

WORKING AREA

When carrying out any GRP project, you should work in an ambient temperature around 20°C, as this ensures that the resin will cure correctly. Resins will not cure adequately below 15°C, and at temperatures above 30°C, they will cure too quickly! If working outdoors, as is often the case with boating projects, you will obviously be at the mercy of the

weather. Indoors, you must not use oil heaters or electric fires (see below), so maintain the temperature with convector heaters, "Dimplex" radiators, or similar. You will need trestles to support the mould at a comfortable working height - for small jobs, of course, you can use a normal workbench or trestle table. Cover it with polythene, Polyester Film or brown wrapping paper.



PRECAUTIONS

You should have no problems with GRP materials providing you use them with proper care and ensure adequate precautions are taken: Whether laminating or doing minor repair jobs, always remember that GRP materials produce vapours which are inflammable and which should not be inhaled. Therefore ALWAYS work in a well-ventilated area, and NEVER smoke or use naked lights or fires in the work area. When you have finished working, make sure spare materials are securely stored - especially potentially hazardous products such as catalyst and brush cleaner.

Wear gloves - do not let any materials contact the skin, and especially the eyes or mouth.

Do not swallow any of these materials. Catalyst should be treated with special care: it is inflammable and corrosive - do not let it contact the skin, mouth or eyes. Should it do so, wash from the skin immediately under running water. If it contacts the eyes, flush them under running water for at least 15 minutes and obtain medical attention. Glassfibre, resins and ancillary materials should not be used by children UNLESS CLOSELY SUPERVISED.

For fuller details, see the Hazards & Precautions Information contained in Appendix 1.

APPENDIX 1

USING GRP MATERIALS SAFELY

Skin & Eye Contact

Most GRP materials have some detrimental effect on the skin. This can be prevented by simply avoiding skin contact - wear Barrier Cream and Plastic Gloves. Catalyst is particularly dangerous. It is a corrosive, toxic, organic peroxide (Methyl Ethyl Ketone Proxide) and should be handled with care. ALWAYS use a Safety Dispenser when measuring out liquid catalyst. If splashed on the skin, wash off at once. Do NOT let it contact the eyes or mouth. If accidentally splashed in the eyes, IMMEDIATELY flush under running water for at least 15 minutes and summon medical assistance. Brush Cleaner (Acetone) can cause a form of dermatitis and must NOT be used for removing resins from the skin - use Kleen-All Hand Cleanser. Polyurethane Foam Liquid Mix should be washed from the skin immediately - once hardened, it is impossible to remove.

Obviously, none of these materials should ever be swallowed. Never store them in anything which can be mistaken for a food or drink container.

Ventilation

Many GRP products give off fumes which can be harmful if inhaled in large quantities - for normal use, reasonable ventilation of the work area will be adequate prevention. Over-exposure to fumes will usually result in nasal irritation, watering eyes, then headaches, drowsiness and possible unconsciousness. The symptoms normally disappear once the patient gets fresh air - if they do not, summon medical assistance.

Take special care when mixing Polyurethane Foam Liquid, and stand well away from the mixing container during the initial reaction, when iso-cyanate fumes are given off.

Care must also be taken to avoid the tiny particles of resin and glass produced by machining finished GRP items. When drilling, sanding or sawing GRP, wear goggles and a face mask - the particles are harmful to eyes and lungs.

Fire

Many of these materials are inflammable, or contain inflammable additives - particularly catalyst, brush cleaner (Acetone) and Styrene (used in resin). Do not smoke or use naked flames, oil burners, etc, in the work area. Do not put out fires with water - use dry powder extinguishers. The only exception is Catalyst - this MUST be extinguished with water!

Fires can be started by throwing away large amounts of catalysed, but uncured, resin - the heat generated by curing can ignite other waste materials! Leave unwanted resin in a safe place until it has cured, when it can be discarded without risk.

Spillages

Treat spillages of resins and similar materials by sprinkling with sand or earth, then scoop up and place in waste bin. Catalyst is an exception - any spillages should be thoroughly diluted with large quantities of water. In general, take every reasonable precaution to avoid accidental spillage!

Accelerator

Most resins are supplied with accelerator already added (accelerator is a necessary ingredient for adequate curing). However, it is possible to obtain cheap unaccelerated resin and mix in the accelerator yourself. If you do this, make sure you do NOT mix accelerator and catalyst - an explosive reaction occurs which can be highly dangerous. Mix the accelerator thoroughly into the resin BEFORE adding the catalyst. Do NOT store catalyst and accelerator together as there is a danger of spontaneous combustion or explosion - in fact, the hazards involved probably outweigh any minor economies gained in buying unaccelerated resin!