**Section 178.325 Specification MC 304; Cargo Tanks Constructed of Mild (Open Hearth or Blue Annealed) Steel, Welded Ferrous Alloy (High-Tensile) Steel, or Aluminum, Primarily For the Transportation of Flammable Liquids, or Poisonous Liquids, Class B, Having Reid (ASTM D-323) Vapor Pressures of 18 PSIA or More at 100°F., But Less Than Those Stated in 92 Ill. Adm. Code 173.300, In Defining Compressed Gases**

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.0.1 [178.325-1] General Requirements**

a) Spec. MC 304 cargo tanks constructed on or before September 1, 1967 for the bulk transportation of hazardous materials must meet all the requirements contained in this section.

b) Every cargo tank shall be designed and constructed in accordance with the best known and available practices in addition to the other applicable cargo tank specification requirements.

c) Design pressure. The design pressure of each cargo tank shall be not less than 25 psig.

d) Cross-sectional design. Tanks shall be of circular cross-section.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.0.2 [178.325-2] Material**

a) Mild steel and aluminum. All mild steel and aluminum used in the shell, heads and bulkheads of the cargo tank, shall meet or exceed the following minimum requirements:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Mild steel | Aluminum | |
|  | All vessel parts | Heads, bulkheads, baffles and other shell stiffeners | Shell |
| Yield point | 25,000 psi. | 9,500 psi. | 23,000 psi. |
| Ultimate strength | 45,000 psi. | 25,000 | 31,000 psi. |
| Elongation,  2-inch sample | 20 percent | 18 percent | 7 percent |

b) High-tensile and stainless steel. All high-tensile and stainless steel shall meet the following minimum requirements:

|  |  |  |
| --- | --- | --- |
|  | Steel other than stainless | Stainless steel |
| Yield point | 45,000 psi. | 32,000 psi. |
| Ultimate strength | 60,000 psi. | 75,000 psi. |
| Elongation,  2-inch sample | 25 percent | 20 percent |

c) Other material requirements. Cargo tanks shall be of all-steel or aluminum construction, except that gaskets need not be metallic and except that piping and valves need not be ferrous metal or aluminum. Nonmalleable materials shall not be used in the construction of the tank, its mountings and protective devices, or any valves, piping, or fittings. The metal and gaskets shall be substantially immune to chemical attack by the materials to be transported therein, or shall be suitably lined to prevent corrosive attack, or shall have the thickness of the material suitably increased over that required elsewhere in this specification by an amount sufficient to provide for such corrosion during the estimated useful life of the tank. All aluminum cargo tanks and appurtenances built to this specification shall be fabricated of alloys authorized for welded construction by (1) the 1952 edition, or (2) the 1959 edition of Section VIII of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, no revisions. A certification from the material supplier will suffice as evidence of compliance with this requirement.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.0.3 [178.325-3] Thickness of Metal**

a) Formulas. Tanks for this service may be constructed of mild steel, high-tensile steel, stainless steel, or aluminum. The material thicknesses shall not be less than those obtained by applying the following formulas nor less than those specified in paragraph (d) of this Section:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Thickness of shell = | Ts | = | PD |  |  |
|  |  | | 2S ES |  |  |
| Thickness of heads= | Th | = |  | 0.85PL (for pressure on concave side only) | |
|  |  | |  | S Eh | |

|  |  |  |
| --- | --- | --- |
| Ts | = | Minimum thickness of shell material, exclusive of allowance for corrosion or other loadings. |
| Th | = | Minimum thickness of head material, after forming, exclusive of allowance for corrosion and other loadings. |
| P | = | Design pressure or maximum allowable working pressure, psi. The maximum allowable working pressure for aluminum shells shall be specified on the basis of the minimum tensile strength of the head material for the alloy used. |
| D | = | Inside diameter of shell, inches. |
| L | = | Inside crown radius of head, inches. |
| S | = | Maximum allowable stress value, psi.-equals one-fourth of specified minimum ultimate tensile strength. |
| Es | = | Lowest efficiency of any longitudinal joint in shell. |
| Eh | = | Lowest efficiency of any joint in head. |

1) The knuckle radius of the head shall not be less than three times the material thickness and the straight flange shall be not less than one inch.

