



#2574

EPOXY MATRIX

GENERAL FEATURES

#2574 is a structural toughened epoxy matrix suitable to impregnate carbon fabric, glass fabric and unidirectional. It is a 130°C (266°F) curing epoxy matrix resin especially designed where high compressive resistance is required.

MAIN CHARACTERISTICS

- High compressive Nanoalloy™ Toray prepreg
- Nano size domain dramatically improve the resin modulus with high fracture toughness.

QUICK REFERENCE TIPS

It is recommended to cure in autoclave 2h@130°C (266°F). Post cure is not required.

OPERATIONAL INSTRUCTIONS

CURE PROCESS RECOMMENDATIONS

This epoxy matrix system can be processed with the cure cycle described below:

Cure Temperature* °C (°F)	Tg °C (°F) E' DMA	Approx % Cure
2h@130 (266)	90 (194)	100

*Cure in autoclave: Ramp rate of 1.7°C/min to 130°C, 6 bar

RESIN MATRIX

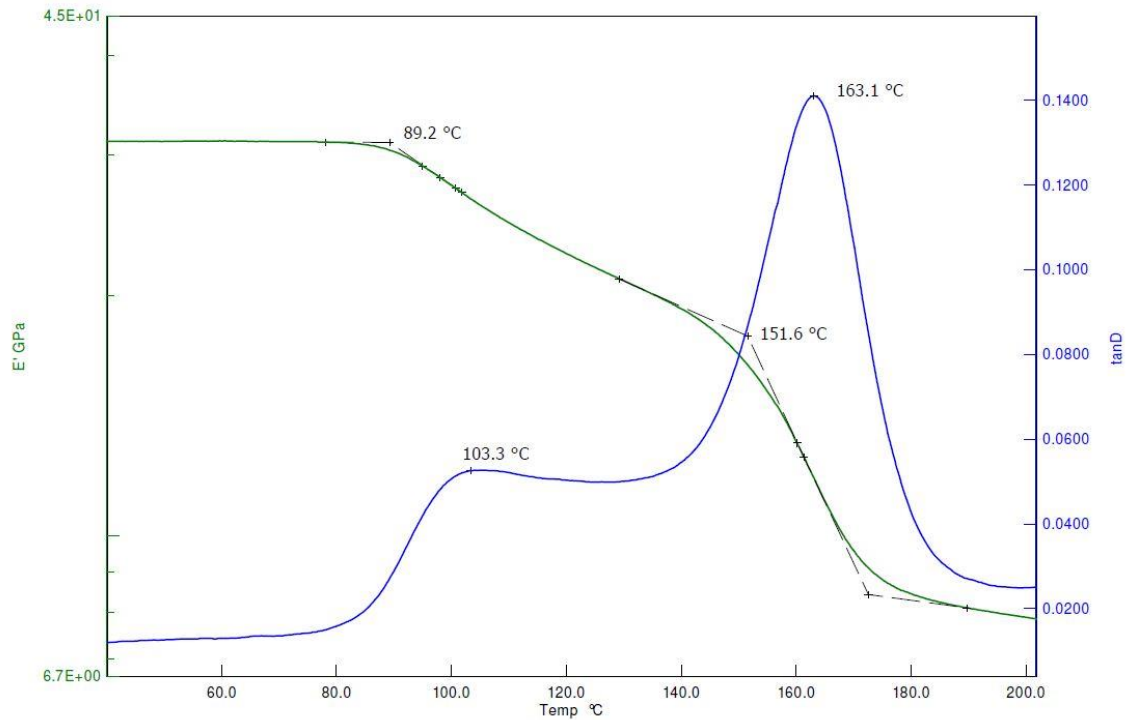
GENERAL PROPERTIES

Property	Unit	Value	Standard
Storage life @ -18°C (0°F)	months	12	
Out life @ 23°C (73°F)	days	30	
Prepreg volatiles	%wt	< 1	ASTM D3530-97R03
Cured resin density	g/cm ³	TBD	ASTM D792-00
Tg E' (DMA)*	°C (°F)	90 (194)	ASTM E1640-09
Tack		Medium	

