

APPENDIX E

METHOD OF DETERMINING THE SELF-EXTINGUISHING PROPERTIES OF GRP LAMINATES

1. The test sample

A flat panel measuring not less than 1 metre square should be laid up exactly as proposed for the hull, deck, etc. moulding of the ship and allowed to cure for not less than 21 days. It should then be stored at ambient temperature for a further 30 days.

A test sample measuring 450mm x 450mm should then be cut from the centre of this panel and be mounted in a suitable steel frame to prevent the edges from being ignited during the self-extinguishing test.

2. The heat source

The heat source used to conduct the self-extinguishing test should be provided by a propane gas torch fitted with a Sievert burner type No 2944 giving a maximum flame temperature of 1600 degrees celsius and burning propane at a rate of 4110 grams per hour at a pressure of 2.0kg f/cm². The rate of burning should be very carefully controlled and the length of the blue flame should be approximately 200mm to the point of the greatest heat.

3. The self-extinguishing test

The centre of the test sample should be exposed in the vertical plane on the non gel coat surface to the tip of the blue flame of the propane gas torch for an initial period of 1 minute.

During this time observations of the heat effect on the sample should be recorded.

At the end of 1 minute the propane gas torch should be removed and the sample allowed to burn. The flame on the sample should self-extinguish in less than 30 seconds.

The sample should be closely examined and its conditions noted. It should then be re-exposed to the heat source to establish total burn through time which should be noted for record purposes.