

H469 EPOXY PREPREG PRODUCT DATASHEET



PRODUCT DESCRIPTION

H469 has excellent curing temperature range and high tg.

H469 epoxy prepreg incorporates a reinforced matrix tailored for advanced structural composite applications. Its versatility allows for the fabrication of sandwich structures or laminates using various manufacturing techniques such as plate pressing and autoclaving. H469 prepreg designed for the vacuum bagging and the compression molding processes.

BENEFITS AND FEATURES

- Excellent tack life, 60 days at 23°C.
- Versatile cure temperature 120 - 150°C (248 – 302 °F)
- Good mechanical properties.
- excellent chemical resistance
- Provides safe performance in various industrial environments.
- Suitable for vacuum and autoclave curing.
- Long storing life, 6-8 weeks @ 20-23°C & 2 4 months @ -18°C.
- Very efficient chemical B-staging at 80-100 °C

TYPICAL REINFORCEMENTS

Fabric*	SM Carbon	E-Glass
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/2x2Twill

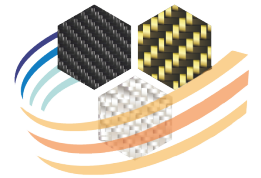
*Please contact with us for further option.

**Thermal Fixed

TYPICAL APPLICATIONS

- Wind Applications
- Marine Application
- Automotive
- Recreational Composites
- High Performance Sports Equipments.

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.

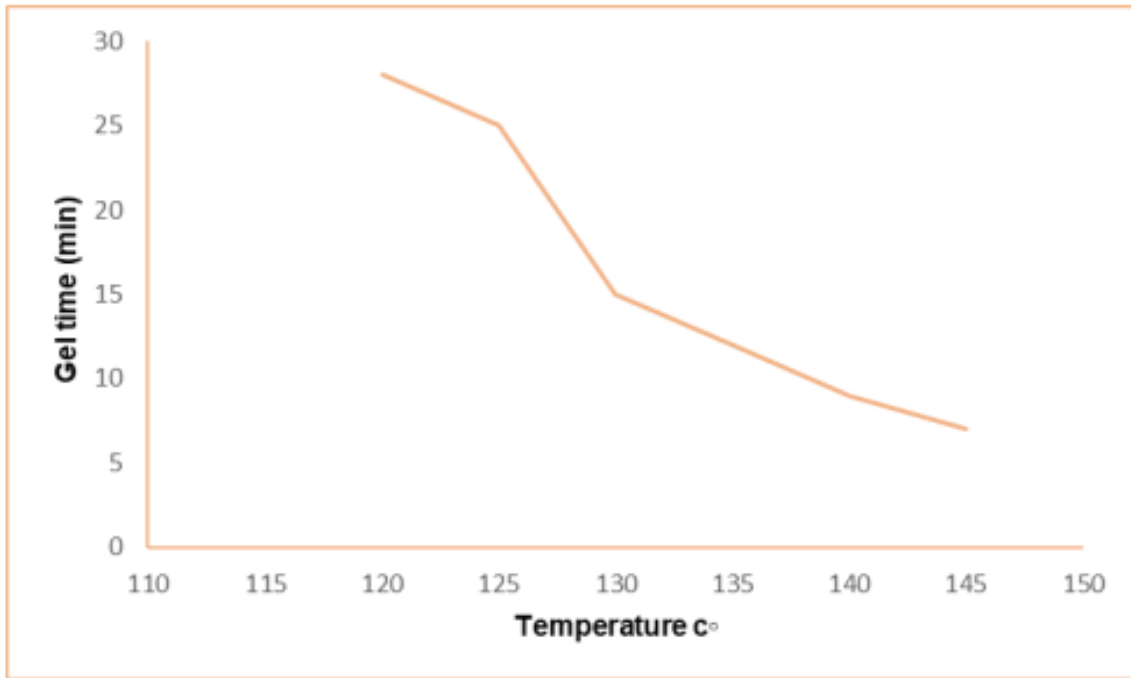


GCI KOMPOZİT

RESIN PROPERTIES

The H469 resin system is a hardened epoxy system with a high glass temperature ($T_g > 155^\circ\text{C}$).
(With prescribed 140-150 °C curing conditions)

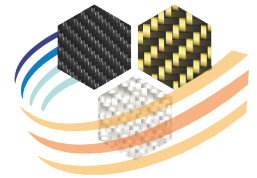
The resin system is mainly intended for industrial applications and suitable to carry high loads.