* Laminate cured 2h @ 130°C

THERMO-MECHANICAL DMA ANALYSIS

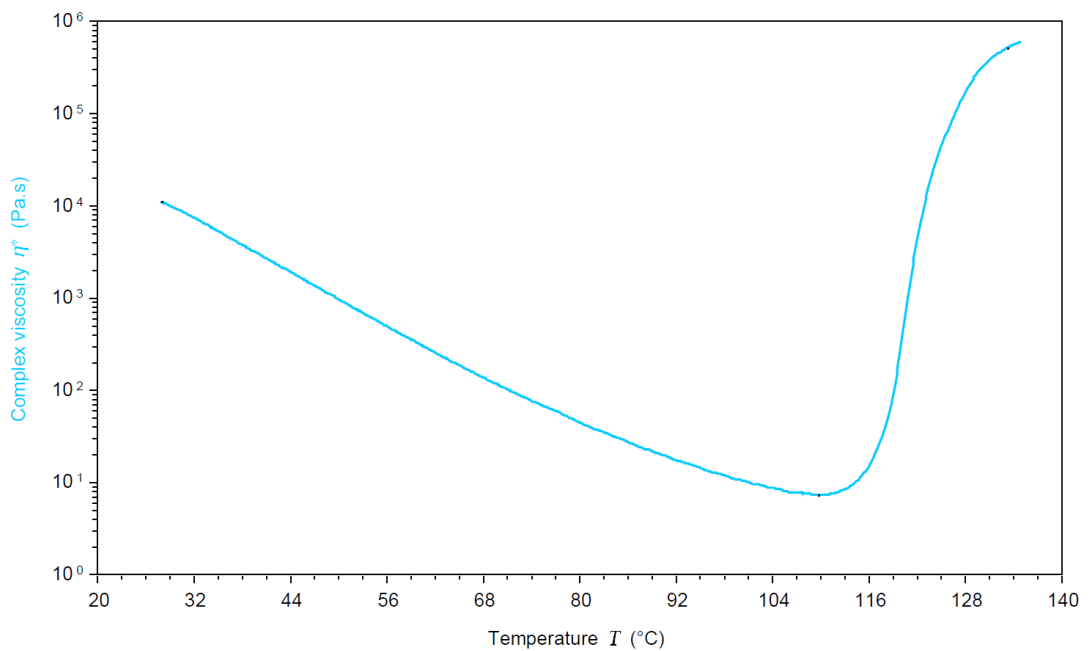
DMA trace of #2574 laminate cured 2h@130°C



DMA Analysis: Temperature vs modulus E' and tanδ

Modulus E' is measured under 2°C/min heating rate, 1Hz oscillating frequency.