2) For heads with pressure on the convex side, the material thickness as obtained by the above formula shall be increased by 67 percent, unless such heads are adequately braced to prevent excessive distortion.

b) Corrosion allowance. Vessels or parts of vessels subject to thinning by corrosion, erosion or mechanical abrasion, shall have provision made for the desired life of the vessel by a suitable increase in the thickness of the material over that determined by the design formulas, or by using some other suitable method of protection. Material added for these purposes need not be of the same thickness for all parts of the vessel if different rates of attack are expected for the various parts.

c) Other loadings. In addition to the material requirements as specified in paragraphs (a) and (b) of this Section, vessels shall be provided with stiffeners or other additional means of support if necessary, to prevent over-stress or large distortions due to the following other loadings:

1) Impact loads.

2) Weight of vessel and contents but not less than the water weight of tank and contents. For determining the weight of the water contents of the tank, a gallon of water (231 cubic inches) shall be considered to weigh 8.32828 pounds.

3) Superimposed loads such as operating equipment, insulation and piping.

4) Reactions of supporting lugs or saddles.

5) Effect of temperature gradients.

d) Thickness of mild steel. Minimum thicknesses of mild steel tank sheets in U.S. standard gauges, subject to the foregoing requirements in this Section. (These thicknesses are to be multiplied by 1.44 for aluminum.):

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | Gallons per inch of tank length | | |  | |
|  | 10 or less | Over 10 to 14 | Over 14 to 18 | Over 18 to 22 | Over 22 to 26 | Over 26 to 30 | Over 30 |
| Heads, bulkheads, baffles and ring stiffeners. | 14 | 13 | 12 | 11 | 10 | 9 | 8 |
| Shell | | | | | | | |
| Distance between attachments of bulkheads, baffles or other shell stiffeners |  | | | | | | |
|  |  | | | | | | |
| 36 inches or less | 14 | 14 | 14 | 13 | 12 | 11 | 10 |
| Over 36 inches to 54 inches | 14 | 14 | 13 | 12 | 11 | 10 | 9 |
| Over 54 inches to 60 inches | 14 | 13 | 12 | 11 | 10 | 9 | 8 |

e) Thickness of high-tensile and stainless steel. Minimum thicknesses of high-tensile and stainless steel tank sheets, in U.S. standard gauges, subject to the foregoing requirements in this section:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | Gallons per inch of tank length | | |  | |
|  | 10 or less | Over 10 to 14 | Over 14 to 18 | Over 18 to 22 | Over 22 to 26 | Over 26 to 30 | Over 30 |
| Heads, bulkheads, baffles and ring stiffeners. | 15 | 14 | 13 | 12 | 11 | 10 | 9 |
| Shell | | | | | | | |
| Distance between attachments of bulkheads, baffles or other shell stiffeners |  | | | | | | |
|  |  |  |  |  |  |  |  |
| 36 inches or less | 16 | 16 | 15 | 14 | 13 | 12 | 11 |
| Over 36 inches to 54 inches | 16 | 15 | 14 | 13 | 12 | 11 | 10 |
| Over 54 inches to 60 inches | 15 | 14 | 13 | 12 | 11 | 10 | 9 |

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.0.4 [178.325-4] Joints**

a) Method of joining. Joints in the tank structure shall be made by welding, and may be reinforced where desired. Care should be taken to avoid damage by galvanic action due to the presence of dissimilar metals at joints.

b) Pipe joints. Welded pipe joints shall be used wherever possible. Joints in copper tubing shall be of the brazed type or of an equally strong metal union type. The melting point of brazing material must not be less than 100°F. Such joints shall in any event be of such a character as not to decrease the strength of the tubing, as by the cutting of threads.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.0.5 [178.325-5] Bulkheads, Baffles, and Ring Stiffeners**

a) When bulkheads not required. No bulkheads shall be required in any cargo tank regardless of capacity which is used in service in which there is never less than 80 percent of the capacity volume of the tank while in transportation over the highway and which in service has its entire contents discharged at one unloading point, provided that this requirement shall not apply to tanks operating in or through any jurisdiction where State or local regulations require seasonal reduction of vehicle weight limitations during the time such reductions are in force.

