

C933 PHENOLIC PREPREG PRODUCT DATASHEET



PRODUCT DESCRIPTION

C933 Phenolic Prepreg has good adhesion properties and provides excellent adhesion to core materials. Excellent choice for producing composite laminates or sandwich panels. C933 Phenolic Prepreg is a new generation with improved mechanical properties.

BENEFITS AND FEATURES

- Fast curing cycle: 20 min @ 120°C (248°F).
- Suitable for low pressure: 1-3 bar.
- Self-adhesive for core materials and secondary bonding.
- Excellent flexibility and handling, with medium tack.
- Prepreg weight loss: 5-7% (@ resin content: 40-42 %, and cured @ 120 C for 20 min).

TYPICAL REINFORCEMENTS

Fabric*	SM Carbon	E-Glass	Silica Plain
FAW and Product Form	<ul style="list-style-type: none">• 300-600 TF** UD,• 200-1600 Stitched Fabric (Biaxial, Triaxial)	<ul style="list-style-type: none">• 100-600 PW/2x2 Twill	<ul style="list-style-type: none">• 300-600 PW

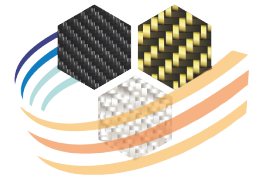
*Please contact with us for further option.

**Thermal Fixed

TYPICAL APPLICATIONS

- Aircraft Interior
- Mass-transit
- Electric & Electronic
- Defense

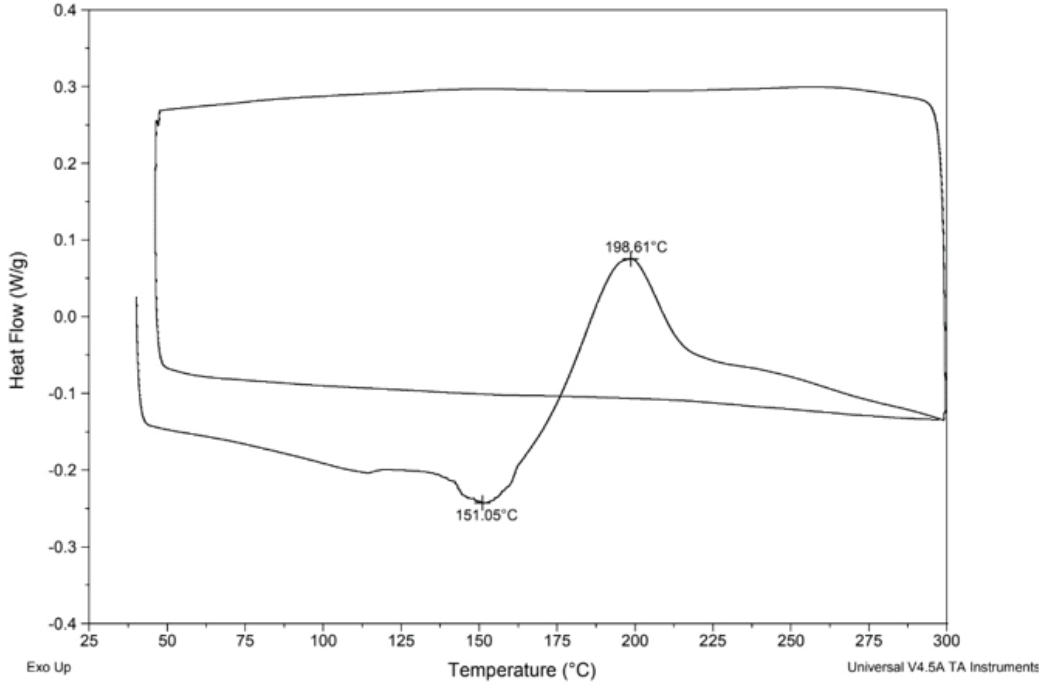
This technical datasheet is not a specification. All information is believed to be accurate with the performance, storage, and other characteristics of the product without acceptance of liability. Users are held to do their tests to check the suitability of the product for its particular purpose.



GCI KOMPOZİT

GLASS TRANSITION TEMPERATURE

E-Glass prepreg - vacuum cured @ 120 °C for 60 min.

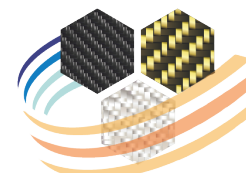


DSC Scan Range (°C)	25 - 300
Tg (°C)	150 - 155

TYPICAL OVEN VACUUM CURING CYCLE

- Apply a 24" Hg vacuum for 5 minutes before beginning the heat cycle.
- Raise laminate temperature from room temperature to 80°C (176°F) within 30-40 min.
- Hold laminate at 80°C (176°F) for 30 min.
- Raise laminate temperature from 80°C (176°F) to 120°C (248°F).
- Hold laminate at 120°C (248°F) for 60 min.
- Cool the laminate to at least 80°C (176°F), prior to releasing vacuum pressure.

