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# International Dragon Association

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## MATERIALS PERMITTED UNDER RULE 1.11 FOR CONSTRUCTION OF GLASS FIBRE AND OTHER DRAGONS

Effective January 1996  
Revised November 2001

### DEFINITIONS

- 1.1 FIBREGLASS CLOTH: A woven fabric made from fine yarns of fibreglass.
- 1.2 FIBREGLASS MAT: Material of randomly oriented glass fibres held together with a binder.  
Other names used: Chopped Strand Mat (CSM)
- 1.3 WOVEN ROVEN: Rovings of fibreglass woven into a material.
- 1.4 UNIDIRECTIONAL: A material of glass yarns all in one direction usually held together by a thin filament such as 'Fibril' or stitched together. Other names used: Single Bias
- 1.5 BI-DIRECTIONAL: A material of glass yarns in two different directions stitched together.
- 1.6 DOUBLE BIAS: A 45-degree / 45 degree bias woven material,
- 1.7 TRI-AXIAL: A 60 degree / 60 degree / 60 degree triple bias woven material.
- 1.8 FABMAT: A combination material of WOVEN ROVEN and a layer of FIBREGLASS MAT held together with a binder (powder or emulsion).
- 1.9 STITCHMAT: A combination material of WOVEN ROVEN and a layer of FIBREGLASS MAT stitched together.
- 1.10 E-GLASS: Fibreglass-based material commonly used in boat building.
- 1.11 S-GLASS: Fibreglass-based material with higher strength and stiffness than GLASS

## 2. PERMITTED MATERIALS FOR GLASS FIBRE HULL SHELL CONSTRUCTION

### 2.1 Glassfibre.

E-GLASS FIBREGLASS MAT Powder bonded  
 E-GLASS FIBREGLASS MAT Emulsion bonded  
 E-GLASS WOVEN ROVEN  
 E-GLASS FIBREGLASS CLOTH  
 E-GLASS DOUBLE BIAS/FIBREGLASS MAT stitched together  
 E-GLASS UNIDIRECTIONAL / FIBREGLASS MAT stitched together  
 E-GLASS UNIDIRECTIONAL / FIBREGLASS MAT emulsion bonded  
 E-GLASS BI-DIRECTIONAL / FIBREGLASS MAT stitched together  
 E-GLASS BI-DIRECTIONAL / FIBREGLASS MAT emulsion bonded

### 2.2 Resins:

The following resins are allowed:

1. Thermosetting, non-saturated Polyester resin, catalyzed with Methyl Ethyl Ketone Peroxide
2. Thermosetting, non-saturated Vinylester resin, catalyzed with Methyl Ethyl Ketone Peroxide

No Hybrid Resins are allowed except the following:

1. Epacryn 915AT by SP systems
2. Epacryn 925AT by SP systems

### 2.3 Gel coat and topcoat

Gel coat based on the following resins are allowed:

1. Thermosetting, non-saturated Polyester resin, catalyzed with Methyl Ethyl Ketone Peroxide
2. Thermosetting, non-saturated Vinylester resin, catalyzed with Methyl Ethyl Ketone Peroxide

### **3 PERMITTED MATERIALS FOR DECK/COAMING/CABIN CONSTRUCTION FOR GLASS FIBRE DRAGONS**

#### 3.1 Glassfibre:

E-GLASS FIBREGLASS MAT Powder bonded

E-GLASS FIBREGLASS MAT Emulsion bonded

E-GLASS WOVEN ROVEN

E-GLASS FIBREGLASS CLOTH

E-GLASS DOUBLE BIAS FIBREGLASS MAT stitched together

E-GLASS UNIDIRECTIONAL / FIBREGLASS MAT stitched together

E-GLASS UNIDIRECTIONAL / FIBREGLASS MAT emulsion bonded

E-GLASS Bi -Directional FIBREGLASS MAT stitched together

E-GLASS BI-DIRECTIONAL / FIBREGLASS MAT emulsion bonded

#### 3.2 Resins:

The following resins are allowed:

1. Thermosetting, non-saturated Polyester resin, catalyzed with Methyl Ethyl Ketone Peroxide
2. Thermosetting non-saturated Vinylester resin, catalyzed with Methyl Ethyl Ketone Peroxide

No hybrid resins are allowed except the following:

1. Epacryn 915AT by SP Systems
2. Epacryn 925AT by SP systems

#### 3.3 Gel coat and topcoat

Gel coat based on the following resins are allowed:

1. Thermosetting non-saturated Polyester resin. Catalyzed with Methyl Ethyl Ketone Peroxide
2. Thermosetting non -saturated Vinylester resin, catalyzed with Methyl Ethyl Ketone Peroxide

#### 3.4 Sandwich material

1. Balsa with minimum density of 130kg/m<sup>3</sup>
2. Foam with a minimum density of 80 kg/m<sup>3</sup>
3. Plywood crush pads according to Class Rules

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### **4. METAL MATERIALS FOR USE ON ANY TYPE OF DRAGON**

Brass, Bronze, Gunmetal, Monel, Cast Iron, Galvanised Mild Steel, Stainless Steel and Aluminium Alloy.