b) When bulkheads required. Except as provided in paragraph (a) of this section, every cargo tank having a total capacity in excess of 3,000 gallons shall be divided by bulkheads into compartments none of which shall exceed 2,500 gallons. Each bulkhead required by this paragraph shall be of the same minimum strength as is required elsewhere in this specification for tank heads.

c) Double bulkheads. Tanks with compartments carrying flammable liquids of different shipping names or with compartments containing flammable or poisonous liquids, class B, and liquids not so classified by the regulations, shall be provided with an air space between compartments. This air space shall be equipped and maintained with drainage facilities operative at all times.

d) Baffles or shell stiffeners. Every cargo tank or compartment of a cargo tank over 90 inches in length shall be provided with baffles or equivalent shell stiffeners so located that the maximum distance between any two baffles or stiffeners and between any baffle or stiffener and the nearest tank head or bulkhead shall not exceed 60 inches. Ring stiffeners shall be continuous around the circumference of the tank shell and shall have at least the section modulus required by the following table:

Minimum Section Modulus Required for Ring Stiffeners

|  |  |  |
| --- | --- | --- |
| Width of tank | Section modulus | |
|  | Steel | Aluminum |
| 42 inches or less | 0.0104 L1 | 0.0180 L1 |
| Over 42 inches to 60 inches | 0.0162 L1 | 0.0280 L1 |
| Over 60 inches to 96 inches | 0.0234 L1 | 0.0400 L1 |
|  |  |  |

1 L is the maximum distance from the midpoint of the unsupported shell on one side of the ring stiffener to the midpoint of the unsupported shell on the opposite side of the ring stiffener. See Section 178.325.0.3 for minimum thickness of ring stiffeners.

If a ring stiffener is welded to the shell, a portion of the shell may, for the purposes of computing the section modulus, be considered as a part of the ring section. If welded at one side of the ring stiffener only, such portion shall not exceed 20 times the shell thickness adjacent to the weld; if welded at both sides of the ring stiffener, such portion shall not exceed 40 times the shell thickness adjacent to the weld, or the width of the ring stiffener between welds plus 20 times the shell thickness adjacent to the welds, whichever is less.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.0.6 [178.325-6] Closures for Manholes**

No applicable provision.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.0.7 [178.325-7] Overturn Protection**

All closures for filling openings shall be protected from damage in the event of overturning of the motor vehicle by being enclosed within the body of the tank or dome attached to the tank or the frame of the motor vehicle. Protection shall also be provided for any protruding or projecting fitting or appurtenance by means of adequate metal guards. The calculated load for the protective devices shall be the weight of the tank motor vehicle with the tank full of water, at one "g" deceleration. If the overturn protection is so constructed as to permit accumulation of liquid on the top of the tank, it shall not be provided with drainage at or near the front of the tank.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.0.8 [178.325-8] Tank Outlets**

Outlet fixtures shall be substantially made and attached to the tank in such a manner as to prevent breakage at the outlet point.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.0.9 [178.325-9] Safety Relief Devices, Valves, and Connections**

a) Safety relief devices required. Each cargo tank and each compartment of a tank shall be provided with one or more safety relief valves of the springloaded type, provided that emergency pressure relief devices may be used for part of the required capacity thereof. All such valves and devices shall be arranged to discharge upward and unobstructed in such a manner as to prevent any impingement of escaping gas upon the tank. The emergency pressure relief devices shall be either springloaded type, frangible type or fusible type.

