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means those cargoes that Table 1 references to § 153.525 or § 153.527.

[CGD 78–128, 47 FR 21207, May 17, 1982]

§ 153.240 Insulation.

Cargo containment system insulation made necessary by the requirements of this part must meet the requirements in § 38.05–20 of this chapter. However, the vapor barrier required by § 38.05–20(b) is unnecessary if the insulation is:

(a) Protected from the weather, and attached to a containment system maintained at a temperature in excess of 46°C (approx. 115°F); or

(b) In an atmosphere whose dewpoint is less than the temperature of any surface in contact with the insulation.

CARGO TANKS

§ 153.250 Double-bottom and deep tanks as cargo tanks.

Except in those cases in which Commandant (G–MSO) specifically approves another arrangement, such as a double-bottom or deep tank as a cargo tank, an integral cargo tank or the hold within which an independent cargo tank is located must extend to the weatherdeck.

[CGD 73–96, 42 FR 49027, Sept. 26, 1977, as amended by CGD 82–063b, 48 FR 4781, Feb. 3, 1983]

§ 153.251 Independent cargo tanks.

All independent cargo tank must meet § 38.05–10 (a)(1), (b), (d), and (e)(1) of this chapter.

[CGD 78–128, 47 FR 21208, May 17, 1982]

§ 153.252 Special requirement for an independent cargo tank.

When Table 1 refers to this section, the cargo tank must be an independent tank that meets §§ 38.05–2(d) and 38.05–4(g) of this chapter. (See also § 153.256(b)).

[CGD 78–128, 47 FR 21208, May 17, 1982]

§ 153.254 Cargo tank access.

(a) A cargo tank must have at least one covered manhole opening into the vapor space described in § 153.354.

(b) An access through a vertical cargo tank surface must be at least 60 cm by 80 cm (approx. 23.6 × 31.5 in.) and no more than 60 cm above a foothold grating, or surface on both sides of the access way.

(c) An access through a horizontal cargo tank surface must be at least 60 cm by 60 cm (approx. 23.6 × 23.6 in.).

(d) An access trunk must be no less than 76 cm (approx. 29.9 in.) in diameter.

§ 153.256 Trunks, domes, and openings of cargo tanks.

(a) The hatch of a cargo tank must:

(1) Be at the highest point of the tank; and

(2) Open on or above the weatherdeck.

(b) To be endorsed to carry a cargo requiring an independent cargo tank, a tank must have:

(1) A trunk or dome at the uppermost part of the tank, extending above the weatherdeck;

(2) Its hatch at the top of the trunk or dome; and

(3) No openings below the weatherdeck.

§ 153.266 Tank linings.

A tank lining must be:

(a) At least as elastic as the tank material; and

(b) Applied or attached to the tank as recommended by the lining manufacturer.

PIPING SYSTEMS AND CARGO HANDLING EQUIPMENT

§ 153.280 Piping system design.

(a) Each cargo piping system must meet the standards of Part 56 and §§ 38.10–1(b), 38.10–1(e), and 38.10–10(a) of this chapter.

(b) Piping carrying cargo or cargo residue may not enter any machinery space except a cargo pumproom.

§ 153.281 Piping to independent tanks.

Piping for an independent cargo tank must penetrate the tank only through that part of the tank or dome extending above the weatherdeck.

[CGD 78–128, 47 FR 21208, May 17, 1982]

§ 153.282 Cargo filling lines.

The discharge point of a cargo tank filling line must be no higher above the bottom of the cargo tank or sump than

10 cm (approx. 4 in.) or the radius of the filling line, whichever is greater.

§ 153.283 Valving for cargo piping.

(a) Except as described in this section, a cargo line must have a deck operable, manual stop valve:

(1) In each tank which the line serves; and

(2) At each cargo hose connection point.

(b) The valve required by paragraph (a)(1) of this section may be in a cargo pumproom at the pumproom bulkhead if the cargo tank the cargo line serves is adjacent to the pumproom.

(c) The valve required by paragraph (a)(1) of this section may be on the weatherdeck if:

(1) The weatherdeck is the top of the tank;

(2) The line goes through the weatherdeck into the tank; and

(3) The valve is at the point where the line penetrates the weatherdeck.

(d) The valve required by paragraph (a)(1) of this section may be outside the tank if:

(1) The tank is an independent tank; and

(2) The valve is at the point where the line penetrates the tank.

(e) The discharge line of an intank cargo pump need not have the valve required by paragraph (a)(1) of this section.

(f) If the cargo exerts a gravity head pressure on a valve required by this section, the valve must be a positive shutoff valve that meets § 56.50–60(d) of this chapter.

[CGD 73–96, 42 FR 49027, Sept. 26, 1977, as amended by CGD 78–128, 47 FR 21208, May 17, 1982]

§ 153.284 Characteristics of required quick closing valves.

