

Part C - Suppression of Fire

Regulation 8 - Control of Smoke Spread

1. Purpose

The purpose of this regulation is to control the spread of smoke in order to minimize the hazards from smoke. For this purpose, means for controlling smoke in atriums, control stations, machinery spaces and concealed spaces shall be provided.

2. Protection of control stations outside machinery spaces

Practicable measures shall be taken for control stations outside machinery spaces in order to ensure that ventilation, visibility and freedom from smoke are maintained so that, in the event of fire, the machinery and equipment contained therein may be supervised and continue to function effectively. Alternative and separate means of air supply shall be provided and air inlets of the two sources of supply shall be so disposed that the risk of both inlets drawing in smoke simultaneously is minimized. At the discretion of the Administration, such requirements need not apply to control stations situated on, and opening on to, an open deck or where local closing arrangements would be equally effective.

3. Release of smoke from machinery spaces

3.1 The provisions of this paragraph shall apply to machinery spaces of category A and, where the Administration considers desirable, to other machinery spaces.

3.2 Suitable arrangements shall be made to permit the release of smoke, in the event of fire, from the space to be protected, subject to the provisions of regulation 9.5.2.1. The normal ventilation systems may be acceptable for this purpose.

3.3 Means of control shall be provided for permitting the release of smoke and such controls shall be located outside the space concerned so that they will not be cut off from the space they serve.

3.4 In passenger ships, the controls required by paragraph 3.3 shall be situated at one control position or grouped in as few positions as possible to the satisfaction of the Administration. Such positions shall have a safe access from the open deck.

4. Draught stops

Air spaces enclosed behind ceilings, panelling or linings shall be divided by close-fitting draught stops spaced not more than 14m apart. In the vertical direction, such enclosed air spaces, including those behind linings of stairways, trunks, etc., shall be closed at each deck.

5. Smoke extraction systems in atriums of passenger ships

Atriums shall be equipped with a smoke extraction system. The smoke extraction system shall be activated by the required smoke detection system and be capable of manual control. The fans shall be sized such that the entire volume within the space can be exhausted in 10 min or less.

MCA Guidance

G1 Air supply to control stations

G1.1 The two entirely separate means of supplying air to control stations referred to in paragraph 2 may serve other spaces but in no case should they serve the same spaces. However it would be preferable for at least one of the means of supplying air to be independent of any other space. Local closing arrangements mean, in the case of ventilation trunks, fire or smoke dampers capable of being closed manually from within the station.

G2 Detection of smoke by fire patrols

G2.1 Regulation 7.8.2 does not apply to enclosed spaces which do not contain electrical wiring or combustible fittings.

G3 Draught stops – extent

G3.1 Care should be taken to ensure that where 'C' and 'B' Class ceilings and linings are not extended respectively to the ship's side and deckhead, the combined length of the air spaces behind the ceiling and lining is used to determine the spacing of draught stops.

G3.2 Draught stops should generally be fitted in the air space behind ceilings which are perforated or slatted when the air space exceeds 14m in length or breadth because a fire could quite rapidly develop in such a space and would nearly be as difficult to control as a fire behind an unperforated ceiling.

G4 Closure of decks

G4.1 Paragraph 4 requires air spaces behind ceilings and linings to be closed at each deck. The integrity and insulation standards of decks (as specified in tables 9.2, 9.4, 9.6 and 9.8) are to be maintained in the air spaces behind ceilings and linings as though such air spaces are part of the accommodation spaces, service spaces or control stations, as appropriate, from which they are separated. The air spaces behind ceilings and linings cannot be regarded as void spaces because the ceilings and linings separating the air spaces from the accommodation spaces, service spaces and control stations would have to be 'A' Class divisions in compliance with respective tables.

G4.2 Any draught stop fitted in the corridors or stairway enclosures should be constructed as indicated in G8.5 of this guidance.

G4.3 Draught stops other than those fitted in corridors and stairway enclosures may be constructed as indicated in regulation 5.3.1.2.2.2 and may be constructed of combustible board type materials such as plywood or chipboard of not less than 6mm thickness supported by steel or wooden grounds attached to the ships structure, bulkheads, ceilings or linings and fitted tightly to such structure and divisions subject to compliance with regulation 5.3.2.4.2.2.

G5 Draught stops – construction

G5.1 Where draught stops are required by regulation 5.3.1.2 to be constructed of non-combustible materials any of the following methods of construction may be used to form draught stops:

G5.1.1 the extension of 'B' Class bulkheads, ceilings or linings the details of which are shown on the appropriate approved drawings;

G5.1.2 the extension of 'C' Class bulkheads, ceilings or linings;

G5.1.3 steel curtain plates, stringers or webs intermittently welded to the structure, stiffened where necessary and attached to the top profiles of bulkheads or fitted tightly to ceilings or linings. Any lightening holes in ships structure which is used as part of a draught stop should be plated over;

G5.1.4 approved non-combustible board type materials supported by steel flat bars or steel angle or channel profiles attached to the ships structure, bulkheads, ceilings or linings and fitted tightly to such structure or divisions;

G5.1.5 approved 'A' Class mineral wool insulation faced on each side with expanded steel or weldmesh (50mm maximum mesh size), the sheets of expanded steel or weldmesh being tied together through the insulation by galvanised wire at not more than 450mm spacing. The expanded steel or weldmesh on one side of the insulation should be attached to the ships structure, bulkheads, ceilings or linings. Wire netting may be substituted for expanded steel or weldmesh on one side, but not on both sides of the draught stop; in such cases the securing ties should be spaced not more than 300mm apart. Adjacent slabs of insulation should be fitted tightly together and slabs adjacent to the structure, bulkheads, ceilings or linings should be fitted tightly to such structure or divisions. The insulation should not be less than 35mm in thickness.

G5.2 The construction of the draught stops should be to the satisfaction of the surveyor. However in no case should draught stops be wedged in place without any attachment to structure, bulkheads, ceilings or linings. The draught stops should form a close fit round pipes, cables, ducts or any other penetrations.

G6 Arrangement of exhaust fans for smoke extracting systems

G6.1 The application of paragraph 5 does not imply the need for additional exhaust fans other than those normally dedicated to the space considered, provided these latter fans are of sufficient size to meet the required capacity.