§ 179.500-18 Inspection and reports.

(a) Before a tank car is placed in service, the party assembling the completed car shall furnish to car owner, Bureau of Explosives, and the Secretary, Mechanical Division, Association of American Railroads, a report in proper form certifying that tanks and their equipment comply with all the requirements of this specification and including information as to serial numbers, dates of tests, and ownership marks on tanks mounted on car structure.

(b) Purchaser of tanks shall provide for inspection by a competent inspector as follows:

(1) Inspector shall carefully inspect all material and reject that not complying with §179.500–5.

(2) Inspector shall stamp his official mark on each forging or seamless tube accepted by him for use in making tanks, and shall verify proper application of heat number to such material by occasional inspections at steel manufacturer's plant.

(3) Inspector shall obtain certified chemical analysis of each heat of material.

(4) Inspector shall make inspection of inside surface of tanks before necking-down, to insure that no seams, cracks, laminations, or other defects exist.

(5) Inspector shall fully verify compliance with specification, verify heat treatment of tank as proper; obtain samples for all tests and check chemical analyses; witness all tests; and report minimum thickness of tank wall, maximum inside diameter, and calculated value of D, for each end of each tank as prescribed in §179.500–4(c).

(6) Inspector shall stamp his official mark on each accepted tank immediately below serial number, and make certified report (see paragraph (c) of this section) to builder, to company or person for whose use tanks are being made, to builder of car structure on which tanks are to be mounted, to the Bureau of Explosives, and to the Secretary, Mechanical Division, Association of American Railroads.

(c) Inspector's report required herein shall be in the following form:

(Place)_____
(Date)_____

Steel Tanks

It is hereby certified that drawings were submitted for these tanks under AAR Application for Approval _____ and approved by the AAR Committee on Tank Cars under date of _____.

Built for _____ Company

Location at_____

Built by _____ Company

Location at_____

Consigned to _____ Company

Location at_____
Quantity_____
Length (inches)_____
Outside diameter (inches)_____

Marks stamped into tank as required in §179.500–17 are:

DOT-107A* * * *

Note 1: The marked test pressure substituted for the * * * * on each tank is shown on Record of General Data on Tanks attached hereto.

Serial numbers __ to __ inclusive

Inspector's mark_____
Owner's mark_____
Test date_____

Water capacity (see Record of Hydrostatic Tests).

Tare weights (yes or no) (see Record of Hydrostatic Tests).

These tanks were made by process of_____

Steel used was identified as indicated by the attached list showing the serial number of each tank, followed by the heat number.

Steel used was verified as to chemical analysis and record thereof is attached hereto. Heat numbers were stamped into metal. All material was inspected and each tank was inspected both before and after closing in ends; all material accepted was found free from seams, cracks, laminations, and other defects which might prove injurious to strength of tank. Processes of manufacture and heat-treatment of tanks were witnessed and found to be efficient and satisfactory.

Before necking-down ends, each tank was measured at each location prescribed in §179.500–4(c) and minimum wall thickness in inches at each location was recorded; maximum inside diameter in inches at each location was recorded; value of D in inches at each location was calculated and recorded; maximum fiber stress in wall at location showing larger value for

$$(D^2 + d^2)/(D^2 - d^2)$$

was calculated for7/10the marked test pressure and recorded. Calculations were made by the formula:

$$S = [0.7 P (D^2 - d^2)/(D^2 + d^2)]$$

Hydrostatic tests, tensile test of material, and other tests as prescribed in this specification, were made in the presence of the inspector, and all material and tanks accepted were found to be in compliance with the requirements of this specification. Records thereof are attached hereto.

I hereby certify that all of these tanks proved satisfactory in every way and comply with the requirements of Department of Transportation Specification No. 107A * * * *.

(Signed)_____
(Inspector) (Place)_____
(Date)_____

Record of Chemical Analysis of Steel for Tanks

Numbered ____ to ____ inclusive

Size _ inches outside diameter by _ inches long

Built by _____ Company

For _____ Company

Heat No.	Tanks represented (serial Nos.)	Chemical analysis							
		C	Mn	P	S	Si	Ni	Cr	Mo

These analyses were made by

(Signed)_____
(Place)_____
(Date)_____

Record of Chemical Analysis of Steel in Tanks

Numbered ____ to ____ inclusive

Size __ inches outside by __ inches long

Built by _____ Company

For _____ Company

Heat No.	Tanks represented by test (serial Nos.)	Elastic limit (psi)	Tensile strength (psi)	Elongation (percent in 2 inches)	Reduction of area (percent)

(Signed)_____
(Place)_____
(Date)_____

Record of Hydrostatic Tests on Tanks

Numbered	to	inclusive	
Size	inches outside by		inches long
Built by			Company
For			Company

Serial Nos. of tanks	Actual test pressure (psig)	Total expansion (cubic cm)	Permanent expansion (cubic cm)	Percent ratio of permanent expansion to total expansion[1]	Tare weight (pounds)[2]	Capacity in pounds of water at 60 °F

[1]If tests are made by method involving measurement of amount of liquid forced into tank by test pressure, then the basic

data on which calculations are made, such as pump factors, temperature of liquid, coefficient of compressibility of liquid, etc., must also be given.

[2]Do not include protective housing, but state whether with or without valves.

(Signed)_____
(Place)_____
(Date)_____

Record of General Data on Tanks

Numbered	to	inclusive	
Built by			Company
For			Company

Data obtained as prescribed in §179.500–4(c)							Larger value of the factor D^2+d^2/D^2-d^2	(S) Calculated fiber stress in psi at 7/10 marked test pressure	Marked test pressure in psig stamped in tank	Minimum tensile strength of material in psi recorded
Marked end of tank				Other end of tank						
Serial No. of tank	(t) Min. thickness of wall in inches	(d) Max. inside diameter in inches	(D) Calculated value of *D* in inches= *d* +2t	(t) Minimum thickness of wall in inches	(d) Maximum inside diameter in inches	(*D*) calculated value of *D* in inches= *d* +2t				

(Signed)_____

[Amdt. 179–32, 48 FR 27708, June 16, 1983, as amended by 66 FR 45391, Aug. 28, 2001]