

nonreturn valves in association with control valves operable from a deck above the enclosed special category space. Where a continuous middle line division or machinery casing is arranged in way of the enclosed special category space additional scuppers or drains shall be fitted adjacent to the division or casing.

(b)(i) On any deck or platform, if fitted, on which vehicles are carried and on which explosive vapours might be expected to accumulate, except platforms with openings of sufficient size permitting penetration of petrol gases downwards, equipment which may constitute a source of ignition of flammable vapours and, in particular, electrical equipment and wiring, shall be installed at least 450mm above the deck or platform. Electrical equipment installed at more than 450mm above the deck or platform shall be of a type so enclosed and protected as to prevent the escape of sparks. However, if the Chief Surveyor is satisfied that the installation of electrical equipment and wiring at less than 450mm above the deck or platform is necessary for the safe operation of the ship, such electrical equipment and wiring may be installed provided that it is of a type approved for use in an explosive petrol and air mixture.

(ii) Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

(7) Special category spaces below the bulkhead deck shall comply with the following additional provisions:

(a) In view of the serious loss of stability which could arise due to large quantities of water accumulating on the deck or tank top consequent on the operation of the fixed pressure water-spraying system, the Chief Surveyor may require pumping and drainage facilities to be provided additional to the requirements of Part IV of this Code relating to bilge pumping arrangements.

(b)(i) Electrical equipment and wiring, if fitted, shall be of a type suitable for use in explosive petrol and air mixtures. Other equipment which may constitute a source of ignition of flammable vapours shall not be permitted.

(ii) Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

**83. Protection of Cargo Spaces, other than Special Category Spaces, Intended for the Carriage of Motor Vehicles with Fuel in their Tanks for their Own Propulsion**—(1) Every such space shall be provided with an effective power ventilation system sufficient to give at least 10 air changes per hour for ships carrying more than 36 passengers, and 6 air changes per hour for ships carrying not more than 36 passengers. The system for such cargo spaces shall be entirely separate from other ventilation systems. Ventilation ducts serving such cargo spaces capable of being effectively sealed shall be separated for each such space. The system shall be capable of being controlled from a position outside such spaces.

(a) The ventilation shall be such as to prevent air stratification and the formation of air pockets.

(b) Means shall be provided to indicate on the navigating bridge any loss or reduction of the required ventilating capacity.

(c) Arrangements shall be provided to permit a rapid shutdown and effective closure of the ventilation system in case of fire, taking into account the weather and sea conditions.

(d) Ventilation ducts, including dampers, shall be made of

steel and their arrangement shall be to the satisfaction of the Chief Surveyor.

(2) Electrical equipment and wiring, if fitted, shall be of a type suitable for use in explosive petrol and air mixtures. Other equipment which may constitute a source of ignition of flammable vapours shall not be permitted.

(a) Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

(3) Scuppers shall not be led to machinery or other spaces where sources of ignition may be present.

**84. Special Requirements for Ships Carrying Dangerous Goods**—(1) The requirements of clause 95 of this Code shall apply, as appropriate, to passenger ships carrying dangerous goods.

#### SECTION C—CARGO SHIPS

**85. Structure**—(1) Subject to the provisions of sub-clause (4) of this clause, the hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel or other equivalent material.

(2) The insulation of aluminium alloy components of "A" or "B" class divisions, except structure which in the opinion of the Chief Surveyor is non-loadbearing, shall be such that the temperature of the structural core does not rise more than 200°C above the ambient temperature at any time during the applicable exposure to the standard fire test.

(3) Special attention shall be given to the insulation of aluminium alloy components of columns, stanchions and other structural members required to support lifeboat and liferaft stowage, launching and embarkation areas, and "A" and "B" class divisions, to ensure:

(a) that for such members supporting lifeboat and liferaft areas and "A" class divisions, the temperature rise limitation specified in sub-clause (2) of this clause shall apply at the end of one hour; and

(b) that for such members required to support "B" class divisions, the temperature rise limitation specified in sub-clause (2) of this clause shall apply at the end of half an hour.

(4) Crowns and casings of machinery spaces of category A shall be of steel construction adequately insulated and openings therein, if any, shall be suitably arranged and protected to prevent the spread of fire.

(5) One of the following methods of protection shall be adopted in accommodation and service areas:

(a) Method IC—The construction of all internal divisional bulkheading of non-combustible "B" or "C" class divisions generally without the installation of an automatic sprinkler, fire detection and fire alarm system in the accommodation and service spaces, except as required by the Shipping (Fire Appliances) Regulations 1989; or

(b) Method IIC—The fitting of an automatic sprinkler, fire detection and fire alarm system as required by the Shipping (Fire Appliances) Regulations 1989 for the detection and extinction of fire in all spaces in which fire might be expected to originate, generally with no restriction on the type of internal divisional bulkheading; or

(c) Method IIIC—The fitting of a fixed fire detection and fire alarm system, as required by the Shipping (Fire Appliances) Regulations 1989, in all spaces in which a fire might be expected to originate, generally with no restriction on the type of internal divisional bulkheading, except that in no case must the area of any accommodation space or spaces bounded by an "A" or "B" class division exceed 50m<sup>2</sup>. Consideration may be given by the Chief Surveyor to increasing this area for public spaces.

(6) The requirements for the use of non-combustible materials