



PH4101 PHENOLIC PREPREG

PH4101 is a 350°F (175°C) curing phenolic system designed for use in high temperature aerospace applications. PH4101 is suitable for autoclave, press or bag molding operations. This system is ideally suited for high temperature aircraft ducting, aircraft engine components, firewalls and heat shields.

FEATURES AND BENEFITS

- Designed for applications requiring heat resistance to 500°F (260°C)
- Pigmented black
- Resin for seal coating is available
- Meets requirements of MIL-R-9299C, Grade B

PRODUCT FORMS

PH4101 is available as a woven fabric prepreg in a wide variety of reinforcements including carbon and glass.

- Standard fabric prepreg widths: 38", 50", 60"
- S2 glass UD slit tape width: 0.4"

PHYSICAL PROPERTIES

Fiber Reinforcement Type	7781 E-Glass	S2C AGY563 Glass UD Tape
Fiber Areal Weight (gsm)	301	320
Resin Solids Content (% by wt.)	36	34
Resin Flow (%)	25	
Volatiles (% max)	8	
Tg (dry, G'DMA)	542°F (283°C)	

PROPERTIES

	Units	7781 E-Glass
Cure Type for Evaluation		Bag/Oven
Tensile Strength	ksi (MPa)	54 (372)
Tensile Modulus	Msi (GPa)	5.5 (38)
Compression Strength, RT	ksi (MPa)	70 (485)
Compression Strength, 2 Hr. H2O Boil	ksi (MPa)	66 (455)
Compression Modulus, RT	Msi (GPa)	4.5 (31)
Compression Modulus, 2 Hr. H2O Boil	Msi (GPa)	5.2 (36)
Flexural Strength, RT	ksi (MPa)	84 (581)
Flexural Strength, 2 Hr. H2O Boil	ksi (MPa)	84 (579)
Flexural Strength, 500°F (260°C)	Ksi (MPa)	70 (485)
Flexural Modulus, RT	Msi (GPa)	3.8 (26)
Flexural Modulus, 2 Hr. H2O Boil	Msi (GPa)	3.8 (26)
Flexural Modulus, 500°F (260°C)	Msi (GPa)	3.5 (24)
Short Beam Shear Strength, RT	ksi (MPa)	8.0 (55)
Short Beam Shear Strength, 500°F (260°C)	ksi (MPa)	6.0 (41)

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

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
- 2-5°F/min. ramp to 175°F
- Hold for 60 min.
- 2-5°F/min. ramp to 235°F
- Hold for 60 min.
- 2-5°F/min. ramp to 350°F
- Hold for 120 min.
- Cool to less than 200°F at 5 - 10°F/min.
- Release vacuum and demold

Shelf Life

Room Temperature (72°F)	3 weeks
0°F	12 months

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

Note: PH4101 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 conditions. 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.