Article 4 Storage batteries

4.1 General

4.1.1

Batteries are to be located where they are not exposed to excessive heat, extreme cold, spray, steam or other conditions which would impair performance or accelerate deterioration. They are to be installed in such a way that no damage may be caused to surrounding appliances by the vapours generated.

4.1.2

Batteries are to be secured against movements and inclinations occurring during yacht operation and are to be protected against falling objects.

On sailing yachts, and small motor yachts, batteries are to be secured sufficiently to prevent them from breaking free in the event of a complete capsize (i.e. inversion).

4.1.3

Storage batteries are to be suitably housed in compartment (containers or boxes) properly constructed for their accommodation and efficiently ventilated so as to prevent accumulation of flammable gas.

4.1.4

The interior of vented battery compartments (containers, boxes) including all metal parts subject to the electrolyte is to be protected against the deteriorating effect of the latter by electrolyte-resistant coating or other equivalent means, unless corrosion-resistant materials are used.

4.1.5

Starter batteries are to be located as close as practicable to the engine or engines served.

4.1.6

Lead-acid batteries and alkaline batteries are not to be placed in the same cabinet or container or in close vicinity to each other.

4.1.7

Batteries are not to be installed directly above or below a fuel tank or fuel filter and any other metallic component of the fuel system. A clear distance of 300 mm above the battery top is to be provided as a minimum.

4.1.8

Switches and fuses or other equipment, which may generate sparks are not to be placed in battery compartments or containers.

4.1.9

Batteries are not to be located in sleeping quarters except where hermetically sealed to the satisfaction of the Society.

4.2 Ventilation

4.2.1

Whatever the type of battery, areas in which batteries are stowed is to be provided with adequate ventilation to free air to prevent an accumulation of flammable gas.

4.2.2

Where batteries are installed in a separate closed compartment (containers or boxes) reserved for batteries, a vent system or other means are to be provided to permit the discharge from the yacht of gasses released by battery when under charge.

4.2.3

The minimum rate of air expelled (by natural or forced ventilation) for battery compartment is to be as given by the following formula:

Q = 110 I n

where:

Q : Rate of ventilation, in litres per hour
I : 25% of the maximum obtainable charging current, in amperes
n : Number of cells in series.

4.2.4

The ventilation rate for compartment containing valve-regulated sealed batteries may be reduced to 25 per cent of that given in [4.2.3].

4.2.5

Where natural ventilation is impracticable or insufficient, mechanical exhaust ventilation is to be provided.

4.2.6

The air inlet to battery compartments or containers is to be below the level of the battery, and the outlet is to be at the highest point of the compartment or container.

Air inlet may be from the open air or from another space (for example from machinery spaces).

4.2.7

Cable entries to battery compartments or containers are to be gas-tight.

4.2.8

Exhaust ducts of natural ventilation systems:

a. are to be run directly from the top of the compartment to the open air above (they may terminate in the open or in well-ventilated spaces)
b. are to terminate not less than 90 cm above the top of the battery compartment
c. are to have no part more than 45˚ from the vertical
d. are not to contain appliances (for example flame arrestors) which may impede the free passage of air or gas mixtures.

4.2.9

In mechanical exhaust ventilation systems:

a. electric motors are to be outside the exhaust ducts and battery compartment and are to be of an explosion-proof safe type if installed within 3 m from the exhaust of the ventilation duct

b. fans are to be so constructed and of a material such as to render sparking impossible in the event of the impeller touching the fan casing

c. steel or aluminium impellers are not to be used

d. the system is to be interlocked with the charging device so that the battery cannot be charged without ventilation. A warning signal is to be provided and operate if failure occurs.