VISCOSITY PROFILE

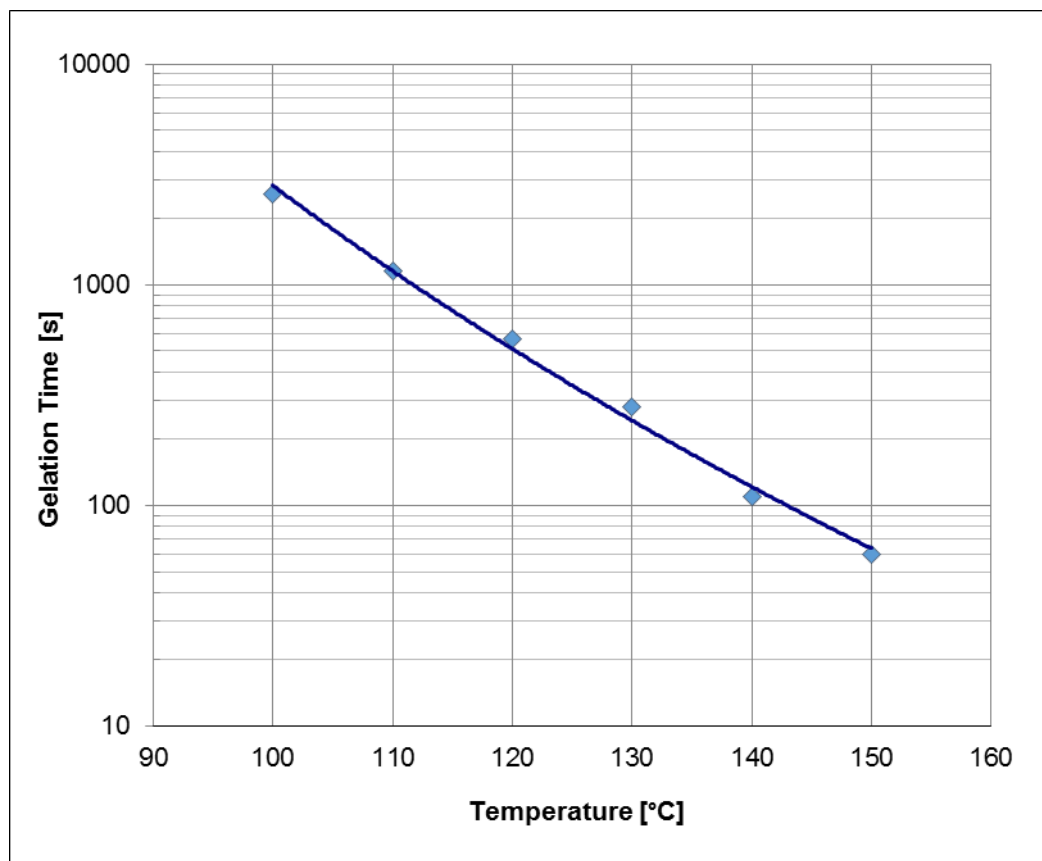


Viscosity profile: temperature vs complex viscosity

Resin complex viscosity is measured under 1.5°C/min heating rate, 1Hz oscillating frequency.

GEL TIME

Temperature [°C]	Gelation Time [s]
100	2570
110	1150
120	570
130	280
140	110
150	60



CURED PREPREG**MECHANICAL PROPERTIES OF UNIDIRECTIONAL PREPREG LAMINATES**

Test carried out at room temperature

Cure condition: 2 hours @130°C

Values normalized to 60% Vf except for ILSS, IPSS and IPSM

Cured Material Property	Units	M40J	M46J	T700	T800	T1100G
0° Tensile Modulus	GPa	227	-	-	165	185
0° Tensile Strength	MPa	2291	2280	-	3520	3460
90° Tensile Strength	MPa	50	54	-	80	80
0° Compressive Strength	MPa	1353	1370	1620	1830	1870
0° Flexural Modulus	GPa	194	-	128	147	159
0° Flexural Strength	MPa	1661	-	1840	1920	1920
In-Plane Shear Modulus	GPa	-	-	6.8	5.5	5.2
In-Plane Shear Strength	MPa	-	-	149	145	160
Inter-laminar Shear Strength	MPa	85	86	95	99	105

MECHANICAL PROPERTIES OF FABRIC PREPREG LAMINATES

Test carried out at room temperature

Cure condition: 2 hours @130°C

Values normalized to 60% Vf except for ILSS, IPSS and IPSM

Cured Material Property	Units	CC280 T1100 #2574
0° Tensile Modulus	GPa	98
0° Tensile Strength	MPa	1460
90° Tensile Modulus	GPa	87
90° Tensile Strength	MPa	1370
0° Compressive Strength	MPa	820
90° Compressive Strength	MPa	915
0° Flexural Modulus	GPa	80
0° Flexural Strength	MPa	1230
0° Inter-laminar Shear Strength	MPa	80
90° Inter-laminar Shear Strength	MPa	72

CC 280 #2574 42%: 280gsm 5H Satin 12K T1100G fiber

SAFETY CONSIDERATIONS

- This product contains epoxy resin, and may cause allergic reaction.
- The use of latex gloves for handling is recommended.
- Waste material should be discarded following national law.

DELIVERY FORM AND PACKAGING

Custom widths, roll size, and packaging are available on request.

Prepreg fabrics: Supplied on 75 mm (3") diameter cardboard cores with release paper on one side and polyethylene film separator on the other side. Rolls are sealed plastic bags and packed in cardboard boxes.

Standard width: 100 cm (39.4") or 127 cm (50").

Standard length: 50 m (54.7 In yds).

Unidirectional Prepreg: Supplied on 300 mm (12") diameter cardboard cores with release paper on one side and smooth polyethylene film separator on the other side. Rolls are sealed in plastic bags and packed in cardboard boxes.

Standard width: 60cm (23.6"), range from 30cm (11.8") up to 105cm (41.3")

Standard length: 100 m (109 In yds).

HANDLING AND CONDITIONING

- Store rolls at -18 °C, sealed in original packages.
- Shop life at 23°C refers to rolls sealed in original packages.
- Before using the prepreg, remove the roll from the freezer and let it warm up to room temperature for 6 hours sealed in its original package.

IMPORTANT NOTICE:

The data and statements supplied in this datasheet are met to provide an overview of this product and its properties. Users should perform their own verification and testing to determine suitability of this material for their specific end use applications. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSED OR IMPLIED. Nothing herein is to be taken as permission to practice any patented invention without a licence.

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