote 12 is added following the table in paragraph (a) and reference thereto is added in the following column headings:

112A200W, 112A340W, 112A340F,<sup>12</sup> 112A400W, 112A500W, 114A340W, 114A400W

<sup>12</sup> When tank car head shields meeting the requirements of § 179.100 have been applied, an "S" must be substituted for the "A" in the specification marking.

§ 179.101-1 Individual specification requirements.

(a) \* \* \*

Since these amendments relieve restrictions and because of the need for immediate public guidance with respect to the requirements for retrofitting tank cars with head shields, they are being made effective in less than 30 days after publication in the FEDERAL REGISTER.

AUTHORITY: (18 U.S.C. 834, 49 CFR 1.53(g))

**Effective date:** These amendments take effect on May 26, 1976, except that tank cars with head shields installed before May 26, 1976, need not be marked in accordance with the specification marking requirement of these amendments (see Amendment 3 herein) before August 1, 1976.

Issued in Washington, D.C. on May 20, 1976.

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