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(1) The deck stringer and sheer strake must be at least Grade E steel or a grade of steel that has equivalent chemical properties, mechanical properties, and heat treatment, and that is specially approved by the Commandant (G–MSO).

(2) The strake at the turn of the bilge must be Grade D, Grade E, or a grade of steel that has equivalent chemical properties, mechanical properties, and heat treatment, and that is specially approved by the Commandant (G–MSO).

(3) The outer hull steel of vessels must meet the standards in §154.172 if the hull steel temperature is calculated to be below −5° C (23°F) assuming:

(i) For any waters in the world, the ambient cold conditions of still air at 5°C (41°F) and still sea water at 0°C (32°F);

(ii) For cargo containment systems with secondary barriers, the temperature of the secondary barrier is the design temperature; and

(iii) For cargo containment systems without secondary barriers, the temperature of the cargo tank is the design temperature.

[CGD 74–289, 44 FR 26009, May 3, 1979, as amended by CGD 82–063b, 48 FR 4782, Feb. 3, 1983; CGD 77–069, 52 FR 31630, Aug. 21, 1987]

§ 154.172 Contiguous steel hull structure.

(a) Except as allowed in paragraphs (b) and (c) of this section, plates, forgings, forged and rolled fittings, and rolled and forged bars and shapes used in the construction of the contiguous steel hull structure must meet the thickness and steel grade in Table 1 for the temperatures under §§154.174(b) and 154.176(b).

(b) for a minimum temperature, determined under §§154,174(b) and 154.176(b), below −25°C (−13°F), the contiguous steel hull structure must meet §54.25–10 for that minimum temperature.

(c) If a steel grade that is not listed in Table 1 has the equivalent chemical properties, mechanical properties, and heat treatment of a steel grade that is listed, the steel grade not listed may be specially approved by the Commandant (G–MSO), for use in the contiguous hull structure.

Table 1—MINIMUM TEMPERATURE, THICKNESS, AND STEEL GRADES IN CONTIGUOUS HULL STRUCTURES

Minimum temperature	Steel thickness	Steel[1] grade
0°C (32°F)	All	Standards of the American Bureau of Shipping published in ''Rules for Building and Classing Steel Vessels'', 1981
−10°C (14°F)	T≤112.5 mm (½ in.).	B
	12.5< t≤25.5 mm (1 in.).	D
	t;gt;25.5 mm (1 in.)	E
−25°C (−13°F).	t≤112.5 mm (½ in.)	D
	t>12.5 mm (½ in.)	E

[1] Steel grade of the American Bureau of Shipping published in ''Rules for Building and Classing Steel Vessels'', 1981.

[CGD 74–289, 44 FR 26009, May 3, 1979, as amended by CGD 82–063b, 48 FR 4782, Feb. 3, 1983; CGD 77–069, 52 FR 31630, Aug. 21, 1987]

§ 154.174 Transverse contiguous hull structure.

(a) The transverse contiguous hull structure of a vessel having cargo containment systems without secondary barriers must meet the standards of the American Bureau of Shipping published in ''Rules for Building and Classing Steel Vessels'', 1981.

(b) The transverse contiguous hull structure of a vessel having cargo containment systems with secondary barriers must be designed for a temperature that is:

(1) Colder than the calculated temperature of this hull structure when:

(i) The temperature of the secondary barrier is the design temperature, and

(ii) The ambient cold condition under §154.176(b)(1)(ii) and (iii) are assumed; or

(2) Maintained by the heating system under §154.178.

[CGD 74–289, 44 FR 26009, May 3, 1979, as amended by CGD 77–069, 52 FR 31630, Aug. 21, 1987]

§ 154.176 Longitudinal contiguous hull structure.

(a) The longitudinal contiguous hull structure of a vessel having cargo containment systems without secondary