SC 110(T2)

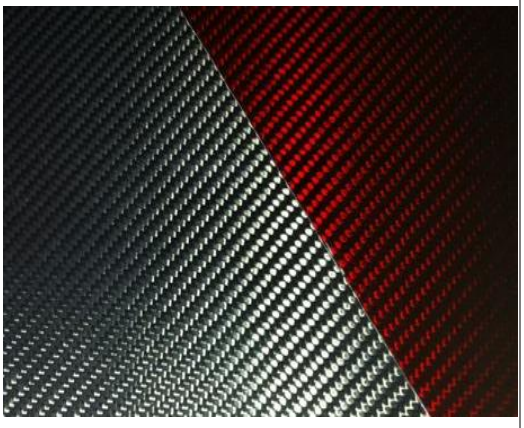
VISUAL CARBON PREPREG

- Ultra high clarity – ideal for visual components with no white-wash or spots
- High-strength prepreg system
- Versatile process window with autoclave and press moulding
- Curable at temperatures as low as 80°C (175°F)
- 45 minute cure at 120°C (250°F)
- 20 minute cure at 150°C (300°F)
- High tack allowing easy in-mould repositioning

INTRODUCTION

SC 110(T2) is a visual grade prepreg that utilises a high clarity, versatile, hot-melt epoxy resin formulation.

The unique formulation ensures that no white-wash or spots are evident in the cured resin. It is ideal for manufacturing high visual quality components using autoclave and press moulding. It can be cured at temperatures as low as 80°C (175°F), or it can be used for faster moulding of components at 120°C (250°F). An even faster cure of 20 minutes at 150°C (300°F) can also be achieved using the appropriate moulding technology. This is achieved whilst maintaining a good out-life of up to 3 weeks at 21°C (70°F). SC 110(T2) is a toughened system and offers excellent mechanical properties on a wide variety of reinforcing fabrics and fibres.



During the development of SC 110(T2), extensive beta testing has been conducted to manufacture the most challenging visual components in order to demonstrate the robustness of the unique resin formulation. Tight curvature, resin rich seams and numerous components have been produced through autoclave moulding processes without any sign of white wash or spots.

SC 110(T2) is suitable for interior and exterior automotive, marine and other markets where a high clarity finish is required.

PRODUCT INFORMATION

SC 110(T2) visual carbon prepreg is available in a range of product formats. Please consult your local sales contact for further information.

SC 110T2 is proven to meet automotive OEM environmental standards for interior and exterior parts following the application of a suitable lacquer.

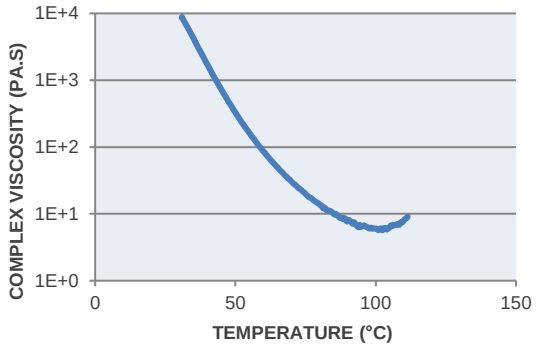
Full contact details can be found at www.gurit.com.

PREPREG PROPERTIES

RHEOLOGY DATA

SC 110(T2) resin viscosity profile conducted at 1°C (1.8°F) per minute.

PROPERTY	VALUE	
Minimum Viscosity	5.7 Pa.S	57 P
Temperature at Minimum Viscosity	102°C	216°F



TRANSPORT & STORAGE

When stored sealed & out of direct sunlight.

STORAGE TEMP		UNIT	VALUE
-18°C	0°F	months	12
+21°C	+70°F	weeks	3

All prepreg materials should be stored in a freezer when not in use to maximise their useable life, since the low temperature reduces the reaction of resin and catalyst to virtually zero. However, even at -18°C (0°F), the temperature of most freezers, some reaction will still occur. In most cases after some years, the material will become unworkable.

HEALTH AND SAFETY

Please refer to product SDS for up to date information specific to this product.

MINIMUM CURE TIME & TEMPERATURE

SC 110(T2) offers flexible curing options. The recommended minimum cure is 720 minutes at 80°C (176°F) with a 1°C (1.8°F) per minute ramp-rate.

