

TABLE 171.080(a)—EXTENT AND CHARACTER OF DAMAGE—Continued

Vessel designator <sup>1</sup>	Longitudinal penetration <sup>2</sup>	Transverse penetration <sup>3,4</sup>	Vertical penetration	Character of Damage
W .....	20 feet (6.1 meters) plus 0.04L ....	B/5 .....	From the baseline upward without limit.	Assumes damage to at least two main transverse watertight bulkheads.

(<sup>1</sup>) W, X, Y, and Z are determined from Table 171.080(b).  
 (<sup>2</sup>) L=LBP of the vessel in feet (meters).  
 (<sup>3</sup>) B=the beam of the vessel in feet (meters) measured at or below the deepest subdivision load line as defined in 171.010(a) except that, when doing calculations for a vessel that operates only on inland waters or a ferry vessel, B may be taken as the mean of the maximum beam on the bulkhead deck and the maximum beam at the deepest subdivision load line.  
 (<sup>4</sup>) The transverse penetration is applied inboard from the side of the vessel, at right angles to the centerline, at the level of the deepest subdivision load line.  
 (<sup>5</sup>) .1L or 6 feet (1.8 meters) whichever is greater for vessels described in § 171.070(e)(2).

TABLE 171.080(b)

Vessel category	Vessel designator
Vessels with type I subdivision and a factor of subdivision as determined from § 171.065 (a) or (b) of 0.33 or less.	W.
Vessels with type I subdivision and a factor of subdivision as determined from § 171.065 (a) or (b) greater than 0.33 and less than or equal to 0.50.	X.
Vessels with Type II subdivision that are required to meet a two compartment standard of flooding.	Y.
All other vessels .....	Z.

(d) Section 56.50–57 of this chapter contains additional requirements on bilge pumping and piping systems.

**Subpart D—Additional Subdivision Requirements**

**§ 171.085 Collision bulkhead.**

(a) Paragraphs (b) through (g) of this section apply to each vessel of 100 gross tons or more and paragraphs (h) through (j) of this section apply to each vessel that is less than 100 gross tons.

(b) The portion of the collision bulkhead that is below the bulkhead deck must be watertight.

(c) Each portion of the collision bulkhead must be at least—

(1) 5 percent of the LBP from the forward perpendicular in a motor vessel; and

(2) 5 feet (1.52 meters) from the forward perpendicular in a steam vessel.

(d) The collision bulkhead must be no more than 10 feet (3 meters) plus 5 percent of the LBP from the forward perpendicular.

(e) The collision bulkhead must extend to the deck above the bulkhead deck if the vessel—

(1) Is in ocean service; and

(2) Has a superstructure that extends from a point forward of the collision bulkhead to a point at least 15 percent of the LBP aft of the collision bulkhead.

(f) The collision bulkhead required by paragraph (e) of this section must have the following characteristics:

(1) The portion of the collision bulkhead above the bulkhead deck must be weathertight.

(2) If the portion of the collision bulkhead above the bulkhead deck is

TABLE 171.080(c)—PERMEABILITY

Spaces and tanks	Permeability (percent)
Cargo, coal, stores .....	60.
Accommodations .....	95.
Machinery .....	85.
Tanks .....	o or 95. <sup>1</sup>

<sup>1</sup> Whichever value results in the more disabling condition.

[CGD 79–023, 48 FR 51017, Nov. 4, 1983, as amended by CGD 88–070, 53 FR 34537, Sept. 7, 1988; CGD 89–037, 57 FR 41826, Sept. 11, 1992; CGD 94–010, 60 FR 53713, Oct. 17, 1995; CGD 97–057, 62 FR 51049, Sept. 30, 1997]

**§ 171.082 Damage stability standards for vessels with Type III subdivision.**

(a) Each vessel must be shown by design calculations to comply with the requirements of Regulations 1 and 5 of the Annex to Resolution A.265 (VIII) of the International Maritime Organization (IMO).

(b) International Maritime Organization Resolution A.265 (VIII) is incorporated by reference into this part.

(c) As used in IMO Resolution A.265 (VIII), “Administration” means the Commandant, U.S. Coast Guard.

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not located directly above the collision bulkhead below the bulkhead deck, then the bulkhead deck between must be weathertight.

(g) Each opening in the collision bulkhead must—

(1) Be located above the bulkhead deck; and

(2) Have a watertight closure.

(h) Each collision bulkhead—

(1) Must extend to the deck above the bulkhead deck if in ocean service as defined in §170.050(f) of this chapter or to the bulkhead deck if in service on other waters;

(2) May not have watertight doors in it; and

(3) May have penetrations and openings that—

(i) Are located as high and as far inboard as practicable; and

(ii) Except as provided in paragraph (i) of this section, have means to make them watertight.

(i) Each vessel that is not required to comply with a one or two compartment standard of flooding may have an opening that cannot be made watertight in the collision bulkhead below the bulkhead deck if—

(1) The lowest edge of the opening is not more than 12 inches (30.5 centimeters) below the bulkhead deck; and

(2) There are at least 36 inches (92 centimeters) of intact collision bulkhead below the lower edge of the opening.

(j) Each portion of the collision bulkhead must be—

(1) At least 5 percent of the LBP from the forward perpendicular; and

(2) No more than 15 percent of the LBP from the forward perpendicular if the space forward of the collision bulkhead is not subject to damage stability requirements and at any location aft of the location described in paragraph (j)(1) of this section if the space forward of the collision bulkhead is subject to damage stability requirements.

[CGD 79-023, 48 FR 51017, Nov. 4, 1983, as amended by CGD 85-080, 61 FR 945, Jan. 10, 1996]

**§ 171.090 Aft peak bulkhead.**

(a) Each of the following vessels must have an aft peak bulkhead:

(1) Each vessel 100 gross tons or more on an international voyage.

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(2) Each other vessel of more than 150 gross tons.

(b) Except as specified in paragraph (c) of this section, each portion of the aft peak bulkhead below the bulkhead deck must be watertight.

(c) A vessel may have an aft peak bulkhead that does not intersect the bulkhead deck if approved by the Commanding Officer, Marine Safety Center.

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

**§ 171.095 Machinery space bulkhead.**

(a) This section applies to each vessel of 100 gross tons or more.

(b) Except as provided in paragraph (c) of this section, a vessel required to have Type I or II subdivision must have enough main transverse watertight bulkheads to separate the machinery space from the remainder of the vessel. All portions of these bulkheads must be watertight below the bulkhead deck.

(c) Compliance with paragraph (b) of this section is not required if the vessel has sufficient air tanks or other internal buoyancy to maintain the vessel afloat while in the full load condition when all compartments and all other tanks are 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.

**§ 171.100 Shaft tunnels and stern tubes.**

(a) Stern tubes in each of the following vessels must be enclosed in watertight spaces:

(1) Each vessel of 100 gross tons or more on an international voyage.

(2) Each other vessel over 150 gross tons in ocean or Great Lakes service.

(3) Each vessel under 100 gross tons that carries more than 12 passengers on an international voyage.

(b) The watertight seal in the bulkhead between the stern tube space and the machinery space must be located in a watertight shaft tunnel. The vessel must be designed so that the margin line will not be submerged when the watertight shaft tunnel is flooded.

(c) If a vessel has two or more shaft tunnels, they must be connected by a watertight passageway.