SECTION 4 SUPPRESSION OF FIRE: CONTAINMENT OF FIRE

1 General

1.1 Application

1.1.1 The present Section applies to yachts of 24 m in length and over.

2 Thermal and structural boundaries

2.1 General

2.1.1 Principle

Yachts are to be subdivided into spaces by thermal and structural divisions having regard to the fire risk of the space.

2.1.2 Materials

For materials which can be used in fire divisions, refer to Ch 4, Sec 2, [2]. Furthermore, linings, ceilings and A and B class divisions facings may be made of combustible materials.

2.2 A class divisions

2.2.1 Machinery spaces of category A boundaries

Machinery spaces of category A are to be separated from other adjacent spaces by minimum A-30 class structural gastight bulkheads and decks.

Note 1: If the hull is made of a material other than steel, refer to Ch 4, Sec 2, [2.1].

For yachts having the navigation notation **sheltered area** or **coastal area** or **unrestricted navigation limited to 60 nautical miles** as defined in Pt A, Ch 1, Sec 2, machinery spaces of category A are to be separated from other adjacent spaces by minimum B-15 class bulkheads and decks.

2.2.2 Vehicle spaces

Vehicle spaces are to be separated from adjacent accomodation spaces by bulkheads and decks with the same fire integrity as the machinery spaces of category A boundaries.

2.2.3 Saunas and Hammam rooms boundaries

Saunas and Hammam rooms, if any, are to be separated from other spaces by fire divisions in compliance with Ch 4, Sec 2, [1.3.3] or Ch 4, Sec 2, [1.3.4], as applicable.

2.2.4 Prevention of heat transmission

Where the structure or 'A' Class divisions are required to be insulated, it is to be ensured that the heat from a fire is not transmitted through the intersections and terminal points of the divisions or penetrations to uninsulated boundaries. Where the insulation installed does not achieve this, arrangements are to be made to prevent this heat transmission by insulating the horizontal and vertical boundaries or penetrations for a distance of 450 mm (this may be reduced to 380mm on steel divisions only).

2.3 Method of construction within accommodation and service spaces

2.3.1 Different methods of construction

Three methods of construction are possible:

a) Method 1: A fixed fire detection and alarm system complying with Ch 4, Sec 10, [6] is installed and arranged as to provide smoke detection in escape ways

b) Method 2: A fixed fire detection and alarm system complying with Ch 4, Sec 10, [6] is installed and arranged as to provide smoke detection in escape ways and, in addition, an automatic sprinkler, fire detection and alarm system complying with Ch 4, Sec 10, [5] is installed and arranged as to protect all accommodation and service spaces, except spaces which afford no substantial fire risk such as void spaces, sanitary spaces, etc.

c) Method 3: A fixed fire detection and alarm system complying with Ch 4, Sec 10, [6] is installed and arranged as to detect the presence of fire in all accommodation and service spaces and to provide smoke detection in escape ways.

2.3.2 Bulkheads fire integrity

Bulkheads fire integrity are to be in accordance with Tab 1.

Bulkheads required to be B class divisions are to extend from deck to deck or to other B class boundaries.

2.3.3 Decks fire integrity

Decks are to be generally so constructed as to provide a level of smoke and fire tightness acceptable to the society.

For Machinery spaces of Category A boundaries, refer to [2.2.1].

Table 1 : Bulkheads minimal fire integrity within accommodation and service spaces

Bulkhead class required between space/adjacent space	Method of construction		
	Method 1	Method 2	Method 3
Independant galley **(1)** / accommodation or service space	B-15	B-0	B-0
Escape ways/accommodation or service space other than escape ways	B-15	–	–

Note 1: Types of spaces and B class divisions are defined in Ch 4, Sec 1, [3.4].
Note 2: Where two or more different fire integrities are possible according to this table, the most stringent boundaries requirement is to be applied.
(1) Independant galley: closed galley (as defined in Ch 4, Sec 1, [3.4.8]) not used for other purpose.

3 Protection of openings and penetrations in fire-resisting divisions

3.1 General

3.1.1 Openings in 'A' and 'B' Class divisions mentioned in [2.1] are to be restricted to the minimum necessary and are to be fitted with permanently attached means of closing that are to be at least as effective for resisting fires as the divisions in which they are fitted.

3.2 Doors

3.2.1 Doors leading to machinery spaces of category A, to the wheelhouse and to stairways are to be self-closing.

3.3 Penetrations

3.3.1 Where 'A' Class divisions are penetrated for the passage of electric cables, pipes, trunks, ducts, etc., arrangements are to be made to ensure that the fire resistance is not impaired.

3.3.2 Where 'B' Class divisions are penetrated for the passage of electric cables, pipes, trunks, ducts, etc., or for the fitting of ventilation terminals, lighting fixtures and similar devices, arrangements are to be made to ensure that the fire resistance is not impaired.

4 Protection of openings in machinery space boundaries

4.1 Windows and skylights

4.1.1 Windows and skylights to machinery spaces are to be as follows:

a) where skylights can be opened, they are to be capable of being closed from outside the space. Skylights containing glass panels are to be fitted with external shutters of steel or other equivalent material permanently attached

b) glass or similar materials are not to be fitted in machinery space boundaries. This does not preclude the use of wire-reinforced glass for skylights and glass control rooms within the machinery spaces.

c) in skylights referred to in item a), wire-reinforced glass is to be used.

5 Ventilation

5.1 Ventilation fans stops

5.1.1 It is to be possible to stop ventilation fans and to close main openings to ventilation systems from a position outside the spaces served, except in spaces provided with heating stoves.

5.2 Arrangement of ducts

5.2.1 Ventilation ducts for main machinery spaces are not in general to pass through accommodation spaces, service spaces or control stations unless the ducts are constructed of steel and arranged to preserve the integrity of the division, as required in [2.2.1].

5.2.2 Ventilation ducts of accommodation spaces, service spaces or control stations are not, in general, to pass through main machinery spaces unless the ducts are constructed of steel and arranged to preserve the integrity of the division, as required in [2.2.1].

5.2.3 Store-rooms containing substantial quantities of flammable products are to be provided with ventilation arrangements which are separate from other ventilation systems. Ventilation is to be arranged at high and low levels and the inlets and outlets of ventilators are to be positioned in safe areas and fitted with spark arresters.

5.2.4 Ventilation systems serving machinery spaces are to be independent of systems serving other spaces.

5.2.5 Ventilation exhaust systems serving galleys are to be independent of systems serving other spaces. The galley ventilation exhaust systems need not be completely separated, but may be served by separate ducts from a ventilation unit serving other spaces if an automatic fire damper is fitted in the galley ventilation duct near the ventilation unit. Ventilation exhaust ducts serving galleys are to be of non-combustible material.