

distances stipulated in subclause (1) of this clause shall be measured from a point either:

- (a) at the mid-length of such extension; or
- (b) at a distance 1.5 percent of the length of the ship forward of the forward perpendicular; or
- (c) at a distance 3m forward of the forward perpendicular; whichever gives the smallest measurement.

(3) The bulkhead may have steps or recesses provided they are within the limits prescribed in subclause (1) or (2) of this clause.

(4) Where a long forward superstructure is fitted the collision bulkhead shall be extended weathertight to the deck next above the freeboard deck. The extension need not be fitted directly above the bulkhead below provided it is located within the limits prescribed in subclause (1) or (2) of this clause with the exemption permitted by subclause (5) of this clause, and the part of the deck which forms the step is made watertight.

(5) Where bow doors are fitted and a sloping loading ramp forms part of the extension of the collision bulkhead above the freeboard deck the part of the ramp which is more than 2.3m above the freeboard deck may extend forward of the limit specified in subclause (1) or (2) of this clause. The ramp shall be watertight over its complete length.

(6) Every ship to which this Code applies and which carries more than 50 passengers shall be fitted with the number of watertight bulkheads as are required to provide one compartment subdivision, i.e. so that the fully loaded ship shall remain afloat with positive stability with any one main compartment flooded. In determining the floodable length of compartments the following permeabilities shall be assumed.

Machinery spaces	85%
Cargo spaces and stores	60%
Other spaces	95%

(7) Every ship of 15m in length or over to which this Code applies shall be fitted with an afterpeak bulkhead and bulkheads separating the machinery space from any cargo and passenger spaces forward and aft. These bulkheads shall be made watertight up to the bulkhead deck.

(8) Every ship of less than 15m length shall be provided with such watertight bulkheads or approved internal buoyancy as the Chief Surveyor considers necessary for the safety of the ship and persons on board.

**5. Construction and Initial testing of Watertight Bulkheads, etc—**(1) Each watertight subdivision bulkhead, whether transverse or longitudinal, shall be constructed in such a manner that it shall be capable of supporting, with a proper margin of resistance, the pressure due to the maximum head of water which it might have to sustain in the event of damage to the ship. The construction of these bulkheads shall be to the satisfaction of the Chief Surveyor.

(2) Steps and recesses in bulkheads shall be watertight and as strong as the bulkhead at the place where each occurs.

(3) Where frames or beams pass through a watertight deck or bulkhead, such deck or bulkhead shall be made watertight without the use of wood or cement.

(4) Watertight decks, trunks, tunnels, duct keels and ventilators shall be of the same strength as watertight bulkheads at corresponding levels. Watertight ventilators and trunks shall be carried at least up to the freeboard deck.

(5) Main compartments may be tested for watertightness either by filling them with water or by a hose test. Such test shall be carried out in the most advanced stage practicable of the fitting out of the ship. In every case, a thorough inspection of the watertight bulkheads shall be carried out.

(6) The forepeak, double bottoms (including duct keels) and inner skins shall be tested with water to a head corresponding to the requirements of subclause (1) of this clause.

(7) Tanks which are intended to hold liquids, and which form

part of the subdivision of the ship, shall be tested for tightness with water to a head prescribed by the Chief Surveyor but in no case shall the test head be less than 900mm above the top of the tank.

(8) After completion, a hose or flooding test shall be applied to watertight decks and a hose test to watertight trunks, tunnels and ventilators.

(9) The tests referred to in subclauses (5) and (6) of this clause are for the purpose of ensuring that the subdivision structural arrangements are watertight and are not to be regarded as a test of the fitness of any compartment for the storage of oil fuel or for other special purposes for which a test of a superior character may be required.

**6. Openings in Watertight Bulkheads etc—**(1) The number of openings in bulkheads and other structures required by this Code to be watertight shall be the minimum compatible with the design and proper working of the ship.

(2) So far as practicable, trunks installed in connection with ventilation, forced draught, or refrigeration systems shall not pierce such bulkheads or structures.

(3) Not more than 1 doorway (other than a bunker or tunnel doorway) shall pierce a watertight bulkhead in the machinery space. If any such bulkhead is pierced by a doorway, the doorway shall be placed so as to have the sill as high as possible in the ship.

(4) Doorways, manholes, and access openings shall not be fitted in the collision bulkhead below the freeboard deck.

(5) The number of openings in the extension of the collision bulkhead above the freeboard deck shall be restricted to the minimum compatible with the design and normal operation of the ship. All such openings shall be capable of being closed weathertight.

(6) Notwithstanding anything in subclauses (3) and (4) of this clause the Chief Surveyor may permit a ship to be fitted with doorways, manholes, or access openings in watertight bulkheads if he is satisfied that:

(a) The doorways, manholes or access openings are necessary for the proper working of the ship; and

(b) The number of such doorways, manholes, or access openings in the ship is the minimum compatible with the design and proper working of the ship, and they are fitted at the highest level compatible with the working of the ship.

(7) In every ship to which this Code applies:

(a) Valves and cocks not forming part of a pipe system shall not be fitted in any bulkhead required by this Code to be watertight; and

(b) If any such bulkhead is pierced by pipes, scuppers, electric cables, or other similar fittings, provision shall be made which will ensure that the watertightness of the bulkhead is not thereby impaired; and

(c) Pipes piercing the collision bulkhead shall be fitted with valves operable from above the freeboard deck and the valve chest shall be secured at the bulkhead inside the forepeak. The valves may be fitted on the after side of the collision bulkhead provided that the valves are readily accessible under all service conditions and the space in which they are located is not a cargo space. All valves shall be of material and type approved by the Chief Surveyor. Provided also that in ships with a gross tonnage of less than 500 the Chief Surveyor may permit a watertight bulkhead to be pierced by a valve for draining into the compartment immediately adjacent to that bulkhead.

**7. Means of Closing Openings in Watertight Bulkheads—**Efficient means shall be provided for closing and making watertight all openings in bulkheads and other structures required by this Code to be watertight.

**8. Watertight Doors—**(1) In every ship to which this Code applies in which a watertight door is provided to maintain the watertight integrity of a bulkhead, every such watertight door