

entire side seam and a distance of not less than eight inches on each side of the side seam along the chime seam(s). The test must be conducted for a period of time sufficient to pressurize the interior of the packaging to the specified air pressure and to determine if there is leakage of air from the packaging. A packaging passes the test if there is no leakage of air from the packaging. Chime cuts must be made on the initial drum at the beginning of each production run and on the initial drum after any adjustment to the chime seamer. Chime cuts must be maintained on file in date order for not less than six months and be made available to a representative of the Department of Transportation on request.

[Amdt. 178-97, 55 FR 52728, Dec. 21, 1990, as amended at 56 FR 66287, Dec. 20, 1991; 57 FR 45466, Oct. 1, 1992]

APPENDIX C TO PART 178—NOMINAL AND MINIMUM THICKNESSES OF STEEL DRUMS AND JERRICANS

For each listed packaging capacity, the following table compares the ISO 3574 (IBR, see §171.7 of this subchapter) nominal thickness with the corresponding ISO 3574 minimum thickness.

Maximum capacity (L)	ISO nominal (mm)	Corresponding ISO minimum (mm)
20	0.7	0.63
30	0.8	0.73
40	0.8	0.73
60	1.0	0.92
120	1.0	0.92
220	1.0	0.92
450	1.9	1.77

[Amdt. 178-106, 59 FR 67522, Dec. 29, 1994, as amended at 68 FR 75758, Dec. 31, 2003]

PART 179—SPECIFICATIONS FOR TANK CARS

Subpart A—Introduction, Approvals and Reports

- Sec.
- 179.1 General.
- 179.2 Definitions and abbreviations.
- 179.3 Procedure for securing approval.
- 179.4 Changes in specifications for tank cars.
- 179.5 Certificate of construction.
- 179.6 Repairs and alterations.
- 179.7 Quality assurance program.

Subpart B—General Design Requirements

- 179.10 Tank mounting.

- 179.11 Welding certification.
- 179.12 Interior heater systems.
- 179.13 Tank car capacity and gross weight limitation.
- 179.14 Coupler vertical restraint system.
- 179.15 Pressure relief devices.
- 179.16 Tank-head puncture-resistance systems.
- 179.18 Thermal protection systems.
- 179.20 Service equipment; protection systems.
- 179.22 Marking.

Subpart C—Specifications for Pressure Tank Car Tanks (Classes DOT-105, 109, 112, 114, and 120)

- 179.100 General specifications applicable to pressure tank car tanks.
- 179.100-1 Tanks built under these specifications shall comply with the requirements of §§179.100, 179.101 and when applicable, §§179.102 and 179.103.
- 179.100-3 Type.
- 179.100-4 Insulation.
- 179.100-6 Thickness of plates.
- 179.100-7 Materials.
- 179.100-8 Tank heads.
- 179.100-9 Welding.
- 179.100-10 Postweld heat treatment.
- 179.100-12 Manway nozzle, cover and protective housing.
- 179.100-13 Venting, loading and unloading valves, measuring and sampling devices.
- 179.100-14 Bottom outlets.
- 179.100-16 Attachments.
- 179.100-17 Closures for openings.
- 179.100-18 Tests of tanks.
- 179.100-19 Tests of safety relief valves.
- 179.100-20 Stamping.
- 179.101 Individual specification requirements applicable to pressure tank car tanks.
- 179.101-1 Individual specification requirements.
- 179.102 Special commodity requirements for pressure tank car tanks.
- 179.102-1 Carbon dioxide, refrigerated liquid.
- 179.102-2 Chlorine.
- 179.102-4 Vinyl fluoride, stabilized.
- 179.102-17 Hydrogen chloride, refrigerated liquid.
- 179.103 Special requirements for class 114A * * * tank car tanks.
- 179.103-1 Type.
- 179.103-2 Manway cover.
- 179.103-3 Venting, loading and unloading valves, measuring and sampling devices.
- 179.103-4 Safety relief devices and pressure regulators.

Pt. 179

49 CFR Ch. I (10–1–04 Edition)

179.103-5 Bottom outlets.

