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## **Small Yacht Standards and Additional Information**

Notice to yacht owners, managers, Masters, officers, crew, Recognised Organisations, Yacht Survey Organisations and Approved Nautical Inspectors

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### **1. Purpose**

- 1.1. This Yacht Notice (YN) provides standards and additional information for small yachts (i.e. of less than 24 metres length (L)<sup>1</sup>).

### **2. Application**

- 2.1. This standards in this YN may be applied to small yachts.

### **3. Fire Test for Fibre Reinforced Plastic (FRP)**

#### *3.1. Heat Source*

- 3.1.1. The heat source for the fire test shall be provided by a Butane or Propane fuelled Bunsen or Tirrill burner with a nominal 9.525mm (3/8inch) inside diameter tube adjusted to give a pre-mixed air/gas flame of 38.1mm (1½ inch) length. The minimum temperature measured in the centre of the flame with a calibrated thermocouple pyrometer must be 843.33°C (1550°F).

#### *3.2. Specimen*

- 3.2.1. The specimen shall be 500mm x 500mm. The edges of the specimen shall be housed in a steel frame sufficiently to prevent them igniting during the test. The specimen shall be cured for at least 7 days at ambient temperature or 1 day at ambient temperature and 16 hours at 40°C before testing. The lay-up of the panel shall be representative of the structure being considered.

#### *3.3. Test Procedure*

- 3.3.1. The specimen shall be oriented vertically in a draft free location. The flame shall impinge on the centre of the specimen with the flame normal to its surface. The surface of the specimen affected by the fire risk shall be exposed to the flame at a set distance of

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<sup>1</sup> Length (L) or "Load Line length" means 96% of the total length on a waterline of a ship at 85% of the least moulded depth measured from the top of the keel, or the length from the fore-side of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with a rake of keel the waterline on which this is measured shall be parallel to the designed waterline.

19.1mm (3/4inch) from the end of the burner tube. The flame shall not burn through the specimen within 15 minutes.

#### **4. Ignitability Test for Combustible Materials**

##### *4.1. Test Specimens*

4.1.1. One specimen is to be prepared

4.1.2. The specimen is to be a minimum of 150mm x 150mm and of the thickness, which is used on the vessels, together with any facing with which it is normally covered.

##### *4.2. Conditioning of Test Specimens*

4.2.1. The conditioning atmosphere shall have a temperature of  $20 \pm 20^{\circ}\text{C}$  and relative humidity of  $65 \pm 2\%$ .

4.2.2. The specimen shall be laid flat, in the conditioning atmosphere for a period of 24 hours, or for a sufficiently longer period in order to ensure that the mass of the specimen shows no progressive change greater than 0.25% when it is determined at intervals of 2 hours.

##### *4.3. Atmosphere for Testing*

4.3.1. The test is to be conducted in an atmosphere the same as for conditioning the specimen, or within 2 minutes of removal from the conditioning atmosphere.

4.4. Appropriate measures shall be taken to prevent draughts in the vicinity of the testing equipment when testing is in progress.

##### *4.5. Testing Procedure*

###### *4.5.1. Source of Ignition*

- i. The source shall be obtained by using a burner consisting of a copper tube having a length of 150mm and inside and outside diameters of 5mm and 6mm respectively connected by a plastic or rubber tubing to a gas tap supplying natural gas. The copper tube is to have no opening for the supply of air.

###### *4.5.2. Height of Flame*

- i. Before the test takes place the burner flame is to be adjusted to a height of 32mm.

###### *4.5.3. Test Procedure*

- i. Place the specimen horizontally on a metal tripod stand with the upper surface of the specimen facing downwards (i.e. with normally exposed face on underside) such that the height of this surface of the specimen is approximately 8mm below the top of the burner flame. Apply the burner flame at right angles to the plane of the specimen in the centre of specimen. After one minute the burner flame is to be removed clear of the specimen and the time in seconds to extinction of any flaming is to be recorded.

- ii. The test in paragraph i. is to be repeated after any flaming or smouldering has ceased and the temperature of the specimen has returned to normal except that the centre of the burner flame is to be positioned at the midpoint of any edge of the specimen. Again, the time in seconds to extinction of any flaming after the removal of the burner is to be recorded.

4.6. *Pass Criteria*

- 4.6.1. An insulation is deemed to be “not readily ignitable” when any flaming of the test specimen ceases within 20 seconds of the removal of the burner.

