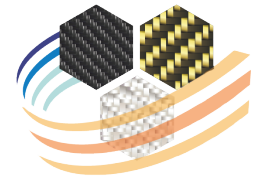


# T359 EPOXY PREPREG PRODUCT DATASHEET

80°C (176°F) Curing Epoxy



GCI KOMPOZİT

## PRODUCT DESCRIPTION

T359 is an epoxy prepreg suitable for the vacuum, oven curing and press process. It has been designed to be easy to work with in terms of handling and processing. Despite its high flow matrix, T359 gives a high-quality surface when processed and cured properly. T359 is available in all reinforcements and represents a great choice for many industrial applications.

## BENEFITS AND FEATURES

- High toughness
- Aircraft ducting, floorboards, and bulkheads
- Suitable for thin and thick laminates.
- Excellent mechanical properties.
- Very good surface properties.
- Good chemical resistance.
- Excellent dielectric properties.
- Great hot de-molding performance.
- Very good thermal resistance.
- Suitable for vacuum and autoclave curing.
- Structures and sandwich panels requiring low porosity
- Hot melting, processing provides volatile-free, non-toxic curing and processing.

## TYPICAL APPLICATIONS

- Wind Applications
- Marine Applications
- Automotive
- Sport and Leisure
- Industrial Applications

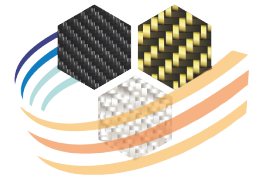
## TYPICAL REINFORCEMENTS

Fabric*	SM Carbon	E-Glass
FAW and Product Form	<ul style="list-style-type: none"><li>• 300-600 TF** UD,</li><li>• 200-1600 Stitched Fabric (Biaxial, Triaxial)</li></ul>	<ul style="list-style-type: none"><li>• 100-600 PW/2x2Twill</li></ul>

\*Please contact with us for further option.

\*\*Thermal Fixed

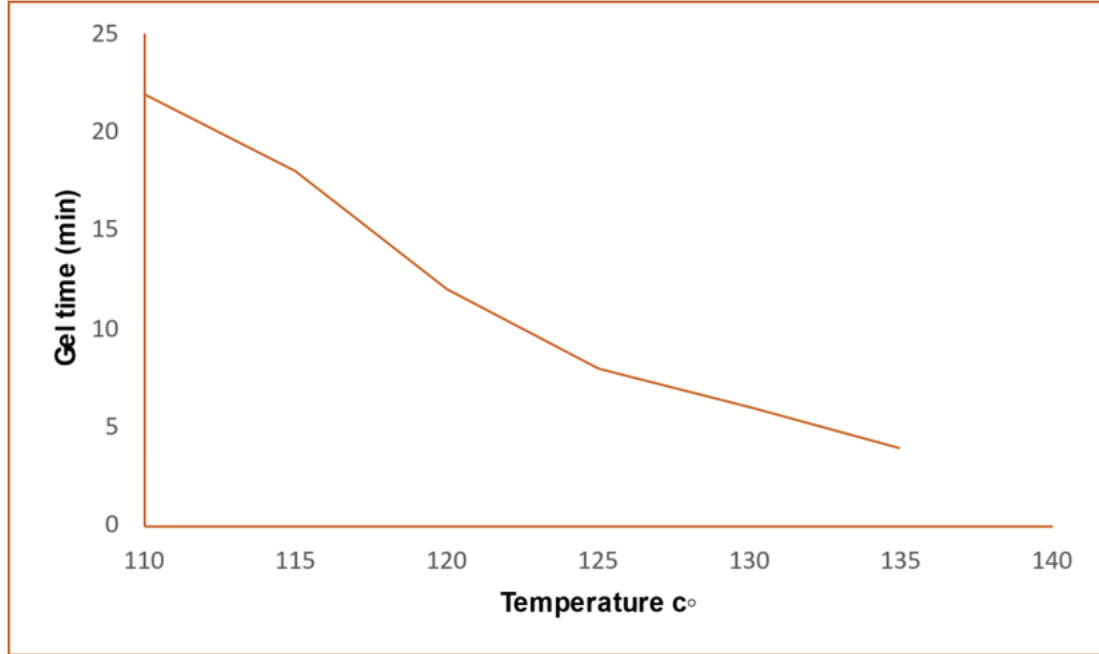
This technical datasheet is not a specification. All information is believed to be accurate with the performance, storage, and other characteristics of the product without acceptance of liability. Users are held to do their tests to check the suitability of the product for its particular purpose.



GCI KOMPOZİT

## RESIN PROPERTIES

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



## CURING SPECIFICATIONS

Specification	Minimum	Method
Curing temperature (°C)	80°C	DSC
Curing time (Hr) @ minimum curing temperature	06:00 Hr	DSC
Glass transition temp. Tg (°C)	108°C	DSC
Viscosity – 40 to 120°C @ 1°C/min – (Poise)	47.18°C/min	Rheometer

## 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.

## PRESS MOLDING CURING CYCLE (120 °C)

- 1) Preheat the press to 120 °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 40 minutes.
  - 3) Remove the laminate from the mold (cool below 95-100 °C if possible)
- \*Post-curing can be done in the oven at 100 °C for 6 hours.

## ALTERNATIVE CURING CYCLES

Temperature (°C)	Gel time (mins)	Dwell time (Hrs:mins)	DSC Tg (°C)
85	-	6:00	95-100
90	-	4:00	95-100
100	-	6:00	100-110
110	13-15	-	-
120	7-9	2:00	110-115
130	3-5	-	115

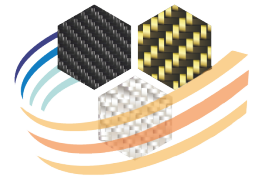
## SHELF LIFE, STORAGE CONDITIONS AND HANDLING

T359 prepregs are wrapped in a barrier film immediately after impregnation. During storing and handling, the following notes must be considered:

- T359 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 ≤ 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)	48 hours (B-stage state) (It is easily shaped and made suitable for the process)

**Notice:** Before use, the prepreg roll has to be out of the freezer and remain tightly sealed for 48 hours. When subjected to 40°C-60°C degrees of heat at the end of the 48 hours B-stage period, shaping can be done in accordance with any process and mold.



# 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	546,9
Tensile Modulus	0°	TS EN ISO 527-4	MI MA	MPa	52730
Compression Strength	0°	ASTM D695	MI MA	MPa	>115
Compression Modulus	0°	ASTM D695	MI MA	MPa	1372
Flexural Strength	45°	TS EN ISO 14125	MI MA	MPa	538
Flexural Modulus	45° 0°	TS EN ISO 14125	MI MA	GPa	41185

245 gsm Carbon Twill RC (40%) Epoxy Prepreg

2h 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.