



UV-PREG® M160 SUN OR UV LIGHT CURING VINYL ESTER PREPREG

Description

UV-preg® M160 is an advanced vinyl ester prepreg with low styrene emission designed to provide a high performance-to-cost ratio. It has a medium to high tack. M160 curing starts immediately upon exposure to sun or UV light, having a spectrum peak around 400 nm. UV-preg® M160 is available only with glass reinforcements and represents a great choice for many industrial applications.

Features

Prepreg

- ❖ Fast curing cycle: 5-10 min for 3-4 mm thick laminate.
- ❖ Suitable for vacuum / sun light curing.
- ❖ Excellent flexibility and handling.
- ❖ Controlled flow and ease vacuum processing.
- ❖ Weight loss < 1%, as determined in a vacuum curing process.

👉 Out of its packaging film, the Prepreg retains its tack **up to 2 days**, depending on the handling and **protective care taken**.

Laminate

- ❖ Superior toughness and excellent fatigue resistance.
- ❖ Good resistance to a broad range of organic and inorganic acids, alkalis, oxidizing chemical and salt solutions, commonly up to 203°F (95°C).

Physical Properties on 7781 E-Glass Fabric

- Standard weight: 0.092 lbs/sq. ft. (484 g/m²).
- Standard resin content: 38% by weight.
- Standard tack: good tack on both sides.
- Cured ply thickness: 0.010" (0.254 mm).



Typical Applications

- FRP parts for chemical resistance purposes.
- General-purpose composites.
- Marine.

Shelf Life

12 months @ 68°F (20°C).

Curing Conditions

UV-preg® M160 has to be laminated layer after layer with proper know how, to minimize air entrapment between the prepreg layers. The total laminate thickness should not exceed 3-4 mm. A release film and peel ply are recommended to be used with a vacuum bag to ensure good debulking and layers consolidation.

The curing starts only after exposing the laminate to sun or UV light, having a spectrum peak around 400 nm. Curing time ranges from 5-15 min depending on the laminate thickness and the UV light exposure.

Laminate Properties

✓ Glass Transition Temperature (DSC): 125°C

Mechanical Properties	ASTM	E-Glass 7781	E-Glass WR
Flexural			
Strength, MPa	D-790	500-600	TBD
Modulus, GPa		23-25	TBD
Tensile			
Strength, MPa	D-3039	TBD	TBD
Modulus, GPa		TBD	TBD
Compression			
Strength, MPa	D-695	TBD	TBD
Modulus, GPa		TBD	TBD
Inter-laminar Shear			
Strength, MPa	D-2344	45-50	TBD



Storage and Handling

All UV-preg® Prepregs are wrapped in a shrink film immediately after impregnation, and packed into a barrier film.

Prepregs should be stored in their original packaging barrier film, or an equivalent film, and maintained air-tightness and UV proof, at 68°F (20°C) and dry place.

If the Prepreg roll has to be maintained out of its packaging barrier film, for few hours during lamination and processing time, it should be wrapped up again in a shrink film and kept away from any sun or UV light source. This will protect the Prepreg and extend its tack time.

The small Prepreg pieces, splitted from the roll in order to be laminated, should be handled and protected properly (i.e. in a plastic bag or box), if not used within a short time (i.e. around 1 hour). The tack time will range from 5-24 hours, depending on the handling and protective caring.

The styrene content in the Prepreg is ranging from 15 to 20%. When the Prepreg is left out without any protection, its weight will drop up to 3% (representing the maximum volatiles content). This will cause significant tack reduction.

Safety Precautions

Usual precautions should be observed. The Prepreg contains mainly uncured synthetic resins. The operator has to use appropriate mask – respirator and work in a clean, dry (R.H. = 50% or less), and ventilated area. The use of clean disposable inert gloves provides protection for the operator and avoids contamination of material and components.

Important Notice

The data reported in this sheet are based on representative samples. Since the method and circumstances of handling and processing are keys to the material performance, Gulf Composite Materials L.L.C., does not guaranty these data. Users should make their own assessment of the suitability of any product for the performance required.