WE92

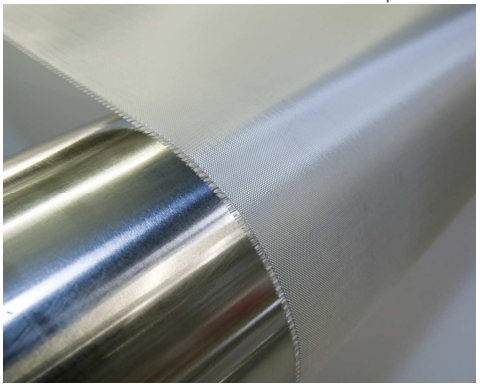
MEDIUM TACK GLASS PREPREG

- WE92 medium tack resin matrix
- 60 day out-life at 21°C
- High flow matrix
- Cure from 85°C to 120°C
- Available with a range of reinforcements
- Suitable for a range of pressures

INTRODUCTION

WE 92 is part of Gurit's comprehensive offering of structural composite product solutions comprising of 3 main product groups; Prepreg, SPRINT® and SparPreg®. This unique product range provides technically and commercially competitive engineering materials, ideal for use either solely, or in conjunction with other Gurit products from within the range.

WE92 is a high flow, diuron-free epoxy prepreg ideally suited to the manufacture of thick sections. It can be cured at temperatures as low as 85°C, but can also be used for the rapid manufacture of components through its 35-minute cure at 120°C. All of this can be achieved together with an out-life of 60 days at 21°C.



PRODUCT INFORMATION

WE92 prepreg can be used with both SPRINT ® and SparPreg™ products. It is supplied with a poly backer and can be applied to the substrate with either side against the tool.

In order to maximise the potential of the prepreg product range please contact the Gurit Composite Processing Department. Contact details are on the back of this Product Data Sheet.

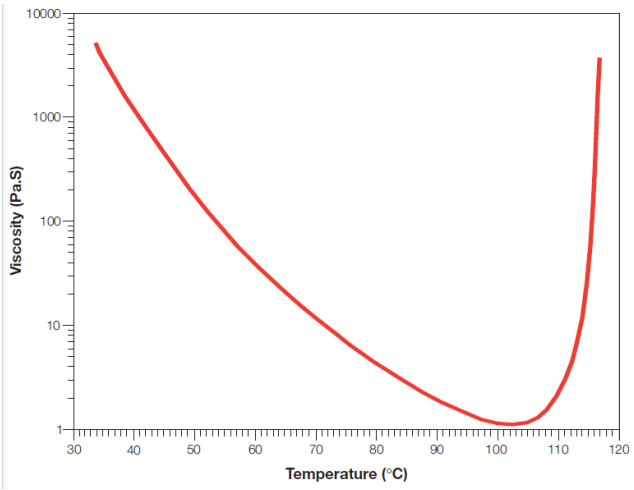
General prepreg / SPRINT ® working practices apply to these products, details of which can be obtained from the Gurit Guide to Composites or by contacting the above department.

PREPREG PROPERTIES

RHEOLOGY DATA

WE92 resin viscosity profile conducted at 1℃ (1.8°F) per minute.

PROPERTY	VALUE	
Minimum Viscosity	1.2 Pa.s	12 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	18
+5°C	+41°F	months	6
+21°C	+70°F	days	60

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℃ (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

WE92 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	OVEN / VAC BAG		TEST STANDARD
Typical Laminate	2 plies of WE92 YE600 (triax) prepreg with 38% resin content		-
Typical Ramp Rate	1 – 2°C (2 – 4°F) per minute		-
Cure Temperature	85°C (185°F)	120°C (248°F)	-
Cure Dwell Time	600 (min)	35 (min)	-
Cure Pressure	-1bar (14.5Psi)		-
De-mould Temperature	< 60^{0}C (140°F)		-
Dry Tg_1 (DMA)	110-125^{0}C / 230 – 257°F		ASTM D2078

LAMINATE PROPERTIES

All data presented in this datasheet is based on the mechanical testing of a single batch of material.

CURED RESIN PROPERTIES

4mm resin cast oven cured using standard processing techniques and cured at 120°C (175°F) for 90 minutes.

PROPERTY	SYMBOL	90 MINUTES @ 120°C (175°F)		TEST STANDARD
Tensile Strength	σ_T	88 MPa	13 Ksi	ISO 527-2
Tensile Modulus	E_T	4.0 GPa	0.58 Msi	ISO 527-2
Compressive Strength	σ_C	144 MPa	21 Ksi	ISO 604
Compressive Modulus	E_C	4.0 GPa	0.58 Msi	ISO 604

CURED LAMINATE

Cured using standard processing techniques and a minimum cure time of 35 minutes at 120°C (250°F).

PROPERTY	SYMBOL	YE1200		YE1200 / TEA50		TEST STANDARD
Fabric / Fibre Description	-	1200g/m^2 Stitched Triaxial using E-glass		1200g/m^2 Stitched Triaxial using E-glass with a 50g/m^2 glass fleece		-
Resin Content	-	38 %		43 %		-
Cure Method	-	Vacuum bag cured at -1 bar				-
Cure Schedule	-	35 minutes at 120°C (250°F)				-
Glass Transition Temperature	Tg_1	110-125^{0}C	230 – 257°F	110-125^{0}C	230 – 257°F	ISO 6721 (DMA)
0° Tensile Strength	X_T	505 MPa	73 KSi	497 MPa	72 KSi	ISO 527-4
0° Tensile Modulus	E_{T11}	26 GPa	3.8 MSi	28 GPa	4.1 MSi	ISO 527-4
0° Compressive Strength	X_{C11}	461 MPa	67 KSi	487MPa	71 KSi	SACMA SRM1-94
0° Compressive Modulus	E_{C11}	28 GPa	4.1 MSi	28 GPa	4.1 MSi	SACMA SRM1-94
±45° Tensile Strength	Y_{T12}	240 MPa	35 KSi	287 MPa	42 KSi	ISO 527-4
±45° Tensile Modulus	E_{T12}	18 GPa	2.6 MSi	20 GPa	2.9 MSi	ISO 527-4
0° ILSS	X_{ILSS}	55 MPa	8.0 KSi	47 MPa	6.8 KSi	ISO 14130
±45° ILSS	X_{ILSS12}	36 MPa	5.2 KSi	33 MPa	4.8 KSi	ISO 14130

NOTICE

All advice, instruction or recommendation is given in good faith but the Company only warrants that advice in writing is given with reasonable skill and care. No further duty or responsibility is accepted by the Company. All advice is given subject to the terms and conditions of sale (the Conditions) which are available on request from the Company or may be viewed at the Company's Website: www.gurit.com/terms-and-conditions.aspx.

The Company strongly recommends that Customers make test panels and conduct appropriate testing of any goods or materials supplied by the Company to ensure that they are suitable for the Customer's planned application. Such testing should include testing under conditions as close as possible to those to which the final component may be subjected. The Company specifically excludes any warranty of fitness for purpose of the goods other than as set out in writing by the Company. 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 are continuously reviewing and updating literature. Please ensure that you have the current version, by contacting Gurit Marketing Communications or your sales contact and quoting the revision number in the bottom right-hand corner of this page.

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