

F-557 Phenolic Prepregs

Prepreg Physical Properties

	Commercial Silica Fabric	Aerospace Silica Fabric	Chopped Molding Compound
Nominal Prepreg Weight (oz/yd)	30	30	30
Resin Solids Content (%)	30 – 36	30 – 36	30 – 36
Filler Content (%)	3.4 – 5.4	3.4 – 5.4	3.4 – 5.4
Resin Flow (325°F, 150 psi) (%)	7 – 17	10 – 25	10 – 25
Volatiles (275°F, 8 min) (%)	2 – 5	2 – 5	2 – 5
Nominal Cured Ply Thickness (in)	0.021	0.021	--

Cured Laminate Physical Properties

Reinforcement	Commercial Silica Fabric	Aerospace Silica Fabric	Chopped Molding Compound
Specific Gravity <i>ASTM-D-792</i>	1.7	1.7	--
Hardness (Barcol) <i>ASTM-D-2583</i>	70	70	--
Specific Heat (btu/lb°F) <i>ASTM-C-351</i>	0.24	0.24	0.24
Thermal Conductivity (BTU/ft ² hr °F) @ 300°F <i>ASTM-C-177</i>	0.225	0.225	--

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Laminate Mechanical Properties

Reinforcement	Commercial Silica Fabric	Aerospace Silica Fabric	Chopped Molding Compound	Chopped Molding Compound
Cure Cycle	325°F Autoclave	325°F Autoclave	325°F 2500 psi	325°F 2500 psi & Post-Cure
Tensile Strength, 0° (Ksi) 75°F Dry ASTM-D-638 / ASTM-D-3039b *	13	13	4.3	5.4
Tensile Modulus, 0° (Msi) 75°F Dry ASTM-D-638	2.4	2.5	2.5	2.2
Compressive Strength (Ksi) 75°F Dry ASTM-D-695	24	30	25.5	31
Compressive Modulus (Msi) 75°F Dry ASTM-D-695	2.4	2.9	--	--
Flexural Strength (Ksi) 75°F Dry ASTM-D-790	23	17	8.5	15
Flexural Modulus (Msi) 75°F Dry ASTM-D-790	1.7	2.3	--	2.1

* Fabric tested to ASTM-D-638, CMC tested to ASTM-D-3039b

All test data provided are typical values and not intended to be specification values. For review of critical specification tolerances, please contact a Park representative directly. Park reserves the right to change these values based on a nature process of refining our testing equipment and techniques.



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Prepreg Storage Life

- Out Life: 30 days @ 75°F
- Shelf Life: 6 months @ 40°F (dry)

Note: The following guidelines are provided to assist Park material users with general recommendations for successful processing. The recommendations are for general review purposes only and process adjustments may be required to achieve optimum results in your specific manufacturing environment.

Autoclave Cure Cycle (Broadgoods)

- Apply 24" Hg vacuum (minimum) for 1 hour before beginning heat cycle
- Apply 10 psi autoclave pressure
- Raise product temperature from RT to 250°F at 2 - 5°F/min
- Increase autoclave pressure to 40psi, vent vacuum at 15 - 20 psi
- Hold product at 250 ± 5°F for 30 minutes
- Raise product temperature to 325 ± 5°F at 2 - 5°F/min
- Hold product at cure temperature for 60 - 90 minutes
- Cool to 150°F at no more than 8°F/min prior to releasing autoclave pressure

Press Cure Cycle (Chopped Molding Compound)

- Apply 2,500 psi pressure during cure
- Cure product at 325°F for 60 minutes
- After releasing from mold, post-cure 2 hours at 350°F (optional)

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