

constructed in accordance with the ASME Code with authorized exceptions (see §§ 178.346, 178.347, and 178.348) and is inspected and certified by a Registered Inspector.

*Design type* means one or more cargo tanks that are made—

- (1) To the same specification;
- (2) By the same manufacturer;
- (3) To the same engineering drawings and calculations, except for minor variations in piping that do not affect the lading retention capability of the cargo tank;
- (4) Of the same materials of construction;
- (5) To the same cross-sectional dimensions;
- (6) To a length varying by no more than 5 percent;
- (7) With the volume varying by no more than 5 percent (due to a change in length only); and
- (8) For the purposes of § 178.338 only, with the same insulation system.

*External self-closing stop valve* means a self-closing stop valve designed so that the self-stored energy source is located outside the cargo tank and the welded flange.

*Extreme dynamic loading* means the maximum loading a cargo tank motor vehicle may experience during its expected life, excluding accident loadings resulting from an accident, such as overturn or collision.

*Flange* means the structural ring for guiding or attachment of a pipe or fitting with another flange (companion flange), pipe, fitting or other attachment.

*Inspection pressure* means the pressure used to determine leak tightness of the cargo tank when testing with pneumatic pressure.

*Internal self-closing stop valve* means a self-closing stop valve designed so that the self-stored energy source is located inside the cargo tank or cargo tank sump, or within the welded flange, and the valve seat is located within the cargo tank or within one inch of the external face of the welded flange or sump of the cargo tank.

*Lading* means the hazardous material contained in a cargo tank.

*Loading/unloading connection* means the fitting in the loading/unloading line farthest from the loading/unloading outlet to which the loading/unloading hose, pipe, or device is attached.

*Loading/unloading outlet* means a cargo tank outlet used for normal loading/unloading operations.

*Loading/unloading stop valve* means the stop valve farthest from the cargo tank loading/unloading outlet to which the loading/unloading connection is attached.

*Maximum allowable working pressure* or *MAWP* means the maximum pressure

allowed at the top of the tank in its normal operating position. The *MAWP* must be calculated as prescribed in Section VIII, Division 1 of the ASME Code (incorporated by reference; see § 171.7 of this subchapter). In use, the *MAWP* must be greater than or equal to the maximum lading pressure conditions prescribed in § 173.33 of this subchapter for each material transported.

*Maximum lading pressure.* See § 173.33(c).

*Minimum thickness* means the minimum required shell and head (and baffle and bulkhead when used as tank reinforcement) thickness needed to meet the specification. The minimum thickness is the *greatest* of the following values: (1)(i) For MC 330, MC 331, and MC 338 cargo tanks, the specified minimum thickness found the applicable specification(s); or

(ii) For DOT 406, DOT 407 and DOT 412 cargo tanks, the specified minimum thickness found in Tables I and II of the applicable specification(s); or

(iii) For MC 300, MC 301, MC 302, MC 303, MC 304, MC 305, MC 306, MC 307, MC 310, MC 311, and MC 312 cargo tanks, the in-service minimum thickness prescribed in Tables I and II of § 180.407(i)(5) of this subchapter, for the minimum thickness specified by Tables I and II of the applicable specification(s); or

(2) The thickness necessary to meet with the structural integrity and accident damage requirements of the applicable specification(s); or

(3) The thickness as computed per the ASME Code requirements (if applicable).

*Multi-specification cargo tank motor vehicle* means a cargo tank motor vehicle equipped with two or more cargo tanks fabricated to more than one cargo tank specification.

*Normal operating loading* means the loading a cargo tank motor vehicle may be expected to experience routinely in operation.

*Nozzle* means a subassembly consisting of a pipe or tubular section with or without a welded or forged flange on one end.

*Outlet* means any opening in the shell or head of a cargo tank, (including the means for attaching a closure), except that the following are not *outlets*: a threaded opening securely closed during transportation with a threaded plug or a threaded cap, a flanged opening securely closed during transportation with a bolted or welded blank flange, a manhole, a gauging device, a thermometer well, or a pressure relief device.

*Outlet stop valve* means the stop valve at a cargo tank loading or unloading outlet.

*Pipe coupling* means a fitting with internal threads on both ends.

*Rear bumper* means the structure designed to prevent a vehicle or object from under-riding the rear of another motor vehicle. See § 393.86 of this title.

*Rear-end tank protection device* means the structure designed to protect a cargo tank and any lading retention piping or devices in case of a rear end collision.

*Sacrificial device* means an element, such as a shear section, designed to fail under a load in order to prevent damage to any lading retention part or device. The device must break under strain at no more than 70 percent of the strength of the weakest piping element between the cargo tank and the sacrificial device. Operation of the *sacrificial device* must leave the remaining piping and its attachment to the cargo tank intact and capable of retaining lading.

*Self-closing stop valve* means a stop valve held in the closed position by means of self-stored energy, that opens only by application of an external force and that closes when the external force is removed.

*Shear section* means a sacrificial device fabricated in such a manner as to abruptly reduce the wall thickness of the adjacent piping or valve material by at least 30 percent.

*Shell* means the circumferential portion of a cargo tank defined by the basic design radius or radii excluding the bulkheads.

*Stop valve* means a valve that stops the flow of lading.

*Sump* means a protrusion from the bottom of a cargo tank shell designed to facilitate complete loading and unloading of lading.

*Tank* means a container, consisting of a shell and heads, that forms a pressure tight vessel having openings designed to accept pressure tight fittings or closures, but excludes any appurtenances, reinforcements, fittings, or closures.

*Test pressure* means the pressure to which a tank is subjected to determine structural integrity.

*Toughness of material* means the capability of a material to absorb energy represented by the area under a stress strain curve (indicating the energy absorbed per unit volume of the material) up to the point of rupture.

*Vacuum cargo tank* means a cargo tank that is loaded by reducing the pressure in the cargo tank to below atmospheric pressure.

*Variable specification cargo tank* means a cargo tank that is constructed in accordance with one specification,