

### 3 Arrangement of Watertight Bulkheads

#### 3.1 Collision Bulkhead

##### 3.1.1 General

A collision bulkhead is to be fitted on all vessels. It is to be intact, that is, without openings except as permitted in 4-6-2/9.7.3. It is to extend, preferably in one plane, to the freeboard deck. In the case of vessels having long superstructures at the fore end, it is to be extended weathertight to the superstructure deck. The extension need not be fitted directly over the bulkhead below, provided that the location of the extension meets the following requirements and the part of the deck which forms the step is made effectively weathertight.

On vessels with bow-doors, that part of their sloping loading ramps that form part of the extension of a collision bulkhead, and are more than 2.3 m (7.5 ft) above the freeboard deck, may extend forward of the limit below. See 3-2-9/Figure 1.

##### 3.1.2 Location in Passenger Vessels

See subparagraph 2/11.5.2 of the *ABS Guide for Building and Classing Passenger Vessels*.

##### 3.1.3 Location in All Other Vessels

In vessels other than passenger vessels, the collision bulkhead is to be located at any point not less than  $0.05L_r$  or 10 m (32.8 ft), whichever is less, abaft the reference point. At no point on any vessel, except as specially permitted, is it to be further than  $0.08L_r$  from the reference point.

##### 3.1.4 Definitions

The reference point in determining the location of the collision bulkhead is the forward end of  $L_r$ , except that in the case of vessels having any part of the underwater body, such as bulbous bow, extending forward of the forward end of  $L_r$ , the required distances are to be measured from a reference point located a distance forward of the forward end of  $L_r$ . This distance  $x$  is the least of the following:

- i) Half the distance between the forward end of  $L_r$  and the extreme forward end of the extension,  $p/2$
- ii)  $0.015L_r$  or
- iii) 3 m (9.84 ft). See 3-2-9/Figure 2.

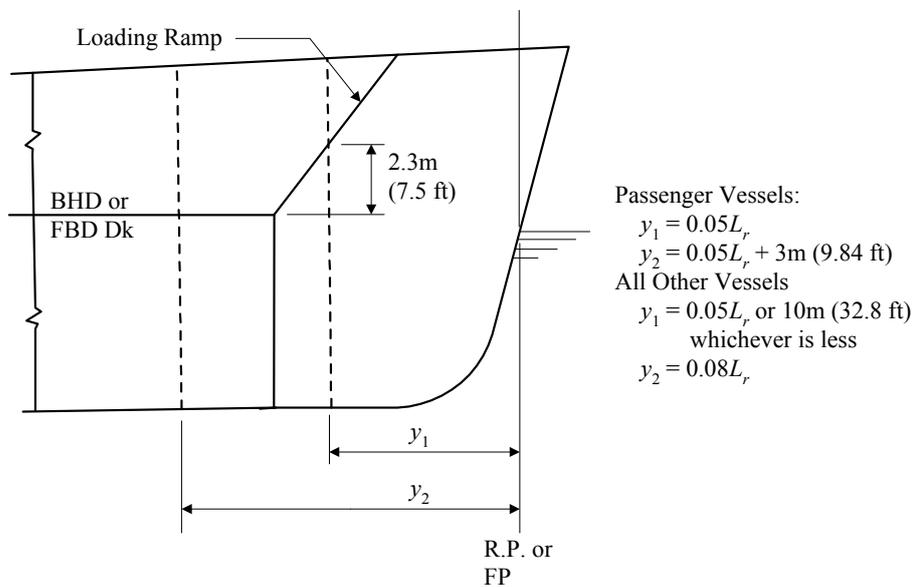
$L_r$  = (for passenger vessels) length between perpendiculars at the deepest subdivision load line. The forward end of  $L_r$  is to coincide with the fore side of stem on the waterline on which  $L_r$  is measured.

$L_r$  = (for other vessels)  $L_f$  as defined in 3-1-1/3.3.

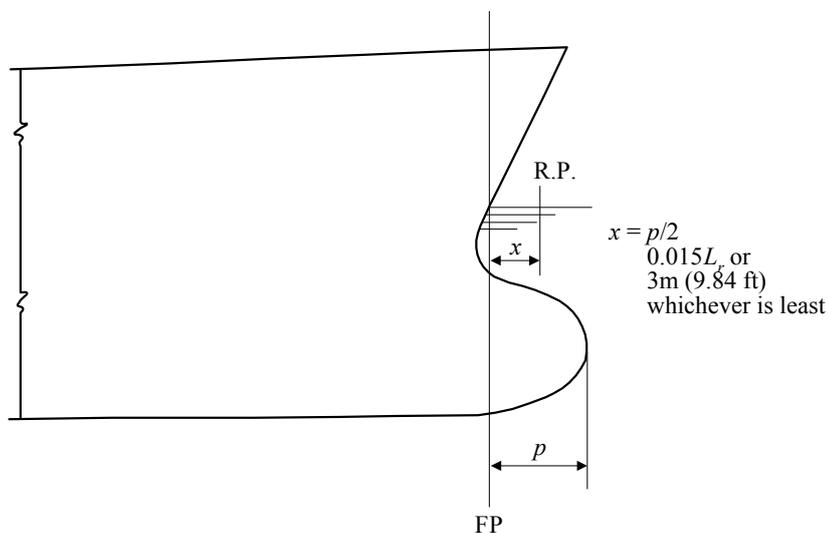
#### 3.3 After-peak Bulkhead

An after-peak bulkhead is to be fitted in all screw vessels arranged to enclose the shaft tubes in a watertight compartment. The bulkhead is to extend to the strength deck, or efficient partial bulkheads are to extend thereto. The requirements of enclosing the shaft tube in a watertight compartment may be specially considered where such an arrangement is impracticable.

**FIGURE 1**  
**Collision Bulkhead in Vessels with Bow Door**



**FIGURE 2**  
**Reference Point for Vessels with Bulbous Bow**



### 3.5 Machinery Spaces

Machinery spaces are to be enclosed by watertight bulkheads which extend to the freeboard deck. In those cases where the length of the machinery space is unusually large in association with a small freeboard, the attention of designers is called to the desirability of extending the bulkheads to a deck above the freeboard deck, the fitting of an intermediate bulkhead, or the inclusion of a watertight deck over the machinery space which, in association with tight casings, might confine the amount of flooding in the event of damage in way of the machinery space. See 3-3-1/3.3.