Notice: It should be understood that the curing period will begin only after the pre-impregnation temperature reaches the recommended temperature.



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PRESS MOLDING CURING CYCLE

Laminate Temp. (°F/°C)	Dwell Time (min.)	Dwell Pressure (bar)	Suggested Pressure Releasing Temp. (°C)
257/120	20	1-3	< 90
266/130	15	1-3	< 100
284/140	10	1-3	< 110

SHELF LIFE, STORAGE CONDITIONS AND HANDLING

C933 phenolic prepregs are wrapped in a barrier film immediately after impregnation. The following notes should be taken into account during storage and transportation:

- C933 prepregs should be stored in the original packaging barrier film or equivalent film at -18°C.
- Before use, the prepreg roll should be removed from the freezer and remain tightly closed for the required period of at least 24 hours. To reach ambient room temperature.
- It is highly recommended to process the prepreg in a clean area where the relative humidity is $\leq 52\%$ and the ambient temperature is 20-23°C

Temperature	Time
4°C (40°F)	6 months
-18°C (0°F)	12 months
20°C (68°F)	3 weeks

FIRE PROPERTIES

Flammability

- Extinguishing time: Nil
- Burn length: Nil
- Drip extinguishing time: No dripping

Fire Behaviour

(On Typical Silica Plain Weave 300 gr/m²)

- Method: TS EN ISO 11925_2 -
- Result: PASS

MECHANICAL PROPERTIES

VACUUM CURED STITCHED FIBER LAMINATES

Properties	Fiber Direction	Test Method	MI/MA	Units	Mechanical Properties Dry
Tensile Strength	0°	TS EN ISO 527-4	MI MA	MPa	120,6
Tensile Modulus	0°	TS EN ISO 527-4	MI MA	MPa	15408
Flexural Strength	45°	TS EN ISO 14125	MI MA	MPa	124
Flexural Modulus	45° 0°	TS EN ISO 14125	MI MA	GPa	11170
Flexural Elongation	-	TS EN ISO 14125	MI MA	%	1,2

300 gsm Silica Plain RC. (42%) Phenolic Prepreg

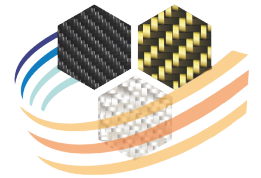
1h 120°C

VACUUM CURED STITCHED FIBER LAMINATES

Properties	Fiber Direction	Test Method	MI/MA	Units	Mechanical Properties Dry
Tensile Strength	0°	TS EN ISO 527-4	MI MA	MPa	274,7
Tensile Modulus	0°	TS EN ISO 527-4	MI MA	MPa	20185
Flexural Strength	45°	TS EN ISO 14125	MI MA	MPa	315
Flexural Modulus	45° 0°	TS EN ISO 14125	MI MA	GPa	40418
Flexural Elongation	-	TS EN ISO 14125	MI MA	%	0,8

560 gsm E-glass RC. (42%) Phenolic Prepreg

1h 120°C



MECHANICAL PROPERTIES

VACUUM CURED STITCHED FIBER LAMINATES

Properties	Fiber Direction	Test Method	MI/MA	Units	Mechanical Properties Dry
Tensile Strength	0°	TS EN ISO 527-4	MI MA	MPa	436,4
Tensile Modulus	0°	TS EN ISO 527-4	MI MA	MPa	41166
Flexural Strength	45°	TS EN ISO 14125	MI MA	MPa	252
Flexural Modulus	45° 0°	TS EN ISO 14125	MI MA	MPa	26593
Flexural Elongation	-	TS EN ISO 14125	MI MA	%	1,18

400 gsm Twill Carbon Fiber RC. (42%) Phenolic Prepreg

1h 120°C

SAFETY NOTES

Usual precautions, as follows, must be considered:

- During lamination, workers must avoid skin contact by wearing appropriate disposable protective gloves.
- Clean protective coveralls or equivalent clothes must be worn before laminating and also sanding.
- Protective glasses must be worn to avoid eye contamination. In case of contamination, eyes must be flushed for 15 min and then medical treatment must be applied.
- After working, hands and contaminated skin, if any, have to be washed with soap and warm water. This has to be implemented as a routine practice.