Subpart D—Specifications for Nonpressure Tank Car Tanks (Classes DOT-111AW and 115AW)

179.200 General specifications applicable to non-pressure tank car tanks (Class DOT 111).

179.200-1 Tank built under these specifications must meet the requirements of §§ 179.200, and 179.201.

179.200-3 Type.

179.200-4 Insulation.

179.200-6 Thickness of plates.

179.200-7 Materials.

179.200-8 Tank heads.

179.200-9 Compartment tanks.

179.200-10 Welding.

179.200-11 Postweld heat treatment.

179.200-13 Manway ring or flange, pressure relief device flange, bottom outlet nozzle flange, bottom washout nozzle flange and other attachments and openings.

179.200-14 Expansion capacity.

179.200-15 Closures for manways.

179.200-16 Gauging devices, top loading and unloading devices, venting and air inlet devices.

179.200-17 Bottom outlets.

179.200-19 Reinforcements, when used, and appurtenances not otherwise specified.

179.200-21 Closures for openings.

179.200-22 Test of tanks.

179.200-23 Tests of pressure relief valves.

179.200-24 Stamping.

179.201 Individual specification requirements applicable to non-pressure tank car tanks.

179.201-1 Individual specification requirements.

179.201-2 [Reserved]

179.201-3 Lined tanks.

179.201-4 Material.

179.201-5 Postweld heat treatment and corrosion resistance.

179.201-6 Manways and manway closures.

179.201-8 Sampling device and thermometer well.

179.201-9 Gauging device.

179.201-10 Water capacity marking.

179.201-11 Insulation.

179.202–179.202-22 [Reserved]

179.220 General specifications applicable to nonpressure tank car tanks consisting of an inner container supported within an outer shell (class DOT-115).

179.220-1 Tanks built under these specifications must meet the requirements of §§ 179.220 and 179.221.

179.220-3 Type.

179.220-4 Insulation.

179.220-6 Thickness of plates.

179.220-7 Materials.

179.220-8 Tank heads.

179.220-9 Compartment tanks.

179.220-10 Welding.

179.220-11 Postweld heat treatment.

179.220-13 Inner container manway nozzle and cover.

179.220-14 Openings in the tanks.

179.220-15 Support system for inner container.

179.220-16 Expansion capacity.

179.220-17 Gauging devices, top loading and unloading devices, venting and air inlet devices.

179.220-18 Bottom outlets.

179.220-20 Reinforcements, when used, and appurtenances not otherwise specified.

179.220-22 Closure for openings.

179.220-23 Test of tanks.

179.220-24 Tests of pressure relief valves.

179.220-25 Stamping.

179.220-26 Stenciling.

179.221 Individual specification requirements applicable to tank car tanks consisting of an inner container supported within an outer shell.

179.221-1 Individual specification requirements.

Subpart E—Specifications for Multi-Unit Tank Car Tanks (Classes DOT-106A and 110AW)

179.300 General specifications applicable to multi-unit tank car tanks designed to be removed from car structure for filling and emptying (Classes DOT-106A and 110AW).

179.300-1 Tanks built under these specifications shall meet the requirements of §§ 179.300 and 179.301.

179.300-3 Type and general requirements.

179.300-4 Insulation.

179.300-6 Thickness of plates.

179.300-7 Materials.

179.300-8 Tank heads.

179.300-9 Welding.

179.300-10 Postweld heat treatment.

179.300-12 Protection of fittings.

179.300-13 Venting, loading and unloading valves.

179.300-14 Attachments not otherwise specified.

179.300-15 Pressure relief devices.

179.300-16 Tests of tanks.

179.300-17 Tests of pressure relief devices.

179.300-18 Stamping.

179.300-19 Inspection.

179.300-20 Reports.

179.301 Individual specification requirements for multi-unit tank car tanks.

179.302 [Reserved]

Subpart F—Specification for Cryogenic Liquid Tank Car Tanks and Seamless Steel Tanks (Classes DOT-113 and 107A)

179.400 General specification applicable to cryogenic liquid tank car tanks.

179.400-1 General.

179.400-3 Type.

