

§ 171.070

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(b) For a vessel less than 300 feet (91 meters) in length, the Commanding Officer, Marine Safety Center may approve the separation of main transverse watertight bulkheads greater than that permitted by paragraph (a) of this section if—

(1) The shorter separation is impracticable; and

(2) The separation is the smallest that is practicable.

(c) In the case of ships less than 180 feet (55 meters) in length, the Commanding Officer, Marine Safety Center may approve a further relaxation in the bulkhead spacing. However, in no case may the separation be large enough to prevent the vessel from complying with the flooding requirements for Type II subdivision in §171.070.

TABLE 171.068—TABLE OF UNIFORM AVERAGE PERMEABILITIES

Location	Uniform average permeability
Machinery Space	$10 \frac{(a - c)}{v}$ 85+
Volume Forward of Machinery Space	$35 \frac{(b)}{v}$ 95 -
Volume Aft of Machinery Space	$35 \frac{(b)}{v}$ 95 -

For each location specified in this table—
a=volume below the margin line of all spaces that, in the full load condition, normally contain no cargo, baggage, stores, provisions, or mail.

b=volume below the margin line and above the tops of floors, inner bottoms, or peak tanks of coal or oil fuel bunkers, chain lockers, fresh water tanks, and of all spaces that, in the full load condition, normally contain stores, baggage, mail, cargo, or provisions. If cargo holds are not occupied by cargo, no part of the cargo space is to be included in this volume.

c=volume below the margin line of the cargo, stores, provisions, or mail spaces within the limits of the machinery space.
v=total volume below the margin line.

[CGD 79-023, 48 FR 51017, Nov. 4, 1983, as amended by CGD 88-070, 53 FR 34537, Sept. 7, 1988]

§ 171.070 Subdivision requirements—Type II.

(a) Each vessel, except a ferry vessel, must be designed so that, while in each condition of loading and operation, it complies with the standard of flooding specified in Table 171.070(a).

(b) Except as provided in paragraph (c), each ferry vessel must be designed so that, while in each condition of loading and operation, it meets the

standard of flooding specified in Table 171.070(b).

(c) A ferry vessel described in paragraph (d) of this section need not meet the standard of flooding specified in Table 171.070(b), except that a ferry vessel in Great Lakes service must at least have a collision bulkhead.

(d) Paragraph (c) of this section applies to a ferry vessel that—

(1) Is 150 feet (46 meters) or less in length; and

(2) Has sufficient air tankage, or other internal buoyancy to float the vessel with no part of the margin line submerged when the vessel is completely flooded. If foam is used to comply with this paragraph, it must be installed in accordance with the requirements in §170.245 of this subchapter.

(e) Except as specified in paragraph (f) of this section, each main transverse watertight bulkhead must be spaced as follows:

(1) Unless otherwise permitted, if the LBP of the vessel is 143 feet (43.5 meters) or more, or the vessel makes international voyages, each main transverse watertight bulkhead must be at least 10 feet (3 meters) plus 3 percent of the vessel's LBP from—

(i) Every other main transverse watertight bulkhead;

(ii) The collision bulkhead; and

(iii) The aftermost point on the bulkhead deck.

(2) If the LBP of the vessel is less than 143 feet (43.5 meters) and the vessel does not make international voyages, each main transverse watertight bulkhead must be no less than 10 percent of the vessel's LBP or 6 feet (1.8 meters), whichever is greater, from—

(i) Every other main transverse watertight bulkhead;

(ii) The collision bulkhead; and

(iii) The aftermost point on the bulkhead deck.

(f) If a vessel is required by §171.060 to have a collision bulkhead in each end of the vessel, then each main transverse watertight bulkhead must be no less than the distance specified in paragraph (e) of this section from—

(1) Every other main transverse watertight bulkhead; and

(2) Each collision bulkhead.

TABLE 171.070(a)—STANDARD OF FLOODING

Passengers carried	Part of vessel	Standard of flooding (compartments)
400 or less	All	1
401 to 600	All of the vessel forward of the first MTWB aft of the collision bulkhead..	2
	All remaining portions of the vessel.	1
601 to 800	All of the vessel forward of the first MTWB that is aft of a point 40% of the vessel's LBP aft of the forward perpendicular.	2
	All remaining portions of the vessel.	1
801 to 1000	All of the vessel forward of the first MTWB that is aft of a point 60% of the vessel's LBP aft of the forward perpendicular..	2
	All remaining portions of the vessel.	1
More than 1000	All	2

Where for this table—
 "MTWB" means main transverse watertight bulkhead; and
 "Standard of Flooding" is explained in §171.017 of this subchapter.

TABLE 171.070(b)—STANDARD OF FLOODING FOR FERRY VESSELS

Vessel length	Part of vessel	Standard of flooding (compartments)
150 feet (46 meters) or less.	All	1
Greater than 150 feet (46 meters) and less than or equal to 200 feet (61 meters).	All of the vessel forward of the first MTWB aft of the collision bulkhead.	2
	All of the vessel aft of the first MTWB forward of the aft peak bulkhead.	2
	All remaining portions of the vessel.	1
Greater than 200 feet (61 meters).	All	2

Where for this table—
 "MTWB" means main transverse watertight bulkhead; and
 "Standard of Flooding" is explained in §171.017 of this subchapter.

[CGD 79-023, 48 FR 51017, Nov. 4, 1983, as amended by USCG-2007-0030, 75 FR 78085, Dec. 14, 2010]

§ 171.072 Calculation of permeability for Type II subdivision.

When doing calculations to show compliance with §171.070, the following uniform average permeabilities must be assumed:

- (a) 85 percent in the machinery space.
- (b) 60 percent in the following spaces:
 - (1) Tanks that are normally filled when the vessel is in the full load condition.
 - (2) Chain lockers.
 - (3) Cargo spaces.
 - (4) Stores spaces.
 - (5) Mail or baggage spaces.
- (c) 95 percent in all other spaces.

§ 171.073 Treatment of stepped and recessed bulkheads in Type II subdivision.

(a) A main transverse watertight bulkhead may not be stepped unless additional watertight bulkheads are located as shown in Figure 171.067(a) so that the distances A, B, C, and D illustrated in Figure 171.067(a) comply with the following:

- (1) A and B must not exceed the maximum bulkhead spacing that permits compliance with §171.070; and
- (2) C and D must not be less than the minimum spacing specified in §171.070(e).

(b) A main transverse watertight bulkhead may not be recessed unless all parts of the recess are inboard from the shell of the vessel as illustrated in Figure 171.067(c).

(c) If a main transverse watertight bulkhead is recessed or stepped, an equivalent plane bulkhead must be used in the calculations required by §171.070.

§ 171.075 [Reserved]

§ 171.080 Damage stability standards for vessels with Type I or Type II subdivision.

(a) *Calculations.* Each vessel with Type I or Type II subdivision must be shown by design calculations to meet the survival conditions in paragraph (e), (f), or (g) of this section in each condition of loading and operation assuming the extent and character of damage specified in paragraph (b) of this section.