due to a rollover accident on the roadway or shoulder where the fill cover is not struck by a substantial obstacle.

(e) On cargo tank motor vehicles manufactured after October 1, 2004, each manhole assembly must be permanently marked on the outside by stamping or other means in a location visible without opening the manhole assembly or fill opening, with:

1. Manufacturer's name;
2. Test pressure ___ psig;
3. A statement certifying that the manhole cover meets the requirements in §178.345–5.

(f) All components mounted on a manhole cover that form part of the lading retention structure of the cargo tank wall must withstand the same static internal fluid pressure as that required for the manhole cover. The component manufacturer shall verify compliance using the same test procedure and frequency of testing as specified in §178.345–5.


§ 178.345–7 Circumferential reinforcements.

(a) A cargo tank with a shell thickness of less than \( \frac{3}{8} \) inch must be circumferentially reinforced with bulkheads, baffles, ring stiffeners, or any combination thereof, in addition to the cargo tank heads.

1. Circumferential reinforcement must be located so that the thickness and tensile strength of the shell material in combination with the frame and reinforcement produces structural integrity at least equal to that prescribed in §178.345–3 and in such a manner that the maximum unreinforced portion of the shell does not exceed 60 inches. For cargo tanks designed to be loaded by vacuum, spacing of circumferential reinforcement may exceed 60 inches provided the maximum unreinforced portion of the shell conforms with the requirements in Section VIII of the ASME Code (IBR, see §171.7 of this subchapter).

2. Where circumferential joints are made between conical shell sections, or between conical and cylindrical shell sections, and the angle between adjacent sections is less than 160 degrees, circumferential reinforcement must be located within one inch of the shell joint, unless otherwise reinforced with structural members capable of maintaining shell stress levels authorized in §178.345–3. When the joint is formed by the large ends of adjacent conical shell sections, or by the large end of a conical shell and a cylindrical shell section, this angle is measured inside the shell; when the joint is formed by the small end of a conical shell section and a cylindrical shell section, it is measured outside the shell.

3. Except for doubler plates and knuckle pads, no reinforcement may cover any circumferential joint.

4. When a baffle or baffle attachment ring is used as a circumferential reinforcement member, it must produce structural integrity at least equal to that prescribed in §178.345–3.