

EPM502

FIRE RETARDANT EPOXY PREPREG

EPM502 is a 250°F (121°C) curing toughened epoxy prepreg system that is designed for structural applications in aircraft interiors and other markets. This system is self-extinguishing and easily meets the requirements for both the 12 second and 60 second Vertical Ignition Tests listed in FAR 25-853.

FEATURES AND BENEFITS

- Self-extinguishing. Meets FAR 25-853 flammability requirements
- Suitable for autoclave, press or bag molding operations

PRODUCT FORMS

EPM502 is available as a uni-directional tape and woven fabric prepreg in carbon and glass reinforcements. A glass scrim-backed uni-directional tape option is also available.

- Standard fabric prepreg widths: 38", 50", 60"
- Uni-directional tape up to 60" wide

PHYSICAL PROPERTIES

Fiber Reinforcement Type	Standard Modulus Carbon UD Tape	S2 Roving Glass UD Tape	7781 E-Glass
Fiber Areal Weight (gsm)	120	244	301
Resin Content (% by wt.)	30%	28%	40%
Tg (onset, G'DMA)	298°F (148°C)		

LAMINATE PROPERTIES

	Units	Standard Modulus 12K UD Tape	S2 Roving Glass UD Tape	7781 E-Glass
Cure Type for Evaluation		Press	Press	Press
Tensile Strength (0°)	ksi (MPa)	322 (2,220)	237 (1,634)	80 (551)
Tensile Modulus (0°)	Msi (GPa)	21.0 (145)	7.4 (51)	4.5 (31)
Compression Strength (0°)	ksi (MPa)	215 (1,482)	157 (1,082)	83 (572)
Compression Modulus (0°)	Msi (GPa)	18.8 (130)	7.8 (54)	4.7 (32)
Flexural Strength (0°)	ksi (MPa)	213 (1,469)	231 (1,593)	109 (751)
Flexural Modulus (0°)	Msi (GPa)	17.6 (121)	7.0 (48)	4.0 (27)
Short Beam Shear Strength (0°)	ksi (MPa)	12.5 (86)	11.4 (79)	10.4 (72)

Note: Room temperature, dry condition.



FLAMMABILITY PROPERTIES

	Units	7781 E-Glass
60 Second Vertical Ignition		
Flame Time	seconds	0
Burning Length	inches	2.6
Drip Extinguish Time	seconds	0

Note: Specimens tested with one ply of prepreg per side on 0.1" thick nomex honeycomb. Cured at 250°F (121°C) for 120 min.

PROCESS INFORMATION

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

Vacuum Bag in Oven Cycle

- Draw vacuum
- 5°F (3°C)/min. ramp to 250°F (121°C)
- Hold for 45 min.

Press Cycle - Sandwich Panels / 7781 E-Glass (In-hot, 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 45min.

Press Cycle - UD Tape (In-hot, Out-hot)

- Insert at 212°F (100°C) with contact pressure
- 5°F (3°C)/min. ramp to 230°F (110°C) then apply 100psi pressure
- 5°F (3°C)/min. ramp to 250°F (121°C)
- Hold for 45 min.

Shelf Life

Room Temperature (77°F/25°C)	4 weeks
0°F (-18°C)	12 months

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

Note: EPM502 Prepreg is wound with a polyethylene film liner for easy release. The 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.

