TABLE II—SPECIFIED MINIMUM THICKNESS OF SHELL USING MILD STEEL (MS), HIGH STRENGTH LOW ALLOY STEEL (HSLA), AUSTENITIC STAINLESS STEEL (SS), OR ALUMINUM (AL)—EXPRESSIONED IN DECIMALS OF AN INCH AFTER FORMING

<table>
<thead>
<tr>
<th>Volume capacity in gallons per inch</th>
<th>10 or less</th>
<th>Over 10 to 14</th>
<th>Over 14 to 18</th>
<th>Over 18 to 22</th>
<th>Over 22 to 26</th>
<th>Over 26 to 30</th>
<th>Over 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness (MS)</td>
<td>0.100</td>
<td>0.100</td>
<td>0.115</td>
<td>0.129</td>
<td>0.129</td>
<td>0.143</td>
<td>0.156</td>
</tr>
<tr>
<td>Thickness (HSLA)</td>
<td>0.100</td>
<td>0.100</td>
<td>0.115</td>
<td>0.129</td>
<td>0.129</td>
<td>0.143</td>
<td>0.156</td>
</tr>
<tr>
<td>Thickness (SS)</td>
<td>0.100</td>
<td>0.100</td>
<td>0.115</td>
<td>0.129</td>
<td>0.129</td>
<td>0.143</td>
<td>0.156</td>
</tr>
<tr>
<td>Thickness (AL)</td>
<td>0.151</td>
<td>0.151</td>
<td>0.160</td>
<td>0.173</td>
<td>0.194</td>
<td>0.216</td>
<td>0.237</td>
</tr>
</tbody>
</table>

(b) [Reserved]

§ 178.347–3 Manhole assemblies.
Each manhole assembly must conform to § 178.345–5, except that each manhole assembly must be capable of withstanding internal fluid pressures of 40 psig or test pressure of the tank, whichever is greater.


§ 178.347–4 Pressure relief.
(a) Each cargo tank must be equipped with a pressure and vacuum relief system in accordance with § 178.345–10 and this section.
(b) Type and construction. Vacuum relief devices are not required for cargo tank motor vehicles that are designed to be loaded by vacuum in accordance with § 178.347–1(c) or built to withstand full vacuum in accordance with § 178.347–1(d).
(c) Pressure settings of relief valves. The setting of pressure relief valves must be in accordance with § 178.345–10(d).
(d) Venting capacities. (1) The vacuum relief system must limit the vacuum to less than 80 percent of the design vacuum capability of the cargo tank.
(2) If pressure loading or unloading devices are provided, the relief system must have adequate vapor and liquid capacity to limit the tank pressure to the cargo tank test pressure at maximum loading or unloading rate. The maximum loading or unloading rate must be included on the metal specification plate.


§ 178.347–5 Pressure and leakage test.
(a) Each cargo tank must be tested in accordance with § 178.345–13 and this section.
(b) Pressure test. Test pressure must be as follows:
(1) Using the hydrostatic test method, the test pressure must be at least 40 psig or 1.5 times tank MAWP, whichever is greater.
(2) Using the pneumatic test method, the test pressure must be 40 psig or 1.5 times tank MAWP, whichever is greater, and the inspection pressure is tank MAWP.


§ 178.348 Specification DOT 412; cargo tank motor vehicle.
§ 178.348–1 General requirements.
(a) Each specification DOT 412 cargo tank motor vehicle must conform to the general design and construction requirements in § 178.345 in addition to the specific requirements of this section.
(b) The MAWP of each cargo tank must be at least 5 psig.
(c) The MAWP for each cargo tank designed to be loaded by vacuum must