shell, a V-shaped breakage groove shall be cut (not cast) in the upper part of the outlet nozzle at a point immediately below the lowest part of the valve closest to the tank. In no case may the nozzle wall thickness at the root of the “V” be more than ¼-inch. The outlet nozzle or the valve body may be steam jacketed, in which case the breakage groove or its equivalent must be below the steam chamber but above the bottom of the center sill construction. If the outlet nozzle is not a single piece or its exterior valves are applied, provision shall be made for the equivalent of the breakage groove. On cars without a continuous center sill, the breakage groove or its equivalent may not be more than 15 inches below the outer shell. On cars with continuous center sills, the breakage groove or its equivalent must be above the bottom of the center sill construction.

(7) The valve body must be of a thickness which will prevent distortion of the valve seat or valve by any change in contour of the shell resulting from expansion of lading, or other causes, and which will insure that accidental breakage of the outlet nozzle will occur at or below the “V” groove, or its equivalent.

(8) The valve must have no wings or stem projection below the “V” groove or its equivalent. The valve and seat must be readily accessible or removable for repairs, including grinding.

(b) Inner container may be equipped with bottom washout of approved design. If applied, bottom washout must comply with the following requirements:

(1) The extreme projection of the bottom washout equipment may not be more than that allowed by appendix E of the AAR Specifications for Tank Cars.

(2) Bottom washout must be of cast, forged or fabricated metals. If it is welded to the inner container, it must be of good weldable quality in conjunction with metal of tank.

(3) If washout nozzle extends below the bottom of the outer shell, a V-shaped breakage groove shall be cut (not cast) in the upper part of the nozzle at a point immediately below the lowest part of the inside closure seat or plug. In no case may the nozzle wall thickness at the root of the “V” be more than ¼-inch. Where the nozzle is not a single piece, provisions shall be made for the equivalent of the breakage groove. The nozzle must be of a thickness to insure that accidental breakage will occur at or below the “V” groove or its equivalent. On cars without a continuous center sill, the breakage groove or its equivalent may not be more than 15 inches below the outer shell. On cars with continuous center sills, the breakage groove or its equivalent must be above the bottom of the center sill construction.

(4) The closure plug and seat must be readily accessible or removable for repairs.

(5) The closure of the washout nozzle must be equipped with a ¾-inch solid screw plug. Plug must be attached by at least a ¼-inch chain.

(6) Joints between closures and their seats may be gasketed with suitable material.

§ 179.220–22 Closure for openings.

(a) All plugs must be solid, with NPT threads, and must be of a length which will screw at least six threads inside the face of fitting or tank. Plugs, when inserted from the outside of the outer shell tank heads, must have the letter “S” at least three-eighths inch in size stamped with steel stamp or cast on the outside surface to indicate the plug is solid.

(b) Openings in the outer shell used during construction for installation must be closed in an approved manner.

§ 179.220–23 Test of tanks.

(a) Each inner container or compartment must be tested hydrostatically to the pressure specified in §179.221–1. The
§ 179.220–24 Tests of pressure relief valves.

Each safety relief valve must be tested by air or gas for compliance with §179.15 before being put into service.


§ 179.220–25 Stamping.

(a) To certify that the tank complies with all specification requirements, each outer shell must be plainly and permanently stamped in letters and figures at least \( \frac{3}{8} \)-inch high into the metal near the center of both outside heads as follows:

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner container:</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>ASTM A240–316L.</td>
</tr>
<tr>
<td>Shell thickness</td>
<td>Shell 0.167 in.</td>
</tr>
<tr>
<td>Head thickness</td>
<td>Head 0.150 in.</td>
</tr>
<tr>
<td>Tank builders initials</td>
<td>ABC.</td>
</tr>
</tbody>
</table>

[b] After July 25, 2012, newly constructed DOT tank cars must have their DOT specification and other required information stamped plainly and permanently on stainless steel identification plates in conformance with the applicable requirements prescribed in §179.24(a). Tank cars built before July 25, 2012, may have the identification plates instead of or in addition to the head stamping.

[Amdt. 179–9, 36 FR 21343, Nov. 6, 1971, as amended at 77 FR 37986, June 25, 2012]

§ 179.220–26 Stenciling.

(a) The outer shell, or the jacket if the outer shell is insulated, must be stenciled in compliance with AAR Specifications for Tank Cars, appendix C (IBR, see §171.7 of this subchapter).

(b) Stenciling must be applied on both sides of the outer shell or jacket near the center in letters and figures at least \( \frac{1}{2} \)-inch high to indicate the safe upper temperature limit, if applicable, for the inner tank, insulation, and the support system.

[Amdt. 179–9, 36 FR 21343, Nov. 6, 1971, as amended at 68 FR 75763, Dec. 31, 2003]

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

In addition to §179.220, the individual specification requirements are as follows:

<table>
<thead>
<tr>
<th>DOT specification</th>
<th>Insulation</th>
<th>Bursting pressure (psig)</th>
<th>Minimum plate thickness (inches)</th>
<th>Test pressure (psig)</th>
<th>Bottom outlet</th>
<th>Bottom washout</th>
<th>Reference (179.221–***).</th>
</tr>
</thead>
<tbody>
<tr>
<td>115A60ALW</td>
<td>Yes</td>
<td>240</td>
<td>( \frac{1}{4} )</td>
<td>Optional.</td>
<td>Optional.</td>
<td>Optional.</td>
<td>1</td>
</tr>
<tr>
<td>115A60W1</td>
<td>Yes</td>
<td>240</td>
<td>( \frac{1}{4} )</td>
<td>Optional.</td>
<td>Optional.</td>
<td>Optional.</td>
<td>1</td>
</tr>
<tr>
<td>115A60W6</td>
<td>Yes</td>
<td>240</td>
<td>( \frac{1}{4} )</td>
<td>Optional.</td>
<td>Optional.</td>
<td>Optional.</td>
<td>1</td>
</tr>
</tbody>
</table>