

# Prepreg fabric data sheet

## **Code # C211T2pp**

## **Prepreg Properties**

General Characteristics				
		Nominal	Tolerance	
Mass unit per area	(g/m²)	381	±5%	
Dry fabric areal weight	(g/m²)	206	±5%	
Weave		2X2 Twill		
Thickness	(mm)	0.20*	±5%	

Warp - Weft ratio				
		Warp	Weft	
Fiber description		HS carbon fiber TR30S 3K	HS carbon fiber TR30S 3K	
Thread count	(ends/cm)	5,10	5,20	
Dry fabric weight distribution	(g/m²)	102	104	
Dry fabric weight distribution	(%)	49,5	50,5	
Epoxy content by weight	(%)		16	

<sup>(\*)</sup> Theorical thickness of compressed epoxy laminate with 40% of reinforcement in volume.

Note: Technical information furnished is based on laboratory findings and believed to be correct. No warranties of any kind are made except that the materials supplied are of standard quality. All risk and liabilities arising from handling, storage and use of products, as well as compliance with applicable legal restrictions, rests with the user.

## Resin properties

#### **Description**

Modified epoxy matrix R626 is a versatile product which can be cured between 70 °C and 140 °C. This product is best processed by press moulding, but can also be cured in an autoclave. Both metal and composite tooling can be used for processing R626 prepregs.

#### **Features & Benefits**

- R626 finds uses in automotive, sports & leisure and industrial applications.
- Good UV resistance & environmental stability for aesthetic components.
- Good mechanical properties.

Agria, Greece, EU

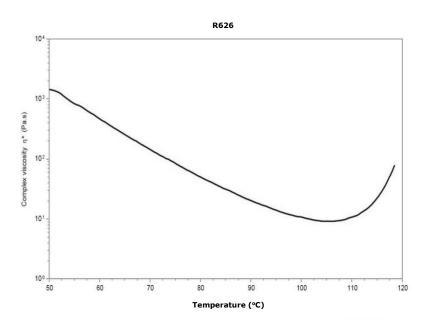
Maximum DSC-Tg of 125 °C (ASTM D3418).

Email: sales@fibermaxcomposites.com

General Characteristics				
		Toughened		
Cured resin's density	(g/cm3)	1.19 - 1.21		
Gel Time at 125 °C	(min)	4 - 5.5		
Tack		low		
Out-life (23 °C)	(weeks)	3		
Shelf Life (-18 °C)	(months)	12		

## **Viscosity Profile**

The chart below shows the rheological behaviour of R626. Heating rate 2 °C/min.



## **Curing Cycles**

Curing Temperature (°C)	Time (minutes)
140	15
145	10
150	8

These cycles are appropriate for placing a prepreg preform into a pre-heated tool.

#### Recommended autoclave cure schedules

One of the following autoclave cure schedules should be selected:

- 16 Hours at 70 °C, 6 Bar pressure.
- 4 Hours at 100 °C, 6 Bar pressure.
- 1.5 Hours (90 minutes) at 120 °C, 6 Bar pressure.
- 1.5 Hours (90 minutes) at 130 °C, 6 Bar pressure.

Head office: Fibremax Ltd 35 Grafton Way, W1T 5DB London, UK

## **Process description**

Autoclave: 120 °C cycle

- From the beginning of the cure cycle, apply maximum vacuum pressure to the bagged component(s).
- Apply an oven pressure of  $6.0 \pm 1.0$  Bar from the beginning of the curing cycle.
- Use monitoring thermocouples applied to the surface of the component(s) to define the actual cure cycle. Select those areas with the highest thermal inertia and the slowest heating up.
- Use a controlled heating rate of 1.0 to 2.0 °C/min from room temperature to 120 °C.
- The tolerance on the actual cure temperature on the component bag is 120 °C, +5 °C -0 °C.
- The cure cycle dwell duration starts once the slowest monitoring thermocouple reaches 120 °C.
- The tolerance on the 90 minutes cure time is +20 minutes, -0 minutes.
- Once cured, the cooling rate can be 2.0 to 3.0 °C/min back to room temperature or 30 °C...

R626 is a reactive resin formulation which may undergo high exothermic heating during initial curing process if guidelines are not followed. Carefully setting recommended heating rate and dwell temperatures cure schedules is required. Exotherm risk increases when increasing laminate thickness.

#### Storage

Prepreg materials should be stored at - 18 °C. Shelf-life at -18 °C: 12 months Out-life at 23 °C: 3 weeks Allow the material to fully thaw before removing it from its polyethylene packaging.

### Material handling - safety

Operators should wear protective gloves to avoid direct contact with the skin and to prevent product contamination. Please consult MSDS.

#### **Disclaimer**

Fibremax Ltd believes, in good faith, that the technical data and other information provided herein is accurate and correct, as of the date this document is prepared. However, Fibremax Ltd makes no warranty, whether expressed or implied, including warranties of merchantability or fitness for a particular purpose. Fibremax Ltd customers should make their own assessment of the suitability of any Fibermax brand name product for the purposes required. Fibremax Ltd reserves the right to modify any information presented herein at any time. The performance values presented herein are considered representative, but do not and should not constitute specification minima. The sole liability of Fibremax Ltd for any claims arising out of the use or sale of its products shall be for the replacement of the quantity of this product which has proven to not substantially comply with the specifications presented in this data sheet. The above supersedes any provision in any Fibremax Ltd's customer notices, forms, letters, or other documents.