b) Safety relief device capacity. The required safety relief valves shall be set to close after discharge at a pressure not lower than 25 psig. and remain closed at all lesser pressures, provided that this requirement shall not be so construed as to forbid the use of vacuum relief valves or of combination safety relief and vacuum relief valves. At a pressure not exceeding 40 psig. they shall have a discharge capacity not less than that of an unobstructed opening of one square inch for each 35 square feet of exterior area of the tank or compartment to which they are connected, provided that two or more such valves may be used on the same tank or compartment to obtain the discharge capacity herein required; alternatively, such valve or valves may at a pressure of 30 psig. have a total discharge capacity not less than that of an unobstructed opening of one square inch for each 350 square feet of exterior area of the tank or compartment to which they are connected, if in addition thereto, each such tank or compartment be provided with one or more frangible-type or fusible-type safety devices having a total discharge capacity not less than that of an unobstructed opening of 9 square inches for each 350 square feet of exterior area. The bursting pressure of the frangible-type devices shall be not less than 30 psig. nor more than 40 psig. Fusible elements, if used, shall have a fusing temperature no higher than 200F. They shall not be exposed to contact with the tank lading or be in contact with any part of the tank or its accessories so exposed.

c) Marking inlets and outlets. All tank inlets and outlets, except safety relief valves, shall be marked to indicate whether they communicate with vapor or liquid when the tank is filled to the maximum permitted filling level.

d) Markings on relief valves. Each safety relief valve shall be plainly and permanently marked (1) with the pressure in psig. at which it is set to start to discharge, (2) with the actual rate of discharge of the device in cubic feet per minute of air at 60°F. and atmospheric pressure and (3) with the manufacturer's name and catalogue number. The rated discharge capacity of the device shall be determined at a pressure of 30 psig.

e) Connections to relief valves. Connections to safety relief valves shall be of sufficient size to provide the required rate of discharge through the safety relief valves.

f) Protection of relief valves. Safety relief valves shall be arranged so that the possibility of tampering will be minimized. If the pressure setting or adjustment is external, the safety relief valves shall be provided with suitable means for sealing the adjustment.

g) Shut-off valves. No shut-off valves shall be installed between the safety relief valves and the tank except in cases where two or more safety relief valves are installed on the same tank, a shut-off valve may be used where the arrangement of the shut-off valve or valves is such as always to afford full required capacity flow through at least one safety relief valve.

h) Connection of safety relief valve to vapor space. Safety relief valves shall have direct communication with the vapor space of the tank.

i) Prevention of excessive hydrostatic pressure. Any portion of liquid piping or hose which at any time may be closed at each end must be provided with a safety valve to prevent excessive hydrostatic pressure. This safety relief valve must not have an intervening shut-off valve installed.

j) Strength of piping, fittings, hose and hose couplings. Hose, piping and fittings shall be designed for a bursting pressure at least 100 psig. and not less than four times the pressure to which in any instance, it may be subjected in service by the action of a pump or other device (not including safety relief valves), the action of which may be to subject certain portions of the tank piping and hose to pressures greater than the design pressure of the tank. Any coupling used on hose to make connections shall be designed for a working pressure not less than 20 percent in excess of the design pressure of the hose and shall be so designed that there will be no leakage when connected.

k) Provision for expansion and vibration. Suitable provision shall be made in every case to allow for and prevent damage due to expansion, contraction, jarring and vibration of all pipe. Slip joints shall not be used for this purpose.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.1.0 [178.325-10] Protection of Fittings**

Piping, fittings and valves projecting beyond the frame, or if the vehicle be frameless beyond the shell, shall be adequately protected in the event of collision by steel bumpers or other equally effective devices. Any other part of any cargo tank connected with its cargo space and similarly protruding shall be similarly protected.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.1.1 [178.325-11] Emergency Discharge Control**

a) Automatic excess-flow valves. Each cargo tank outlet shall be provided with a suitable automatic excess-flow valve or, in lieu thereof, may be fitted with a quick-closing internal valve designed, installed and operated so as to assure against escape of the contents in event of failure of the outlet. These valves shall be located inside the tank or at a point outside the tank where the line enters or leaves the tank. The valve seat shall be located inside the tank or shall be located within a welded flange or its companion flange, or within a nozzle, or within a coupling. The installation shall be made in such a manner as reasonably to assure that any undue strain which causes failure requiring functioning of the valve shall cause failure in such a manner that it will not impair the operation of the valve, except that safety device connections and liquid level gauging devices, which are so constructed that the outward flow of tank contents shall not exceed that passed by a No. 54 drill size opening, are not required to be equipped with excess-flow valves.

