

forms part of the extension of the collision bulkhead above the bulkhead deck the part of the ramp which is more than 2.3m above the bulkhead deck may extend forward of the limit specified above. The ramp shall be weathertight over its complete length.

(5) An afterpeak bulkhead, and bulkheads dividing the machinery space, from the cargo and passenger spaces forward and aft, shall also be fitted and made watertight up to the bulkhead deck. The afterpeak bulkhead may, however, be stepped below the bulkhead deck, provided the degree of safety of the ship as regards the subdivision is not thereby diminished.

(6) In all cases stern tubes shall be enclosed in watertight spaces of moderate volume. The stern gland shall be situated in a watertight shaft tunnel or other watertight space separate from the stern tube compartment and of such volume that, if flooded by leakage through the stern gland, the margin line will not be submerged.

10. Double Bottoms—(1) A double bottom shall be fitted extending from the forepeak bulkhead to the afterpeak bulkhead as far as this is practicable and compatible with the design and proper working of the ship.

(a) In ships of 50m and upwards but less than 61m in length a double bottom shall be fitted at least from the machinery space to the forepeak bulkhead, or as near thereto as practicable.

(b) In ships of 61m and upwards but less than 76m in length a double bottom shall be fitted at least outside the machinery space, and shall extend to the fore and after peak bulkheads, or as near thereto as practicable.

(c) In ships of 76m in length and upwards, a double bottom shall be fitted amidships, and shall extend to the fore and after peak bulkheads, or as near thereto as practicable.

(2) Where a double bottom is required to be fitted its depth shall be to the satisfaction of the Chief Surveyor and the inner bottom shall be continued out to the ship's sides in such a manner as to protect the bottom to the turn of the bilge. Such protection will be deemed satisfactory if the line of intersection of the outer edge of the margin plate with the bilge plating is not lower at any part than a horizontal plane passing through the point of intersection with the frame line amidships of a transverse diagonal line inclined at 25° to the base line and cutting it at a point one-half the ship's moulded breadth from the middle line.

(3) Small wells constructed in the double bottom in connection with drainage arrangements of holds and other spaces, shall not extend downwards more than necessary. The depth of the well shall in no case be more than the depth less 460mm of the double bottom at the centreline, nor shall the well extend below the horizontal plane referred to in sub-clause (2) of this clause. A well extending to the outer bottom is, however, permitted at the after end of the shaft tunnel. Other wells (e.g., for lubricating oil under main engines) may be permitted by the Chief Surveyor if satisfied that the arrangements give protection equivalent to that afforded by a double bottom complying with this clause.

(4) A double bottom need not be fitted in way of watertight compartments of moderate size used exclusively for the carriage of liquids, provided the safety of the ship, in the event of bottom or side damage, is not, in the opinion of the Chief Surveyor thereby impaired.

11. 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 but at least the pressure due to a head of water up to the margin line. 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 structurally watertight without the use of wood or cement.

(4) Testing main compartments by filling them with water is not compulsory. When testing by filling with water is not carried out, a hose test is compulsory; this test shall be carried out in the most advanced stage of the fitting out of the ship. In any case, a thorough inspection of the watertight bulkheads shall be carried out.

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

(6) 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 up to the deepest subdivision load line or to a head corresponding to two-thirds of the depth from the top of keel to the margin line in way of the tanks, whichever is the greater; provided that in no case shall the test head be less than 0.9m above the top of the tank.

(7) The tests referred to in sub-clauses (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 depending on the height to which the liquid has access in the tank or its connections.

12. Openings in Watertight Bulkheads—(1) The number of openings in watertight bulkheads shall be reduced to the minimum compatible with the design and proper working of the ship; satisfactory means shall be provided for closing these openings.

(2) Where pipes, scuppers, electric cables or other similar fittings are carried through watertight subdivision bulkheads, arrangements shall be made to ensure the watertight integrity of the bulkheads.

(3) Valves not forming part of a piping system shall not be permitted in watertight subdivision bulkheads.

(4) Lead or other heat sensitive materials shall not be used in systems which penetrate watertight subdivision bulkheads, where deterioration of such systems in the event of fire would impair the watertight integrity of the bulkheads.

(5) No doors, manholes, or access openings are permitted:

(a) in the collision bulkhead below the margin line;

(b) in watertight transverse bulkheads dividing a cargo space from an adjoining cargo space or from a permanent or reserve bunker, except as provided in sub-clause (25) of this clause and in clause 13 of this Code.

(6) Except as provided in sub-clause (7) of this clause the collision bulkhead may be pierced below the margin line by not more than one pipe for dealing with fluid in the forepeak tank, provided that the pipe is fitted with a screwdown valve capable of being operated from above the bulkhead deck, the valve chest being secured inside the forepeak to the collision bulkhead.

(7) If the forepeak is divided to hold two different kinds of liquids the Chief Surveyor may allow the collision bulkhead to be pierced below the margin line by two pipes, each of which is fitted as required by sub-clause (6) of this clause provided the Chief Surveyor is satisfied there is no practical alternative to the fitting of such a second pipe and that, having regard to the additional subdivision provided in the forepeak, the safety of the ship is maintained.

(8) Watertight doors fitted in bulkheads between permanent and reserve bunkers shall be always accessible, except as