

provided in sub-clause (24) of this clause for between-deck bunker doors.

(9) Satisfactory arrangements shall be made by means of screens or otherwise to prevent the coal from interfering with the closing of watertight bunker doors.

(10) Within spaces containing the main and auxiliary propulsion machinery including boilers serving the needs of propulsion and all permanent bunkers, not more than one door apart from the doors to bunkers and shaft tunnels may be fitted in each main transverse bulkhead. Where two or more shafts are fitted the tunnels shall be connected by an intercommunicating passage. There shall be only one door between the machinery space and the tunnel spaces where two shafts are fitted and only two doors where there are more than two shafts. All these doors shall be of the sliding type and shall be so located as to have their sills as high as practicable. The hand gear for operating these doors from above the bulkhead deck shall be situated outside the spaces containing the machinery if this is consistent with a satisfactory arrangement of the necessary gearing.

(11) Watertight doors shall be sliding doors or hinged doors or doors of an equivalent type. Plate doors secured only by bolts and doors required to be closed by dropping or by the action of a dropping weight are not permitted.

(12) Sliding doors may be either:

hand-operated only, or

power-operated as well as hand-operated.

(13) Approved watertight doors may therefore be divided into three classes:

class 1—hinged doors;

class 2—hand-operated sliding doors;

class 3—sliding doors which are power-operated as well as hand-operated.

(14) The means of operation of any watertight door whether power-operated or not shall be capable of closing the door with the ship listed to 15° either way.

(15) In all classes of watertight doors indicators shall be fitted which show, at all operating stations from which the doors are not visible, whether the doors are open or closed. If any of the watertight doors, of whatever class, is not fitted so as to enable it to be closed from a central control station, it shall be provided with a mechanical, electrical, telephonic, or any other suitable direct means of communication, enabling the officer of the watch promptly to contact the person who is responsible for closing the door in question, under previous orders.

(16) Hinged doors (class 1) shall be fitted with quick action closing devices, such as catches, workable from each side of the bulkhead.

(17) Hand-operated sliding doors (class 2) may have a horizontal or vertical motion. It shall be possible to operate the mechanism at the door itself from either side, and in addition, from an accessible position above the bulkhead deck, with an all round crank motion, or some other movement providing the same guarantee of safety and of an approved type. Departures from the requirement of operation on both sides may be allowed, if this requirement is impossible owing to the layout of the spaces. When operating a hand gear the time necessary for the complete closure of the door with the vessel upright, shall not exceed 90 seconds.

(18) Power-operated sliding doors (class 3) may have a horizontal or vertical motion. If a door is required to be power-operated from a central control, the gearing shall be so arranged that the door can be operated by power also at the door itself from both sides. The arrangement shall be such that the door will close automatically if opened by local control after being closed from the central control, and also such that any door can be kept closed by local systems which will

prevent the door from being opened from the upper control. Local control handles in connection with the power gear shall be provided each side of the bulkhead and shall be so arranged as to enable persons passing through the doorway to hold both handles in the open position without being able to set the closing mechanism in operation accidentally. Power-operated sliding doors shall be provided with hand gear workable at the door itself on either side and from an accessible position above the bulkhead deck, with an all round crank motion or some other movement providing the same guarantee of safety and of an approved type. Provision shall be made to give warnings by sound signal that the door has begun to close and will continue to move until it is completely closed. The door shall take a sufficient time to close to ensure safety.

(19) There shall be at least two independent power sources capable of opening and closing all the doors under control, each of them capable of operating all the doors simultaneously. The two power sources shall be controlled from the central station on the navigating bridge provided with all the necessary indicators for checking that each of the two power sources is capable of giving the required service satisfactorily.

(20) In the case of hydraulic operation, each power source shall consist of a pump capable of closing all doors in not more than 60 seconds. In addition, there shall be for the whole installation hydraulic accumulators of sufficient capacity to operate all the doors at least three times, i.e. closed-open-closed. The fluid used shall be one which does not freeze at any of the temperatures liable to be encountered by the ship during its service.

(21) Hinged watertight doors (class 1) in passenger, crew and working spaces are only permitted above a deck the underside of which, at its lowest point at side, is at least 2.0m above the deepest subdivision load line.

(22) Watertight doors, the sills of which are above the deepest load line and below the line specified in the previous sub-clause shall be sliding doors and may be hand-operated (class 2). When trunkways in connection with refrigerated cargo and ventilation or forced draught ducts are carried through more than one main watertight subdivision bulkhead, the doors at such openings shall be operated by power.

(23) Watertight doors which may sometimes be opened at sea, and the sills of which are below the deepest subdivision load line shall be sliding doors. The following rules shall apply:

(a) when the number of such doors (excluding doors at entrances to shaft tunnels) exceeds five, all of these doors and those at the entrance to shaft tunnels or ventilation or forced draught ducts, shall be power-operated (class 3) and shall be capable of being simultaneously closed from a central station situated on the navigating bridge;

(b) when the number of such doors (excluding doors at entrances to shaft tunnels) is greater than one, but does not exceed five;

(i) where the ship has no passenger spaces below the bulkhead deck, all the above-mentioned doors may be hand-operated (class 2);

(ii) where the ship has passenger spaces below the bulkhead deck all the above-mentioned doors shall be power-operated (class 3) and shall be capable of being simultaneously closed from a central station situated on the navigating bridge;

(iii) in any ship where there are only two such watertight doors and they are situated in the machinery space or in the bulkheads bounding such space, the Chief Surveyor may allow these two doors to be hand-operated only (class 2).

(24) If sliding watertight doors which have sometimes to be open at sea for the purpose of trimming coal are fitted between bunkers in the between-decks below the bulkhead deck, these doors shall be operated by power.

(25) If the Chief Surveyor is satisfied that such doors are