

# PN 901

## 300°C TG CYANATE ESTER PREPREG

- Achieves a Tg > 200°C (392°F) after a cure temperature of 135-180°C (275-356°F)
- Achieves a Tg > 300°C (573°F) after a post-cure of 180-300°C (356-573°F)
- Ideal for components exposed to high temperatures for short durations
- Good mechanical properties within large temperature range
- Low moisture absorption with high temperature wet performance
- Self-extinguishing and low smoke emission
- Easy handling and drape-ability (good tack life)
- Long shelf and shop life

### INTRODUCTION

**PN 901 is an ideal prepreg resin for high temperature composite applications, as it combines the ease of processing and handling convenience of epoxy resins, high temperature stability of polyimides, and flame and fire resistance of phenolics.**

A 120°C (248°F) cure for 75 minutes combined with a post-cure, enables PN 901 to generate a Tg of up to 300°C (572°F), making PN 901 ideal for applications in composite structures, which are exposed to very high temperatures for short durations. The flame and smoke characteristics of PN 901 composites show that this resin possesses superior flame retardant properties and holds a wide range of Aerospace grade FST (Fire/Smoke/Toxicity) standards.

## PRODUCT INFORMATION

PN 901 is available as prepreg resin matrix in unidirectional tapes and fabric prepregs with various types of fibres. Please consult your local sales contact for further information. Full contact details can be found at [www.gurit.com](http://www.gurit.com).

## PREPREG PROPERTIES

### TRANSPORT & STORAGE

When stored sealed & out of direct sunlight.

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

STORAGE TEMP		UNIT	VALUE
-18°C	0°F	months	6
+21°C	+70°F	weeks	2

### HEALTH AND SAFETY

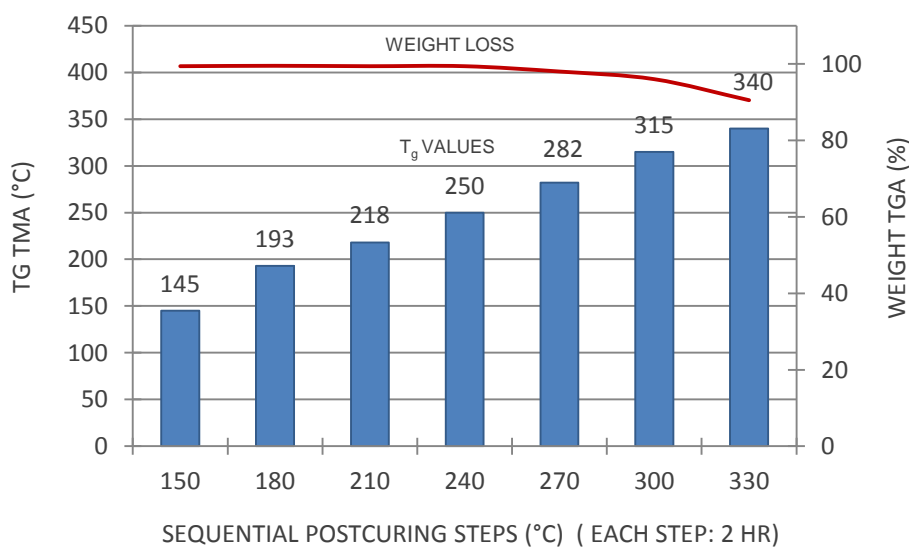
Please refer to product SDS for up to date information specific to this product.

### MINIMUM CURE TIME & TEMPERATURE

PN 901 offers flexible autoclave curing options. The recommended minimum cure is 120 minutes at 135°C.

PROPERTY	UNIT	AUTOCLAVE						TEST STANDARD
Typical Laminate	-	8 plies of PN 901 296gsm 8HS E-glass prepreg with 40% resin content						-
Vacuum Pressure	bar	-1	-1	-1	-1	-1	-1	-
Autoclave Pressure	bar	+4	+4	+4	+4	+4	+4	-
Max Heating Ramp Rate	°C / min	3	3	3	3	3	3	-
Cure Temperature*	°C	135	160	180*	220*	260*	300*	-
Cure Dwell Time	mins	120	90	60	120	120	120	-
Max Cooling Ramp Rate	°C / min	4	4	4	4	4	4	-
Dry T <sub>g</sub> (DMA)	°C	130	140	200	250	290	310	ASTM D7028

\*it is recommended that higher temperature post-cures be preceded by a low temperature dwell of 75 minutes at 120°C



## LAMINATE PROPERTIES

### ILSS PERFORMANCE WITH TEMPERATURE

Autoclave cured laminate evaluated for ILSS performance over a range of temperatures.