b) Excess-flow valve settings. Excess-flow valves shall be so installed and adjusted that they close automatically at the rated flows of gas or liquid as specified by the valve manufacturer.

c) Capacity of connections to valves. The connections or lines on each side of an excess-flow valve, including valve fittings, etc., shall have a greater capacity than the rated flow of the excess-flow valve.

d) Bypass of valve. Excess-flow valves may be designed with a bypass, not to exceed a No. 60 drill size opening, to allow equalization of pressures.

e) Utilization of stop-check valves forbidden. The use of combination stop-check valves to satisfy with one valve the requirements of paragraphs (b), (c) and (f) of this Section is forbidden.

f) Filling and discharge shut-off valves. Filling and discharge lines shall be provided with shut-off valves located as close to the tank outlet as is possible. If such valves are not manually operated they shall be of an automatic quick-closing internal valve type or an automatic shut-off type provided that if such valves are used, the lines must have manually-operated shut-off valve located in the line ahead of the hose connection. Stop-check or excess-flow valves shall not be used to satisfy the requirements of this section.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.1.2 [178.325-12] Shear Section**

There shall be provided between each excess-flow valve seat or internal valve seat, and draw-off valves, a shear section which will break under strain, unless the discharge piping is so arranged as to afford equivalent protection, and leave the excess-flow valve seat or the internal valve seat intact in case of accident to the draw-off valve or piping.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.1.3 [178.325-13] Anchoring of Cargo Tank**

a) Hold down devices. Adequate hold-down devices shall be provided to anchor each cargo tank in a suitable manner that will not introduce undue concentration of stresses and shall be built to withstand loadings in any direction equal to the weight of the tank and attachments when filled with water. These devices on vehicles with frames shall incorporate turnbuckles or similar positive action devices for drawing the tank down tight on the frame of the motor vehicle.

b) Stops and anchors. Suitable stops and anchors shall be attached to the motor vehicle and the cargo tank to prevent relative movement between them due to starting, stopping and turning. Stops and anchors shall be installed so as to be readily accessible for inspection and maintenance except that insulation on lagged tanks is permitted to cover such stops and anchors.

c) Anchoring integral cargo tanks. Whenever any cargo tank is so designed and constructed that the cargo tank constitutes, in whole or in part, the stress member used in lieu of a frame, then such cargo tanks shall be designed so as to successfully and adequately withstand the stresses thereby imposed in addition to those otherwise imposed on the cargo tank.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.1.4 [178.325-14] Gauging Devices**

a) Gauge device design. Every cargo tank except tanks filled by weight, shall be equipped with one or more gauging devices which shall indicate accurately the maximum permitted liquid level in each compartment. Additional gauging devices may be installed but may not be used as primary controls for filling of cargo tanks at pressures above atmospheric. Acceptable gauging devices for use at pressures above atmospheric are the rotary tube, the adjustable slip tube and the fixed length dip tube. Gauge glasses are not permitted to be installed on any cargo tank.

b) Fixed level indicators. All liquid level gauging devices, except those on tanks provided with fixed maximum level indicators, shall be legibly and permanently marked in increments of not more than 20°F. to indicate the maximum levels to which the tank may be filled with liquid at temperatures above 20°F. In the event that it is impractical to put these markings on the gauging device, this information shall be marked on a suitable plate affixed to the tank in a location adjacent to the gauging device.

c) Dip tubes. A fixed length dip tube gauging device, when used, shall consist of a dip pipe of small diameter equipped with a valve at the outer end, and extending into the tank to a specified fixed length. On horizontally-mounted cylindrical tanks, the fixed length to which the tube extends into the tank shall be such that the device will function to indicate when the liquid at a point equidistant from the heads of the tank in a vertical plane containing the longitudinal axis of the tank, reaches the maximum level permitted by these regulations. On spherical tanks and on vertically-mounted cylindrical tanks, the fixed length to which the tube extends into the tank shall be such that the device will function to indicate when the liquid at a point on the vertical axis of the tank in its normal position reaches the maximum level permitted by these regulations.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.1.5 [178.325-15] Pumps**

