

SECTION 9

PROTECTION OF VEHICLE SPACES

1 General requirements and application

1.1 Application

1.1.1 This section is applicable to yachts with vehicle spaces as defined in [1.2.1].

1.1.2 This section is applicable to all yachts: yachts less than 500GT and yachts of 500GT and over.

1.2 Definitions

1.2.1 Vehicle spaces

Spaces containing vehicles or crafts with fuel in their tanks for their own propulsion.

1.2.2 Open Vehicle spaces

Open vehicle spaces are those vehicle spaces which are either open at both ends or have an opening at one end and are provided with adequate natural ventilation effective over their entire length through permanent openings distributed in the side plating or deckhead or from above, having a total area of at least 10 % of the total area of the space sides.

1.2.3 Enclosed Vehicle spaces

Enclosed vehicle spaces are vehicle spaces which are neither open vehicle spaces nor weather decks.

1.2.4 Weather decks

Weather deck is a deck which is completely exposed to the weather from above and from at least two sides.

1.2.5 Non-sparking fan

A fan is considered as non-sparking if in either normal or abnormal conditions it is unlikely to produce sparks. For this purpose, the following criteria are to be met:

a) Design criteria:

- 1) The air gap between the impeller and the casing is to be not less than 1/10 of the shaft diameter in way of the impeller bearing and in any case not less than 2 mm, but need not exceed 13 mm
- 2) Protective screens with square mesh of not more than 13 mm are to be fitted to the inlet and outlet of ventilation ducts to prevent objects entering the fan housing.

b) Materials:

- 1) The impeller and the housing in way of the impeller are to be made of spark-proof materials which are recognised as such by means of an appropriate test to the satisfaction of the Society

- 2) Electrostatic charges, both in the rotating body and the casing, are to be prevented by the use of anti-static materials. Furthermore, the installation on board of ventilation units is to be such as to ensure their safe bonding to the hull
- 3) Tests may not be required for fans having the following material combinations:
 - impellers and/or housings of non-metallic material, due regard being paid to the elimination of static electricity
 - impellers and housings of non-ferrous materials
 - impellers of aluminium alloys or magnesium alloys and a ferrous (including austenitic stainless steel) housing on which a ring of suitable thickness of non-ferrous material is fitted in way of the impeller
 - any combination of ferrous (including austenitic stainless steel) impellers and housings with not less than 13 mm design tip clearance.
- 4) The following impeller and housing combinations are considered as sparking and therefore are not permitted:
 - impellers of an aluminium alloy or a magnesium alloy and a ferrous housing, regardless of tip clearance
 - housings made of an aluminium alloy or a magnesium alloy and a ferrous impeller, regardless of tip clearance
 - any combination of ferrous impeller and housing with less than 13 mm design tip clearance.
- 5) Complete fans are to be type-tested in accordance with either the Society's requirements or national or international standards accepted by the Society.

2 Ventilation

2.1 Application

2.1.1 This Article is only applicable to enclosed vehicle spaces.

2.2 Capacity of ventilation systems

2.2.1 There is to be provided an effective power ventilation system sufficient to give at least 6 air changes per hour (based on the empty space).

2.3 Performance of ventilation systems

2.3.1 The power ventilation system required in [2.2.1] is to be separate from other ventilation systems. The system is to be capable of being controlled from a position outside such spaces.

2.3.2 The ventilation system is to be such as to prevent air stratification and the formation of air pockets.

2.3.3 Fans are to be of non-sparking type.

2.4 Indication of ventilation systems

2.4.1 Means is to be provided on the navigation bridge to indicate any loss of the required ventilating capacity.

2.5 Closing appliances and ducts

2.5.1 Arrangements are to be provided to permit a rapid shut-down and effective closure of the ventilation system from outside of the space in case of fire, taking into account the weather and sea conditions.

3 Electrical Equipment

3.1 Application

3.1.1 This Article is applicable to open and enclosed vehicle spaces.

3.2 Protection of electrical equipment

3.2.1 For the protection of electrical equipment, refer to Ch 2, Sec 2, [8].

4 Detection and Alarm

4.1 Application

4.1.1 This Article is applicable to open and enclosed vehicle spaces.

4.2 Fixed fire detection and alarm system

4.2.1 A fixed fire detection and fire alarm system complying with the requirements of Ch 4, Sec 10, [6] are to be so installed and arranged as to provide smoke detection.

5 Fire extinction

5.1 Application

5.1.1 This Article is applicable to open and enclosed vehicle spaces of 10 m² and over in area.

5.2 Fixed water spray system

5.2.1 A manual water spray system giving a coverage of 3.5 ltr/m²/minute over the total area of deck, which may be taken from the fire main with the isolating valve located outside the garage is to be installed. An equivalent arrangement may be considered. Adequate provision is to be made for drainage of water introduced to the space.

5.2.2 Generally, the water spray system is to be in compliance with Ch 4, Sec 10, [4.1].