- 179.400-4 Insulation system and performance standard.
- 179.400-5 Materials.
- 179.400-6 Bursting and buckling pressure.
- 179.400-7 Tank heads.
- 179.400-8 Thickness of plates.
- 179.400-9 Stiffening rings.
- 179.400-10 Sump or siphon bowl.
- 179.400-11 Welding.
- 179.400-12 Postweld heat treatment.
- 179.400-13 Support system for inner tank.
- 179.400-14 Cleaning of inner tank.
- 179.400-15 Radioscopy.
- 179.400-16 Access to inner tank.
- 179.400-17 Inner tank piping.
- 179.400-18 Test of inner tank.
- 179.400-19 Valves and gages.
- 179.400-20 Pressure relief devices.
- 179.400-21 Test of pressure relief valves.
- 179.400-22 Protective housings.
- 179.400-23 Operating instructions.
- 179.400-24 Stamping.
- 179.400-25 Stenciling.
- 179.401 Individual specification requirements applicable to inner tanks for cryogenic liquid tank car tanks.
- 179.401-1 Individual specification requirements.
- 179.500 Specification DOT-107A * * * *, seamless steel tank car tanks.
- 179.500-1 Tanks built under these specifications shall meet the requirements of § 179.500.
- 179.500-3 Type and general requirements.
- 179.500-4 Thickness of wall.
- 179.500-5 Material.
- 179.500-6 Heat treatment.
- 179.500-7 Physical tests.
- 179.500-8 Openings in tanks.
- 179.500-10 Protective housing.
- 179.500-11 Loading and unloading valves.
- 179.500-12 Pressure relief devices.
- 179.500-13 Fixtures.
- 179.500-14 Test of tanks.
- 179.500-15 Handling of tanks failing in tests.
- 179.500-16 Tests of pressure relief devices.
- 179.500-17 Marking.
- 179.500-18 Inspection and reports.
- APPENDIX A TO PART 179—PROCEDURES FOR TANK-HEAD PUNCTURE-RESISTANCE TEST
- APPENDIX B TO PART 179—PROCEDURES FOR SIMULATED POOL AND TORCH-FIRE TESTING

AUTHORITY: 49 U.S.C. 5101-5127; 49 CFR part 1.53.

SOURCE: 29 FR 18995, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

Subpart A—Introduction, Approvals and Reports

§ 179.1 General.

(a) This part prescribes the specifications for tanks that are to be mounted

on or form part of a tank car and which are to be marked with a DOT specification.

(b) Except as provided in paragraph (c) of this section, tanks to which this part is applicable, must be built to the specifications prescribed in this part.

(c) Tanks built to specifications predating those in this part may continue in use as provided in § 180.507 of this subchapter.

(d) Any person who performs a function prescribed in this part, shall perform that function in accordance with this part.

(e) When this part requires a tank to be marked with a DOT specification (for example, DOT-105A100W), compliance with that requirement is the responsibility of the tank builder. Marking the tank with the DOT specification shall be understood to certify compliance by the builder that the functions performed by the builder, as prescribed in this part, have been performed in compliance with this part.

(f) The tank builder should inform each person to whom that tank is transferred of any specification requirements which have not been met at time of transfer.

[Amdt. 179-17, 41 FR 38183, Sept. 9, 1976, as amended by Amdt. 179-50, 60 FR 49076, Sept. 21, 1995; 68 FR 48571, Aug. 14, 2003]

§ 179.2 Definitions and abbreviations.

- (a) The following apply in part 179:
 - (1) *AAR* means Association of American Railroads.
 - (2) *Approved* means approval by the AAR Tank Car Committee.
 - (3) *ASTM* means American Society for Testing and Materials.
 - (4) [Reserved]
 - (5) Definitions in part 173 of this chapter also apply.
 - (6) *F* means degrees Fahrenheit.
 - (7) *NGT* means National Gas Taper Threads.
 - (8) *NPT* means an American Standard Taper Pipe Thread conforming to the requirements of NBS Handbook H-28 (IBR, see § 171.7 of this subchapter).
 - (9) [Reserved]
 - (10) *Tank car facility* means an entity that manufactures, repairs, inspects, tests, qualifies, or maintains a tank car to ensure that the tank car conforms to this part and subpart F of part