

Highly Toughened Epoxy Prepreg System

RP549

80 - 180°C Cure

Tg 214°C (DMA)

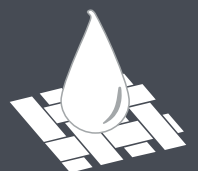
Applications

- Automotive
- Motorsport
- Marine
- Defence
- Sports and Leisure

Processing Methods

- Vacuum bag
- Autoclave
- Press moulding
- Tube rolling
- Pressure bag

TDS0003





Description

RP549 highly toughened modified epoxy prepreg has been specially formulated for the production of components requiring high mechanical properties and good impact resistance, particularly those exposed to elevated temperatures. This new system has an $>200^{\circ}\text{C}$ Tg following the 180°C cure cycle, and provides excellent mechanical properties in tensile, ILS and flexural strength.

RP549 is now in manufacture on a range of our high quality woven fabrics.

Cure Cycle

Standard Cure cycle:

- 1½ hrs at 120°C in autoclave, 6 bar pressure plus full vacuum
- Post cure 150°C for 2 hours is required after initial cure
- Ramp up rate: 2°C per min up to temperature
- Tg DMA onset: 160°C ; DMA tan delta peak: 195°C

Alternative cure cycle:

- 2°C per min to 180°C , dwell 2 hours
- Tg DMA tan δ : 214°C ; Tg DMA E' Onset: 195°C

Alternative temperatures for initial cure:

Temperature ($^{\circ}\text{C}$)	Duration (hrs)
70	24
80	16
90	8
100	4
110	2

Storage Conditions

Out life: 21 days at 20°C

This product should be stored in refrigerated conditions.

Shelf life

5°C	6 months
-18°C	1 year



Mechanical Properties

Property	42%W _R T1000 H5 280gsm		36%W _R T800 6K T2/2 200gsm
	Warp	Weft	Warp
Cure temp	180°C		135°C
Tensile Strength (MPa)	1201	1062	1103
Tensile Modulus (GPa)	72	68	81
Compressive Strength (MPa)	-	-	707
Compressive Modulus (GPa)	-	-	59
Inter-Laminar Shear Strength (MPa)	55	51	90
Fracture Toughness (J/m ²)	801	-	-

All values are nominal.

Note:

Health and Safety: Refer to the full Material Safety Datasheet before use.

Find out what PRF can do for your business

Make an enquiry today at:

t: +44 (0) 1202 680022

e: enquiries@prfcomposites.com

www.prfcomposites.com

PRF Composite Materials

3 Upton Road

Poole

Dorset BH17 7AA

Important Notice

All statements, technical information and recommendations offered are only for consideration and evaluation. Whilst they are believed to be accurate they are not guaranteed and are provided without warranty of any kind. No undertaking is given that the goods/products supplied are fit for its particular purpose. The buyer/user shall assume all risks and liabilities in connection therewith.

RP549 ed. 6.0 Jun 2024 TDS0003