PROPERTY	AUTOCLAVE			TEST STANDARD
Typical Laminate	8 plies of SC 110(T2) RC245T prepreg with 40% resin content			-
Typical Ramp Rate	1 – 5°C (2 – 9°F) per minute			-
Cure Temperature	85°C (185°F)	120°C (248°F)	150°C (300°F)	-
Cure Dwell Time	600 (min)	45 (min)	20 (min)	-
Cure Pressure	+6bar (85Psi)			-
De-mould Temperature	< 60°C (140°F)			-
Dry Tg_1 (DMA)	110-125°C / 230 – 257°F			ASTM D7028

LAMNIATE MECHANICAL PROPERTIES

CURED RESIN PROPERTIES

Oven cured using standard processing techniques and recommended cure cycles on a single batch of material.

PROPERTY	SYMBOL	12 hrs at 80°C (176°F)		60 mins at 120ºC (185°F)		TEST STANDARD
Glass Transition Temperature	Tg_1	101°C	214°F	126°C	259°F	ISO 6721 (DMA)
Tensile Strength	σ_T	81 MPa	11.8 ksi	93 MPa	13.8 ksi	ISO 527-2
Tensile Modulus	E_T	3.9 GPa	0.57 Msi	3.6 GPa	0.53 Msi	ISO 527-2
Flexural Strength	σ_F	161 MPa	23.3 Ksi	149 MPa	21.5 Ksi	ISO 178
Flexural Modulus	E_F	4.0 GPa	0.58 Msi	3.7 GPa	0.54 Msi	ISO 178
Compressive Strength	σ_C	178 MPa	25.8 Ksi	182 MPa	26.4 Ksi	ISO 604

WOVEN LAMINATE PROPERTIES

Cured using standard processing techniques and a fast cure time of 60 minutes at 120°C (248°F) on a single batch of material.

PROPERTY	SYMBOL	RC245T		RC400T		TEST STANDARD
Fabric / Fibre Description	-	245g/m2 2x2 twill fabric using T300 3k fibre		400g/m2 2x2 twill fabric using T300 6k fibre		-
Resin Content	-	40 %		40 %		-
Cure Method	-	Cured Pressure -1 bar		Cured Pressure -1 bar		-
Cure Schedule	-	60 minutes at 120°C (248°F)		60 minutes at 120°C (248°F)		-
Glass Transition Temperature	Tg_1	120^0C	248°F	120^0C	248°F	ISO 6721 (DMA)
Fibre Volume Fraction	V_f	53 - 56 %		56 %		ASTM D 3171 Method II
0° Tensile Strength*	XT	794 MPa	115 Ksi	585 MPa	85 Ksi	ISO 527-4
0° Tensile Modulus*	ET11	69 GPa	10.0 Msi	65 GPa	9.5 Msi	ISO 527-4
0° Compressive Strength*	XC	797 MPa	116 Ksi	599 MPa	87 Ksi	SACMA SRM1-94
0° Compressive Modulus*	EC11	66 GPa	9.6 Msi	62 GPa	9.1 Msi	SACMA SRM1-94
90° Tensile Strength*	YT	766 MPa	111 Ksi	607 MPa	88 Ksi	ISO 527-4
90° Tensile Modulus*	ET22	72 GPa	10.4 Msi	61 GPa	8.8 Msi	ISO 527-4
90° Compressive Strength*	YC	775 MPa	112 Ksi	687 MPa	100 Ksi	SACMA SRM1-94
90° Compressive Modulus*	EC22	65 GPa	9.4 Msi	61 GPa	8.9 Msi	SACMA SRM1-94
0° Flexural Strength	XF	886 MPa	129 Ksi	868 MPa	126 Ksi	ISO 14125
0° Flexural Modulus	EF11	54 GPa	7.8 Msi	55 GPa	8 Msi	ISO 14125
±45° In-Plane Shear Strength (at 5% shear strain)	□12	73 MPa	10.5 Ksi	77 MPa	11 Ksi	ISO 14129
±45° In-Plane Shear Modulus	G12	4.2 GPa	0.61 Msi	4.1 GPa	0.6 Msi	ISO 14129
0° ILSS	XILSS	78 MPa	11 Ksi	64 MPa	9.3 Ksi	ISO 14130

*Normalised to 60% Fibre Volume Fraction

NOTICE

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The Company reserves the right to change specifications and prices without notice and Customers should satisfy themselves that information relied on by the Customer is that which is currently published by the Company on its website. Any queries may be addressed to the Technical Services Department.

Gurit is continuously reviewing and updating literature. Please ensure that you have the current version by contacting your sales contact and quoting the revision number in the bottom left-hand corner of this page.

TECHNICAL CONTACT INFORMATION

For all other enquiries such as technical queries:

Telephone	+ 44 1983 828000 (08:30 – 17:00 GMT)
Email	technical.support@gurit.com

24-HOUR CHEMICAL EMERGENCY NUMBER

For advice on chemical emergencies, spillages, fires or exposures:

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