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 120 min.
- Cool the laminate to at least 80°C (176°F), before 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 (140 °C)

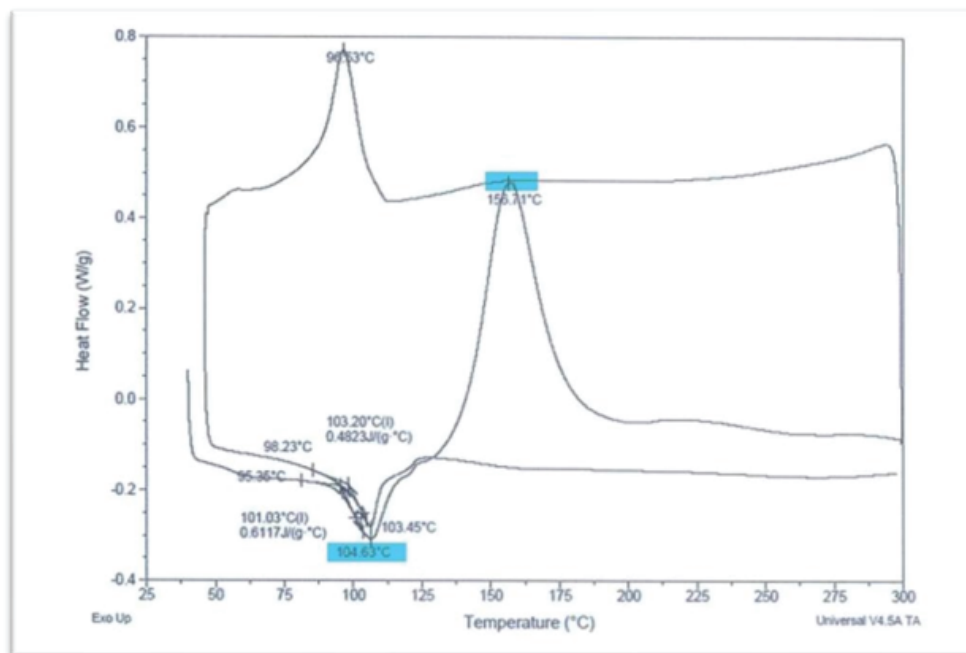
- 1) Preheat the press to 140 °C
- 2) Place the laminate in the hot press and keep the laminate at this temperature by applying 3 - 7 bar (0.3-0.7 MPa) pressure for 60 minutes.
- 3) Remove the laminate from the mold (cool below 95-100 °C if possible)

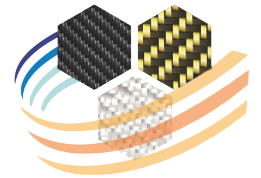
ALTERNATIVE CURING CYCLES

*Dry Tg

Temperature (°C)	Gel time (mins)	Dwell time (Hrs:mins)	DSC Tg (°C)
120	13-16	2:00	125
130	7-9	-	-
140	4-5	1:00	145-155
150	-	30 min	135-145

*Wet Tg





SHELF LIFE, STORAGE CONDITIONS AND HANDLING

H469 prepregs are wrapped in a barrier film immediately after impregnation. During storing and handling, the following notes must be considered:

- H469 prepregs should be stored in their original packaging barrier film, or an equivalent film, at -18°C.
- Thanks to its excellent thermoforming feature, it offers suitable placement for every process after 48 hours at room temperature.
- It is highly recommended to handle the prepreg at 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
Working Life at 24°C (75°F)	> 8 weeks

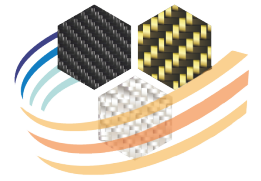
MECHANICAL PROPERTIES

VACUUM CURED STITCHED FIBER LAMINATES

Reinforcement	3K 2x2 Carbon Fiber	E-Glass	Units	Test Method
Fiber Areal Weight (gsm)	245	425	-	-
Resin Content (%)	42	40	-	-
Tensile Strength	506,4	-	MPa	TS EN ISO 527-4
Modulus Elasticity	43,4	-	MPa	TS EN ISO 527-4
Flexural Strength	773	740	MPa	TS EN ISO 14125
Flexural Modulus	37150	41000	MPa	ASTM D695
Compression Strength	>150°	-	MPa	ASTM D695
Compression Modulus	2111	-	MPa	ASTM D695
Shear Strength	-	48	MPa	ASTM D-2344

120°C 2h

140°C 1h



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.