

with the corridors and be of sufficient area to prevent congestion, having in view the number of persons likely to use them in an emergency. In so far as is practicable, stairway enclosures shall not give direct access to cabins, service lockers, or other enclosed spaces containing combustibles in which a fire is likely to originate.

(3) Lift trunks shall be so fitted as to prevent the passage of smoke and flame from one 'tweendeck to another and shall be provided with means of closing so as to permit the control of draught and smoke.

75. Openings in "A" Class Divisions—(1) Except for hatches between cargo, special category, store, and baggage spaces, and between such spaces and the weather decks, all openings shall be provided with permanently attached means of closing which shall be at least as effective for resisting fires as the divisions in which they are fitted.

(2) The construction of all doors and door frames in "A" class divisions, with the means of securing them when closed, shall provide resistance to fire as well as to the passage of smoke and flame, as far as practicable, equivalent to that of the bulkheads in which the doors are situated. Such doors and door frames shall be constructed of steel or other equivalent material. Watertight doors need not be insulated.

(3) It shall be possible for each door to be opened and closed from each side of the bulkhead by one person only.

(4) Fire doors in main vertical zone bulkheads and stairway enclosures, other than power-operated watertight doors and those which are normally locked, shall be of the self-closing type capable of closing against an inclination of 3.5° opposing closure. The speed of door closure shall, if necessary, be controlled so as to prevent undue danger to persons. All such doors, except those that are normally closed, shall be capable of release from a control station, either simultaneously or in groups, and also individually from a position at the door. The release mechanism shall be so designed that the door will automatically close in the event of disruption of the control system; however, approved power-operated watertight doors will be considered acceptable for this purpose. Hold-back hooks not subject to control station release will not be permitted. When double swing doors are permitted, they shall have a latch arrangement which is automatically engaged by the operation of the door release system.

(5) Where a space is protected by an automatic sprinkler system complying with the provisions of the Shipping (Fire Appliances) Regulations 1989 or fitted with a continuous "B" class ceiling, openings in decks not forming steps in main vertical zones nor bounding horizontal zones shall be closed reasonably tight and such decks shall meet the "A" class integrity requirements in so far as is reasonable and practicable in the opinion of the Chief Surveyor.

(6) The requirements for "A" class integrity of the outer boundaries of a ship shall not apply to glass partitions, windows and sidescuttles. Similarly, the requirements for "A" class integrity shall not apply to exterior doors in superstructures and deckhouses.

76. Openings in "B" Class Divisions—(1) Doors and door frames in "B" class divisions and means of securing them shall provide a method of closure which shall have resistance to fire as far as practicable equivalent to that of the divisions except that ventilation openings may be permitted in the lower portion of such doors. Where such opening is in or under a door the total net area of any such opening or openings shall not exceed 0.05m². When such opening is cut in a door it shall be fitted with a grill made of non-combustible material. Doors shall be non-combustible.

(2) The requirements for "B" class integrity of the outer boundaries of a ship shall not apply to glass partitions, windows and sidescuttles. Similarly, the requirements for "B" class integrity shall not apply to exterior doors in superstructures and deckhouses. For ships carrying not more

than 36 passengers, the Chief Surveyor may permit the use of combustible materials in doors separating cabins from the individual interior sanitary spaces such as showers.

(3) Where an automatic sprinkler system complying with the provisions of the Shipping (Fire Appliances) Regulations 1989 is fitted:

(a) openings in decks not forming steps in main vertical zones nor bounding horizontal zones shall be closed reasonably tight and such decks shall meet the "B" class integrity requirements in so far as is reasonable and practicable in the opinion of the Chief Surveyor.

(b) openings in corridor bulkheads of "B" class materials shall be protected in accordance with the provisions of clause 71 of this Code.

77. Ventilation Systems in Passenger Ships Carrying More than 36 Passengers—(1) In general, the ventilation fans shall be so disposed that the ducts reaching the various spaces remain within the main vertical zone.

(2) Where ventilation systems penetrate decks, precautions shall be taken, in addition to those relating to the fire integrity of the deck required by clause 75(5) and clause 105(1) of this Code, to reduce the likelihood of smoke and hot gases passing from one 'tweendeck space to another through the system. In addition to insulation requirements contained in this Code, vertical ducts shall, if necessary, be insulated as required by the appropriate tables in clause 72.

(3) Except in cargo spaces, ventilation ducts shall be constructed of the following materials:

(a) ducts not less than 0.075m² in sectional area and all vertical ducts serving more than a single 'tweendeck space shall be constructed of steel or other equivalent material;

(b) ducts less than 0.075m² in sectional area other than the vertical ducts referred to in paragraph (a) above shall be constructed of non-combustible materials. Where such ducts penetrate "A" or "B" class divisions due regard shall be given to ensuring the fire integrity of the division;

(c) short lengths of duct, not in general exceeding 0.02m² in sectional area nor 2m in length, need not be non-combustible provided that all of the following conditions are met:

(i) the duct is constructed of a material of low fire risk to the satisfaction of the Chief Surveyor;

(ii) the duct is used only at the terminal end of the ventilation system; and

(iii) the duct is not located closer than 600mm measured along its length to a penetration of an "A" or "B" class division, including continuous "B" class ceilings.

(4) Where the ventilation ducts with a free-sectional area exceeding 0.02m² pass through class "A" bulkheads or decks, the opening shall be lined with a steel sheet sleeve unless the ducts passing through the bulkheads or decks are of steel in the vicinity of passage through the deck or bulkhead and the ducts and sleeves shall comply in this part with the following:

(a) The sleeves shall have a thickness of at least 3mm and a length of at least 900mm. When passing through bulkheads, this length shall be divided preferably into 450mm on each side of the bulkhead. These ducts, or sleeves lining such ducts, shall be provided with fire insulation. The insulation shall have at least the same fire integrity as the bulkhead or deck through which the duct passes. Equivalent penetration protection may be provided to the satisfaction of the Chief Surveyor.

(b) Ducts with a free cross-sectional area exceeding 0.075m² shall be fitted with fire dampers in addition to the requirements of paragraph (a) above. The fire damper shall operate automatically but shall also be capable of being closed manually from both sides of the bulkhead or deck. The damper shall be provided with an indicator which shows whether the damper is open or closed. Fire dampers are not required, however, where ducts pass through spaces surrounded by "A"