[English]

Length of ship (feet)	Freeboard increase [1] (inches)
370	2.6
380	2.9
390	3.3
400	3.7
410	4.2
420	4.7
430	5.2
440	5.8
450	6.4
460	7.0
470	7.6
480	8.2
490	8.7
500	9.2
510	9.6
520	10.0
530	10.4
540	10.7
550	11.0
560	11.4
570	11.8
580	12.1
590	12.5
600	12.8
610	13.1
620	13.4
630	13.6
640	13.9
650	14.1
[3]660	14.3

[1] Freeboards at intermediate lengths of ship be obtained by linear interpolation.
[2] 350 and below.
[3] Ships above 660 feet in length are subject to individual determination by the Commandant.

(c) Any Type ''B'' vessel that is greater than 100 meters (328 feet) in length and any hopper dredge meeting the requirements in Subpart C of Part 44 of this chapter may have a reduced freeboard from that assigned under Table 42.20–15(b)(1) in accordance with paragraph (d) or paragraph (e) of this section if—

(1) The measures provided for the protection of the crew are adequate;

(2) The freeing arrangements are adequate; and

(3) The hatchway covers in positions 1 and 2 comply with the provisions of § 42.15–30 and have adequate strength, special care being given to their sealing and securing arrangements.

(d) The freeboards for a Type ''B'' vessel which comply with paragraph (c) of this section may be reduced up to 60 percent of the total difference between the freeboards in Table 42.20–15(b)(1) and Table 42.20–15(a)(1) provided that the vessel meets the flooding standard in § 42.20–7.

(e) The freeboards for a Type ''B'' vessel which complies with paragraph (c) of this section may be reduced up to the total difference between the freeboard tables referenced in paragraph (d) of this section provided that the vessel meets the flooding standard in § 42.20–8 and the provisions of § 42.15–80 (a), (b) and (d) as if it were a Type ''A'' vessel.

[CGD 79–153, 48 FR 38647, Aug. 25, 1983, as amended by CGD 76–080, 54 FR 36976, Sept. 6, 1989]

§ 42.20–6 Flooding standard: Type "A" vessels.

(a) Design calculations must be submitted that demonstrate that the vessel will remain afloat in the conditions of equilibrium specified in § 42.20–12 assuming the damage specified in § 42.20–11 as applied to the following flooding standards:

(1) If the vessel is over 150 meters (492 feet) in length it must be able to withstand the flooding of any one compartment, except the machinery space.

(2) If the vessel is over 225 meters (738 feet) in length, it must be able to withstand the flooding of any one compartment, treating the machinery space as a floodable compartment.

(b) When doing the calculations required in paragraph (a) of this section, the following permeabilities must be assumed:

(1) 0.95 in all locations except the machinery space.

(2) 0.85 in the machinery space.

[CGD 79–153, 48 FR 38648, Aug. 25, 1983]

§ 42.20–7 Flooding standard: Type "B" vessel, 60 percent reduction.

(a) Design calculations must be submitted that demonstrate that the vessel will remain afloat in the conditions of equilibrium specified in § 42.20–12 assuming the damage specified in § 42.20–11 as applied to the following flooding standards:

(1) If the vessel is 225 meters (738 feet) or less in length, it must be able to withstand the flooding of any one compartment, except the machinery space.

(2) If the vessel is over 225 meters (738 feet) in length, it must be able to withstand the flooding of any one compartment, treating the machinery space as a floodable compartment.

(b) When doing the calculations required in paragraph (a) of this section,

the following permeabilities must be assumed:

(1) 0.95 in all locations except the machinery space.

(2) 0.85 in the machinery space.

[CGD 79–153, 48 FR 38648, Aug. 25, 1983]

§ 42.20–8 Flooding standard: Type "B" vessel, 100 percent reduction.

(a) Design calculations must be submitted that demonstrate that the vessel will remain afloat in the conditions of equilibrium specified in § 42.20–12 assuming the damage specified in § 42.20–11 as applied to the following flooding standards:

(1) If the vessel is 225 meters (738 feet) or less in length, it must be able to withstand the flooding of any two adjacent fore and after compartments excluding the machinery space;

(2) If the vessel is over 225 meters (738 feet) in length, the flooding standard of paragraph (a)(1) of this section must be applied, treating the machinery space, taken alone, as a floodable compartment.

(b) When doing the calculations required in paragraph (a) of this section, the following permeabilities must be assumed:

(1) 0.95 in all locations except the machinery space.

(2) 0.85 in the machinery space.

[CGD 79–153, 48 FR 38648, Aug. 25, 1983]

§ 42.20–9 Initial conditions of loading.

When doing the calculations required in §§ 42.20–6(a), 42.20–7(a) and 42.20–8(a), the initial condition of loading before flooding must be assumed to be as specified in this section:

(a) The vessel is assumed to be loaded to its summer load waterline with no trim.

(b) When calculating the vertical center of gravity, the following assumptions apply:

(1) The cargo is assumed to be homogeneous.

(2) Except as specified in paragraph (b)(3) of this section, all cargo compartments are assumed to be fully loaded. This includes compartments intended to be only partially filled. In the case of liquid cargoes, fully loaded means 98 percent full.

(3) If the vessel is intended to operate at its summer load waterline with empty compartments, these empty compartments are assumed to be empty rather than fully loaded if the resulting height of the vertical center of gravity is not less than the height determined in accordance with paragraph (b)(2) of this section.

(4) Fifty percent of the total capacity of all tanks and spaces fitted to contain consumable liquids or stores must be assumed to be distributed to accomplish the following:

(i) Each tank and space fitted to contain consumable liquids or stores must be assumed either completely empty or completely filled.

(ii) The consumables must be distributed so as to produce the greatest possible height above the keel for the center of gravity.

(5) Weights are calculated using the following values for specific gravities:

Salt water—1.025
Fresh water—1.000
Oil fuel—0.950
Diesel oil—0.900
Lube oil—0.900

[CGD 79–153, 48 FR 38648, Aug. 25, 1983]

§ 42.20–10 Free surface.

When doing the calculations required in §§ 42.20–6(a), 42.20–7(a) and 42.20–8(a), the effect of free surface of the following liquids must be included:

(a) For each type of consumable liquid, the maximum free surface of at least one transverse pair of tanks or a single centerline tank must be included. The tank or combination of tanks must be that resulting in the greatest free surface effect.

(b) For cargo liquids, unless the compartment is assumed to be empty as required by § 42.20–9(b)(3), the free surface of those compartments containing liquids is calculated at an angle of heel of not more than 5 degrees.

[CGD 79–153, 48 FR 38649, Aug. 25, 1983]

§ 42.20–11 Extent of damage.

When doing the calculations required by §§ 42.20–6(a), 42.20–7(a) and 42.20–8(a), the following must be assumed:

(a) The vertical extent of damage in all cases must be assumed to be from the baseline upward without limit.