

GMS EP-450 PREPREG FILM

Product

GMS Composites EP-450 is a formulated wear resistant, anti-static, flame retardant epoxy resin film with long out life. The product has a versatile curing cycle from as low as 80°C or as high as 130°C, thus enabling the film to co-cure with other GMS prepreg systems in the range. EP-450 is available with a glass carrier. The film has good flow and the tack of EP-450 can be varied.

Applications

EP-450 can be used as a gel coat for prepregs. It will provide the composite part with a wear resistant, flame retardant and anti-static surface. The versatility of EP-450 means that it can be utilised on large, complex structures as well as small basic components where a wear resistance surface is required. It is possible to utilise EP-450 in a number of industries and applications such as marine, mining, and industrial components.

Features

- ◆ **Variable cure cycle 80°C – 130°C**
- ◆ **Wear Resistant, flame retardant, anti-static surface finish**
- ◆ **Suitable for a range of structures and processes**
- ◆ **Excellent shelf life**
- ◆ **Made in Australia**

Curing

The versatility of GMS Composites EP-450 means a range of cure cycles, pressures and ramp up rates can be adopted all of which will depend greatly on the part being produced. Below is a guide to minimum cure cycles.

Temperature (°C)	Time	Tg (°C) - DSC7
80	12 hours	85
90	8 hrs	97
100	4 hrs	105
110	2 hrs	115
120	1 hr	118
130	30 mins	127

Heat ramp up rate – 2°C / min
Pressure – 1 bar

Gel Time

Hot plate

Temperature (°C)	Time (min)
110	12-14
120	6 - 7
130	3 - 4

Values are indicative of small samples of neat resin formulation. Gel times may vary significantly in composites depending on fibre content and laminate thickness.

Properties

Properties of cured, neat formulation. Cure cycle 2hrs at 120oC	Unit	Value
Density (at 23°C)	g/cm ³	1.8
Compressive Strength (at 23°C)	MPa	140 - 150
Ultimate Elongation (at 23°C)	%	4.0 – 6.0
Flexural Modulus (at 23°C)	MPa	3100 - 3400
Tg (DSC, 10 K/min)	°C	120 - 125
Taber Abrasion	mm ³ /100U	4 - 6

Shelf Life

Room temperature (23°C)	> 5 weeks
Refrigerated (-18°C)	12 months

Handling

Customers should ensure appropriate workplace OH&S guidelines are followed when working with this product. Appropriate measures should be taken to avoid contact with skin and eyes. Avoid inhalation of dust or fumes that may be released or created when machining, cutting or curing.

IMPORTANT

All information in this publication is considered accurate and to the best of knowledge of GMS Composites. GMS Composites reserves the right to implement changes and alterations to our products from time to time without giving prior notice. All specifications, weights and capacities in this brochure are approximate only and are included as measure of past performance and do not constitute a condition, warranty or guarantee of future performance. Customers should make their own assessment as to the suitability of this product for their own condition of use. No liability can be accepted in respect to the use of GMS Composites products in conjunction with other materials. Any advice and or recommendations given by GMS Composites and its employees is given in good faith and is acted upon or followed by the customer entirely at their own risk.