A remotely actuated quick closing shutoff valve required by § 153.530(n) must:

(a) Be a positive shutoff valve;

(b) Be of the fail-closed type that closes on loss of power;

(c) Be capable of local manual closing;

(d) Close from the time of actuation in 30 seconds or less; and

(e) Be equipped with a fusible element that melts at less than 104° C. (approx. 220°F.) and closes the valve.

[CGD 78–128, 47 FR 21208, May 17, 1982; 47 FR 27293, June 24, 1982]

§ 153.285 Valving for cargo pump manifolds.

(a) When cargo lines serving different tanks enter a pumproom and connect to the same pump:

(1) Each cargo line must have a stop valve within the line;

(2) The valve must be before the cargo line joins the other lines or pump; and

(3) The valve must be within the pumproom.

(b) The valve in paragraph (a) of this section is required in addition to any valve required under § 153.283(b).

§ 153.292 Separation of piping systems.

Cargo piping systems must be arranged so that operations necessary to provide separate systems can be accomplished in a cargo handling space or on the weatherdeck.

[CGD 78–128, 47 FR 21208, May 17, 1982]

§ 153.294 Marking of piping systems.

(a) Each cargo piping system must be marked with the designation number of the cargo tank it serves at each hose connection, valve, and blind in the piping system. The markings must be in characters at least 5 cm (approx. 2 in.) high.

(b) Every hose connection of a cargo piping system must be marked with the cargo piping system's working pressure required by § 38.10–10(a) of this chapter.[4]

§ 153.296 Emergency shutdown stations.

(a) Each tankship must have at least two emergency shutdown stations.

(b) One emergency shutdown station must be located forward of the deckhouse, in the after part of the weatherdeck in which the cargo tanks are located.

(c) A second emergency shutdown station must be located so that one of the two stations is accessible from any

[4] See § 153.280 of the part.

part of the weatherdeck if a break in a cargo piping system or hose causes spraying or leaking.

(d) Each emergency shutdown station must contain a single remote actuator for all quick closing shutoff valves required by this part.

(e) Each emergency shutdown station must have the controls necessary to stop all cargo pumps on the tankship.

(f) Any remote emergency actuator, such as that for a quick closing shutoff valve, a cargo pump, or a water spray system, must be of a type that will not defeat the operation of other remote emergency actuators. The emergency action must occur whether one or several actuators are operated.

(g) Each emergency shutdown station must be marked as described in §153.955 (c), (d), and (e) with the legend ''EMERGENCY SHUTDOWN STATION'' so that the legend is visible from work areas in the part of the deck where the cargo containment systems are located.

[CGD 73–96, 42 FR 49027, Sept. 26, 1977, as amended by CGD 78–128, 47 FR 21208, May 17, 1982]

§153.297 Emergency actuators at the point of cargo control.

(a) The point from which cargo transfer is controlled must have the same actuators an emergency shutdown station must have under §153.296 and an actuator for any deck water spray systems required by this part.

(b) The point from which cargo transfer is controlled may be one of the emergency shutdown stations required under §153.296 if it meets the requirements of that section.

CARGO HANDLING SPACE VENTILATION

§153.310 Ventilation system type.

A cargo handling space must have a permanent forced ventilation system of the exhaust type.

§153.312 Ventilation system standards.

A cargo handling space ventilation system must meet the following:

(a) A ventilation system exhaust duct must discharge no less than 10 m (approx. 32.8 ft) from openings into or ventilation intakes for, accommodation or service spaces.

(b) A ventilation system must not recycle vapors from ventilation discharges.

(c) Except for the space served by the ventilation duct, a ventilation duct must not pass through a machinery room, an accommodation space, or working spaces.

(d) A ventilation system must be operable from outside the space it ventilates.

(e) A ventilation system must be sized to change the air in the ventilated space at least 30 times per hour.

(f) A ventilation system must not allow air to stagnate in any part of a ventilated space.

(g) A ventilation system must be able to exhaust air from both above and below the deck plates of a ventilated space.

§153.314 Ventilation of spaces not usually occupied.

(a) Each tankship must have portable ventilation equipment that fits the mount required in paragraph (b)(1) of this section.

(b) Each enclosed space within the cargo area that does not have a permanent ventilation system meeting §153.312 must have:

(1) A mount for the portable mechanical ventilation equipment required by this section; and

(2) Either permanent ventilation ductwork connected to the mount and arranged to supply air to the extremities of the space; or

(3) An attachment for temporary ductwork at the mount with enough ductway in the ventilated space and temporary ductwork stowed aboard the vessel to supply air to the extremities of the space.

[CGD 73–96, 42 FR 49027, Sept. 26, 1977, as amended by CGD 78–128, 47 FR 21208, May 17, 1982]

§153.316 Special cargo pumproom ventilation rate.

When Table 1 refers to this section, the cargo pumproom ventilation system must change the air in the cargo pumproom 45 times per hour and discharge no less than 4 m (approx. 13.1 ft) above the deck.