Liquid pumps, whenever used, must be of suitable design, adequately protected against breakage by collisions. Unless they are of the centrifugal type, they shall be equipped with suitable pressure actuated bypass valves permitting flow from discharge to suction or to the tank.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.1.6 [178.325-16] Testing Requirements**

a) Test for leaks. Before being certified in accordance with Section 178.325.1.8, every cargo tank shall be tested by a minimum air or hydrostatic pressure of 40 psig. applied to the whole tank and dome if it be noncompartmented. If compartmented, each individual compartment shall be similarly tested with adjacent compartments empty and at atmospheric pressure. Air pressure, if used, shall be maintained for a period of at least 10 minutes during which the entire surface of all joints under pressure shall be coated with a solution of soap and water, heavy oil, or other material suitable for the purpose, foaming or bubbling of which indicates the presence of leaks. Hydrostatic pressure, if used, shall be done using water or other liquid having a similar viscosity, the temperature of which shall not exceed 100°F. during the test, and applying a pressure as prescribed above, gauged at the top of the tank, at which time all joints under pressure shall be inspected for the issuance of liquid to indicate leaks. All closures shall be in place while test by either method is made. During these tests, operative relief devices shall be clamped, plugged, or otherwise rendered inoperative; such clamps, plugs, and similar devices shall be removed immediately after the test is finished. Any leakage discovered by either of the methods above described, or by any other method, shall be deemed evidence of failure to meet the requirements of this specification. Tanks failing to pass this test shall be suitably repaired, and the above described tests shall be continued until no leaks are discovered, before any cargo tank is put into service.

b) Test for distortion or failure. Before being certified in accordance with Section 178.325.1.8, every cargo tank to which this specification applies shall be tested by pressures prescribed in paragraph (a) of this Section and shall withstand such pressures without undue distortion, evidence of impending failure, or failure. Failure to meet this requirement shall be deemed as sufficient cause for rejection under this specification. If there is undue distortion, or if failure impends or occurs, the cargo tank shall not be put in service unless a suitable repair is made. The suitability of the repair shall be determined by the same method of test.

c) Retest requirements. Every cargo tank shall be retested in accordance with 92 Ill. Adm. Code 177.824.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.1.7 [178.325-17] Marking of Cargo Tanks**

a) Metal identification plate. There shall be on every cargo tank a metal plate located on the right side, near the front, in a place readily accessible for inspection. This plate shall be permanently affixed to the tank by means of soldering, brazing, welding or other equally suitable means; and upon it shall be marked by stamping, embossing or other means of forming letters into or on the metal of the plate itself, in the manner illustrated below, at least the information indicated below. The plate shall not be so painted as to obscure the markings thereon.

Carrier's Number1

Manufacturer's Name2

Date of Manufacturer2

ICC MC 304

Design Pressure ......................................................... PSIG.

Test Pressure ............................................................. PSIG.

Nominal Tank Capacity .................................. U.S. Gallons

in compartments of ..........................................................

and ............................................................. U.S. Gallons

b) Test date markings. Every cargo tank constructed in accordance with this specification shall be marked with the test date as prescribed in 92 Ill. Adm. Code 177.824(h).

c) Additional markings. In addition to the above markings, cargo tanks must be marked as required by 92 Ill. Adm. Code 177.823.

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)

**Section 178.325.1.8 [178.325-18] Certification**

A certificate from the manufacturer of the cargo tank, or from a competent testing agency, certifying that each such cargo tank is designed and constructed in accordance with the requirements of the specification shall be procured, and such certificate shall be retained in the files of the carrier during the time that such cargo tank is employed by him. In lieu of this certificate if the motor carrier himself elects to ascertain if any such tank fulfills the requirements of the specification by his own test and examination, he shall similarly retain the test data and examination data.

1 Carriers are not required to number their tanks serially; any designation regularly used by the carrier to identify the tank may be put in this space.

2 In the event the identity of the tank manufacturer or the date of manufacture is not known and cannot be ascertained, the spaces indicated shall be marked "MAKE UNKNOWN" and/or "DATE OF MANUFACTURE UNKNOWN."

(Source: Added at 5 Ill. Reg. 1715, effective February 9, 1981)