

GMS EP-530 PREPREG

Product

GMS Composites EP-530 is a flame retardant epoxy resin matrix prepreg with long shelf life. The product has a versatile curing cycle from as low as 80°C or as high as 150°C, thus enabling the product to be used to produce a wide range of composite items, from large structures to numerous small components. EP-530 is available in a range of substrates such as carbon, glass or aramid. The product is self-extinguishing and meets the UL 94 V-0 classification. The flow and tack of EP-530 can also be varied.

Applications

EP-530 can be used to produce structural components with carbon, glass or aramid fibres. It can also be used in the construction of sandwich structures. The product is self-extinguishing and meets the classification of UL 94 V-0. As such it can be utilised in industries such as rail, marine or other transport applications where FST performance is critical.

Features

- ◆ **Flame retardant – self extinguishing**
- ◆ **Meets UL94 V-0 Classification**
- ◆ **Variable cure cycle 80°C – 150°C**
- ◆ **Excellent shelf life**
- ◆ **Wide range of fibre substrates available**
- ◆ **Made in Australia**

Curing

The versatility of GMS Composites EP-530 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 some cure cycles.

Typical cure cycles.

- 8 – 10 hours at 90°C
- 6 – 8 hours at 100°C
- 4 – 6 hours at 110°C
- 2 – 4 hours at 120°C
- 1 hour at 120°C + 2 hours at 150°C
- 1 – 2 hours at 130°C

Heat ramp up rate – 2°C / min

Pressure – 1 bar

Gel Time

Hot plate

| Temperature (°C) | Time (min) |
|------------------|------------|
| 120 | 14 – 18 |

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 |
|--|----------------|-------------|
| Flexural Strength (at 23°C) | MPa | 92 - 102 |
| Ultimate Elongation (at 23 °C) | % | 1.4 – 1.6 |
| Flexural Modulus (at 23 °C) | MPa | 7050 - 7250 |
| Flammability (UL 94) | Classification | UL 94 V-0 |
| Flammability (UL 94) Total burning time | Sec | 5 |
| Tg, (DSC, 10K/min) | °C | 105 - 112 |
| Interlaminar shear strength (12 layers UD e-glass (425gsm) 3.2mm thick laminate) | MPa | 43 - 49 |

Shelf Life

| | |
|-------------------------|-----------|
| Room temperature (23°C) | > 6 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

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