



PSR133 Phenolic Prepreg

PSR133 phenolic resin is certified to MIL-R-9299 C, grade B - Improved Mechanical Properties. PSR133 is unaffected by Hydraulic Oil, Isopropanol, Ethylene Glycol & Hydraulic Fluid in 24 hour soak testing per Federal Test Standard 406 - method 7011. PSR133 is suitable for all military specifications requiring MIL-R-9299 resin. This material meets the requirement of MIL-L-64151 (HJ1) for armor. PSR133 offers the highest char yield for phenolic available today for carbon/carbon and ablative applications. Available in prepreg form as well as neat resin, PSR133 is the most cost effective phenolic for use in carbon/carbon systems. PSR133G is graphitic carbon filled prepreg for carbon/carbon and ceramic applications. PSR133 does not exhibit macro-cracking often experienced in cured components.

Properties of PSR133-7781 tested per MIL-R-9299C

Standard Condition (75° F)	Flexural Strength, psi	88,500
	Flexural Modulus, psi	4,500,000
	Tensile Strength, psi	61,000
	Tensile Modulus, psi	4,600,000
	Compression Strength, psi	68,900
	Compression Modulus, psi	3,800,000
24 Hr H ₂ O Boil (75° F)	Flexural Strength, psi	91,400
	Flexural Modulus, psi	4,600,000
	Tensile Strength, psi	58,500
	Tensile Modulus, psi	4,500,000
	Compression Strength, psi	66,400
	Compression Modulus, psi	3,600,000
½ Hr @ 160° F	Flexural Strength, psi	81,700
	Flexural Modulus, psi	4,100,000
½ Hr @ 500° F	Flexural Strength, psi	65,000
	Flexural Modulus, psi	3,500,000
	Tensile Strength, psi	44,300
	Compression Strength, psi	47,200
100 Hrs @ 500°F	Flexural Strength, psi	52,200
	Flexural Modulus, psi	3,300,000

NOTE: The data presented herein has been developed under controlled manufacturing and test conditions and is considered accurate. 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.



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Product Offerings

PSR133 phenolic resin is available in 1 and 5 gallon pails, 45 gallon drums, customer totes or tanker trailer. PSR133 is offered in resin solids ranges of 62 and 69% in MEK. PSR133 prepregs are offered in fabrics of carbon, glass, high silica glass and kevlar fibers, with widths ranging from 33 to 60 inches broadgoods. Broadgoods can be slit in straight of biased tape and are offered in tape widths from 0.75 and up.

Process Information - PSR133 or PSR133G

Autoclave Cycle

Draw Vacuum and apply 45-200 psi autoclave pressure
5° F/Minute Ramp to 180° F
Hold for 30 to 45 minutes at 180° F
5° F/Minute Ramp to 325 to 345° F
Cure at 325° F to 345° F for 90 to 120 Minutes
Cool to Less Than 180° F at 3 to 5° F/Minute
Release Pressure/Vacuum and Demold

Vacuum Bag in Oven Cycle

Draw Vacuum
5° F/Minute Ramp to 180° F (Optional)
Hold for 30 to 45 minutes (Optional)
5° F/Minute Ramp to 325° F - 345° F
Cure at 325° F to 345° F for 90 to 120 Minutes
Cool to Less Than 180° F at 3 to 5° F/Minute
Release Vacuum and Demold

Press Cycle

90 to 120 minutes at 325° F to 345° F, 1000 psi

All hold times are general and are thickness dependent. Use lagging thermocouple reading and temperature equilibration as end limit of hold cycle.

Room Temperature	(77° F) Three (3) Weeks
40° F	Six (6) Months
0° F	Twelve (12) Months

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