

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.

(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.

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(d) If a vessel has two or less shaft tunnels, only one door is permitted between them and the machinery space. If a vessel has more than two shaft tunnels, only two doors are permitted between them and the machinery space.

**§ 171.105 Double bottoms.**

(a) This section applies to each vessel that carries more than 12 passengers on an international voyage and all other vessels that are—

- (1) 100 gross tons or more; and
- (2) In ocean or Great Lakes service.

(b) Each vessel over 165 feet (50 meters) and under 200 feet (61 meters) in LBP must have a double bottom that extends from the forward end of the machinery space to the fore peak bulkhead.

(c) Each vessel over 200 feet (61 meters) and under 249 feet (76 meters) in LBP must have a double bottom that extends from the fore peak bulkhead to the forward end of the machinery space

and a double bottom that extends from the aft peak bulkhead to the aft end of the machinery space.

(d) Each vessel 249 feet (76 meters) in LBP and upward must have a double bottom that extends from the fore to the aft peak bulkhead.

(e) Each double bottom required by this section must be at least the depth at the centerline given by the following equation:

$$D=18.0+0.05(L) \text{ inches}$$

$$D=45.7+0.417(L) \text{ centimeters}$$

where—

D=the depth at the centerline in inches (centimeters).

L=LBP in feet (meters).

(f) The line formed by the intersection of the margin plate and the bilge plating must be above the horizontal plane C, illustrated in Figure 171.105, at all points. The horizontal plane C is defined by point B, located, as shown in Figure 171.105, in the midships section.