



EPM503 LOW HEAT RELEASE EPOXY PREPREG

EPM503 is a toughened, low heat release epoxy prepreg system designed for a variety of aircraft interior applications. EPM503 is self-adhesive to honeycomb and has excellent surface finish. EPM503 is offered as a press grade system.

FEATURES AND BENEFITS

- Self-extinguishing. Meets FAR 25-853 flammability requirements
- Low heat release
- Halogen, antimony, formaldehyde, phenol-free
- Good mechanical properties
- Self-adhesive to honeycomb
- High quality surface finish
- Rapid curing (15 minutes)

PRODUCT FORMS

EPM503 is available as a woven fabric prepreg in carbon and glass reinforcements. Resin content and other specifications can be tailored as per customer requirements.

- Standard fabric prepreg widths: 50", 60"

PHYSICAL PROPERTIES

Fiber Reinforcement Type	7781 E-Glass
Fiber Areal Weight (gsm)	300
Resin Content (% by wt.)	35-39
Resin Flow (%)	5-15
Gel (min.)	5-8
Volatiles (% max)	<1
Tg (onset, DMA)	288°F (142°C)
Cured per Ply Thickness	0.01" (0.25mm)

Note: Resin Flow, Gel and Volatiles tested at 275°F (135°C)

LAMINATE PROPERTIES

Fiber Reinforcement Type	Units	7781 E-Glass
Cure Type for Evaluation		Press
Tensile Strength	ksi (MPa)	71 (485)
Tensile Modulus	Msi (GPa)	3.7 (25)
Compression Strength	ksi (MPa)	75 (517)
Compression Modulus	Msi (GPa)	4.5 (31)
Flexural Strength	ksi (MPa)	92 (634)
Flexural Modulus	Msi (GPa)	3.5 (24)
Short Beam Shear Strength	ksi (MPa)	9.3 (64)

Note: Room temperature, dry condition. Values are average and do not constitute a specification.

SANDWICH PROPERTIES

Fiber Reinforcement Type	Units	7781 E-Glass
Cure Type for Evaluation		Press
Long Beam Flexural Strength (2 ply)	ksi (MPa)	42 (290)
Climbing Drum Peel (1 ply)	in lbs/3-inch width	15.4

Note: Room temperature, dry condition. Values are average and do not constitute a specification.
Specimens tested on nomex honeycomb, 0.5" thick, 3.0 pcf, 1/8" cell

FLAMMABILITY PROPERTIES

7781 E-Glass	Units	60 min Cure (275°F)	15 min Cure (300°F)
OSU, Peak Heat Release Rate	kw/m ²	37	28
OSU, Total Heat Release Rate	kw/min/m ²	43	33
Specific Optimal Density (ASTM E662-96)	Ds	58	

Note: Specimens tested with one ply per side on 0.25" thick nomex honeycomb.

7781 E-Glass	Units	60 min Cure (275°F)	15 min Cure (300°F)
60 Second Vertical Ignition			
Flame Time	seconds	0	0
Burning Length	inches	1.8	1.9
Toxicity		Pass	Pass

Note: Specimens tested with one ply per side on 0.25" thick nomex honeycomb.

PROCESS INFORMATION

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

Press Cycle
(In-hot, Out-hot)

- Recommended 60 - 90 psi pressure
- 260 - 300°F (127 - 150°C) for 15 - 60 min.
- Bumps recommended. No later than 60-90 seconds for 300°F cure and no later than 5 min. for 260°F cure.

Shelf Life	Units
Room Temperature (77°F/25°C)	8 weeks
0°F (-18°C)	12 months

Note: EPM503 Prepreg is wound with a polyethylene film liner or paper backing for easy release. The rolls are packaged in polyethylene film bags and secured with zip ties 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.