

# EPM104 TOUGHENED EPOXY

EPM104 is a moderate Tg, highly toughened epoxy prepreg system designed for a wide variety of industrial structural applications. EPM104 is suitable for autoclave, press or bag molding operations.

## FEATURES AND BENEFITS

- Excellent mechanical properties
- Moderate tack for ease of part lay-up
- 4 week out-time at room temperature

## PRODUCT FORMS

EPM104 is available as a uni-directional tape or woven fabric prepreg in a variety of reinforcements. Resin content, tack and other specifications can be tailored as per customer requirements.

- Standard fabric prepreg widths: 50", 60"
- Unidirectional tape up to 70" wide

## PHYSICAL PROPERTIES

Fiber Reinforcement Type	Standard Modulus Carbon UD Tape
Fiber Areal Weight (gsm)	190
Resin Content (% by wt.)	43%
Volatiles (% max)	0.5 - 4%
Tg (onset, DMA)	266°F (130°C)

## LAMINATE PROPERTIES - ROOM TEMPERATURE DRY CONDITION

	Units	Standard Modulus 50K UD Tape
Cure Type		Press/Bag
Tensile Strength (0°)	Ksi (MPa)	296 (2,037)
Tensile Modulus (0°)	Msi (GPa)	21.9 (150)
Compression Strength (0°)	Ksi (MPa)	219 ( 1,509)
Compression Modulus (0°)	Msi (GPa)	20.0 (138 )
Flexural Strength (0°)	Ksi (MPa)	228 (1,575)
Flexural Modulus (0°)	Msi (GPa)	17.8 (123)
Short Beam Shear Strength (0°)	Ksi (MPa)	14.0 ( 96)

Note: Values are average and do not constitute a specification. 0° tensile, compression and flexural values normalized to fiber vf of 60%.



## PROCESS INFORMATION

The following are general recommendations for successful processing. Other cure cycles are possible. Adjustments may be required to achieve optimum results in your specific manufacturing environment.

### Vacuum Bag in Oven Cycle

- Draw vacuum and apply 100 psi pressure
- 5°F (3°C)/min. ramp to 250°F (121°C)
- Hold for 60 min.
- Cool to less than 180°F (82°C) at 10°F (6°C)/min.
- Release vacuum and demold when < 150°F (65°C)

### Press Cycle (In-out, Out-hot)

- Recommended 100 psi pressure
- Cure at 250°F (121°C) for 60 min.
- Bumps at 30, 60 and 90 seconds

### Autoclave Cycle

- Draw vacuum and apply 50 psi pressure
- 5°F (3°C)/min. ramp to 250°F (121°C)
- Hold for 60 min.
- Cool at 5-10°F (3-6°C)/min.
- Release pressure when <180°F (82°C)

Shelf Life	
Room Temperature (77°F/25°C)	4 weeks
0°F (-18°C)	6 months

Quality Certifications - Barrday Composite Solutions is ISO9001 and AS9100 certified.

Note: EPM104 prepreg rolls are sealed in polyethylene film bags to protect prepreg from moisture and other contaminants. The bags should remain sealed while the prepreg is under refrigeration and only removed when the prepreg has had sufficient time to warm to room temperature. When not in use, the prepreg should be returned to refrigerated storage. Care should be exercised to limit out-time of the prepreg in order to insure maximum shelf life. Torn bags should be replaced. The data presented herein has been developed under controlled manufacturing. No warranty is expressed or implied regarding the accuracy or use of this data or the use of this product. It is the responsibility of the end user to determine suitability for use.