TEST TEMPERATURE	UNIT	8 x PN 901 296GSM 8HS E-GLASS WITH 40% RESIN CONTENT	TEST STANDARD
ILSS @ -55°C	MPa	49	ISO 14130
ILSS @ 23°C	MPa	43	ISO 14130
ILSS @ 100°C	MPa	41	ISO 14130
ILSS @ 150°C	MPa	40	ISO 14130
ILSS @ 200°C	MPa	35	ISO 14130
ILSS @ 250°C	MPa	32	ISO 14130

### ILSS PERFORMANCE AFTER 230°C TEMPERATURE EXPOSURE

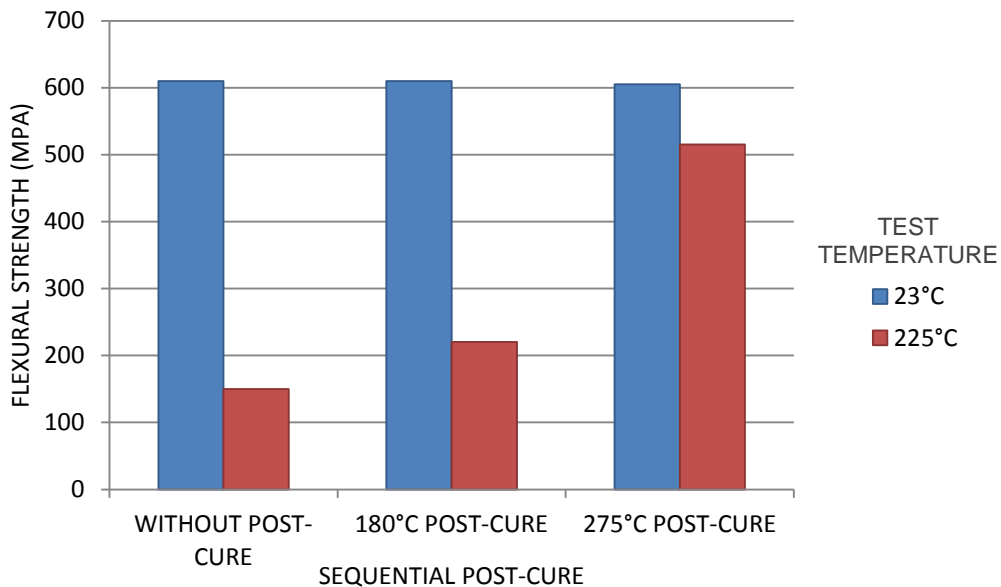
Autoclave cured laminate evaluated for ILSS performance following 230°C heat exposure for increasing lengths of time (tested at 23°C).

TEST TEMPERATURE	UNIT	8 x PN 901 296GSM 8HS E-GLASS WITH 40% RESIN CONTENT	TEST STANDARD
ILSS after 360 hours @ 230°C	MPa	39	ISO 14130
ILSS after 500 hours @ 230°C	MPa	40	ISO 14130
ILSS after 1000 hours @ 230°C	MPa	41	ISO 14130

### ILSS PERFORMANCE AFTER CHEMICAL EXPOSURE

Autoclave cured laminate evaluated for ILSS performance after saturation in a range of chemicals fluids (tested at 23°C).

CHEMICAL FLUID	UNIT	8 x PN 901 296GSM 8HS E-GLASS WITH 40% RESIN CONTENT	TEST STANDARD
Aviation Jet Fuel	MPa	39	ISO 14130
Denatured Alcohol	MPa	38	ISO 14130
Ethylene Glycol	MPa	39	ISO 14130
Propylene Glycol	MPa	36	ISO 14130
Salt Water	MPa	38	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](http://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.

**E** [contact@gurit.com](mailto:contact@gurit.com)

**W** [www.gurit.com](http://www.gurit.com)