

line shall be of sufficient strength. They shall be capable of being effectively closed and secured watertight.

(16) Such ports shall in no case be so fitted as to have their lowest point below the deepest subdivision load line.

(17) The inboard opening of each ash-chute, rubbish-chute, etc shall be fitted with an efficient cover.

(18) If the inboard opening is situated below the margin line, the cover shall be watertight, and in addition an automatic nonreturn valve shall be fitted in the chute in an easily accessible position above the deepest subdivision load line. When the chute is not in use both the cover and the valve shall be kept closed and secured.

**15. Watertight Integrity Above the Margin Line—**(1) The Chief Surveyor may require that all reasonable and practicable measures shall be taken to limit the entry and spread of water above the bulkhead deck. Such measures may include partial bulkheads or webs. When partial watertight bulkheads or webs are fitted on the bulkhead deck, above or in the immediate vicinity of main subdivision bulkheads, they shall have watertight shell and bulkhead deck connections so as to restrict the flow of water along the deck when the ship is in a heeled damaged condition. Where the partial watertight bulkhead does not line up with the bulkhead below, the bulkhead deck between shall be made effectively watertight.

(2) The bulkhead deck or a deck above it shall be weathertight. All openings in the exposed weather deck shall have coamings of ample height and strength and shall be provided with efficient means for expeditiously closing them weathertight. Freeing ports, open rails and scuppers shall be fitted as necessary for rapidly clearing the weather deck of water under all weather conditions.

(3) Sidescuttles, gangway, cargo and coaling ports and other means for closing openings in the shell plating above the margin line shall be of efficient design and construction and of sufficient strength having regard to the spaces in which they are fitted and their positions relative to the deepest subdivision load line.

(4) Efficient inside deadlights, so arranged that they can be easily and effectively closed and secured watertight, shall be provided for all sidescuttles to spaces below the first deck above the bulkhead deck.

**16. Integrity of the Hull and Superstructure, Damage Prevention and Control—**(1) Every passenger ship with ro-ro cargo spaces or special category spaces shall be provided with indicators on the navigating bridge for all shell doors, loading doors and other closing appliances which, if left open or not properly secured could, in the opinion of the Chief Surveyor, lead to major flooding of a special category space or ro-ro cargo space. The indicator system shall be designed on the fail safe principle and shall show if the door is not fully closed or not secured. The power supply for the indicator system shall be independent of the power supply for operating and securing the doors.

(2) Means shall be arranged, such as television surveillance or a water leakage detection system, to provide an indication to the navigating bridge of any leakage through bow doors, stern doors or any other cargo or vehicle loading doors which could lead to major flooding of special category spaces or ro-ro spaces.

(3) Special category spaces and ro-ro cargo spaces shall either be patrolled or monitored by effective means, such as television surveillance, so that movement of vehicles in adverse weather and unauthorised access by passengers can be observed whilst the ship is underway.

**17. Construction and Initial Tests of Watertight Doors, Sidescuttles etc.—**(1) The design, materials and construction of all watertight doors, sidescuttles, gangway, cargo and coaling ports, valves, pipes, ash-chutes and rubbish-chutes

referred to in in this Code shall be to the satisfaction of the Chief Surveyor.

(2) The frames of vertical watertight doors shall have no groove at the bottom in which dirt might lodge and prevent the door closing properly.

(3) Each watertight door shall be tested by water pressure to a head up to the bulkhead deck or freeboard deck respectively. The test shall be made before the ship is put into service, either before or after the door is fitted.

**18. Construction and Initial Tests of Watertight Decks, Trunks, etc—**(1) Watertight decks, trunks, tunnels, duct keels and ventilators shall be of the same strength as watertight bulkheads at corresponding levels. The means used for making them watertight, and the arrangements adopted for closing openings in them, shall be to the satisfaction of the Chief Surveyor. Watertight ventilators and trunks shall be carried at least up to the bulkhead deck in passenger ships and up to the freeboard deck in cargo ships.

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

**19. Subdivision Load Lines—**(1) In order that the required degree of subdivision shall be maintained, a load line corresponding to the approved subdivision draught shall be assigned and marked on the ship's sides. A ship having spaces which are specially adapted for the accommodation of passengers and the carriage of cargo alternatively may, if the owners desire, have one or more additional load lines assigned and marked to correspond with the subdivision draughts which the Chief Surveyor may approve for the alternative service conditions.

(2) The subdivision load lines assigned and marked shall be recorded in the Passenger Ship Safety Certificate, and shall be distinguished by the notation C.1 for the principal passenger condition, and C.2, C.3, etc., for the alternative conditions.

(3) The freeboard corresponding to each of these load lines shall be measured at the same position and from the same deck line as the freeboards determined in accordance with the Load Line Rules 1970.

(4) The freeboard corresponding to each approved subdivision load line and the conditions of service for which it is approved, shall be clearly indicated on the Passenger Ship Safety Certificate.

(5) In no case shall any subdivision load line mark be placed above the deepest load line in salt water as determined by the strength of the ship or the Load Line Rules 1970.

(6) Whatever may be the position of the subdivision load line marks, a ship shall in no case be loaded so as to submerge the load line mark appropriate to the season and locality as determined in accordance with the Load Line Rules 1970.

(7) A ship shall in no case be so loaded that when it is in salt water the subdivision load line mark appropriate to the particular voyage and condition of service is submerged.

(8) The marks and identifying letters shall be painted in white or yellow on a dark background or in black on a light background and shall be cut in, or centre punched, or indicated by welded bead, or such other method acceptable to the Chief Surveyor.

#### SECTION B—CARGO SHIP SUBDIVISION—

**20. Collision Bulkhead—**(1) For the purpose of this clause "freeboard deck", "length of ship" and "forward perpendicular" have the meanings as defined in the Load Line Rules 1970.

(2) A collision bulkhead shall be fitted which shall be watertight up to the freeboard deck. This bulkhead shall be located at a distance from the forward perpendicular of not less than 5 per cent of the length of the ship or 10m, whichever is the less, and, except as may be permitted by the