FIBERMAX™

Prepreg fabric data sheet

Code # C211T2pp

Prepreg Properties

General Characteristics			
		Nominal	Tolerance
Mass unit per area	(g/m^2)	381	±5%
Dry fabric areal weight	(g/m^2)	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/m^2)	102	104
Dry fabric weight distribution	(%)	49,5	50,5
Epoxy content by weight	(%)	46	

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

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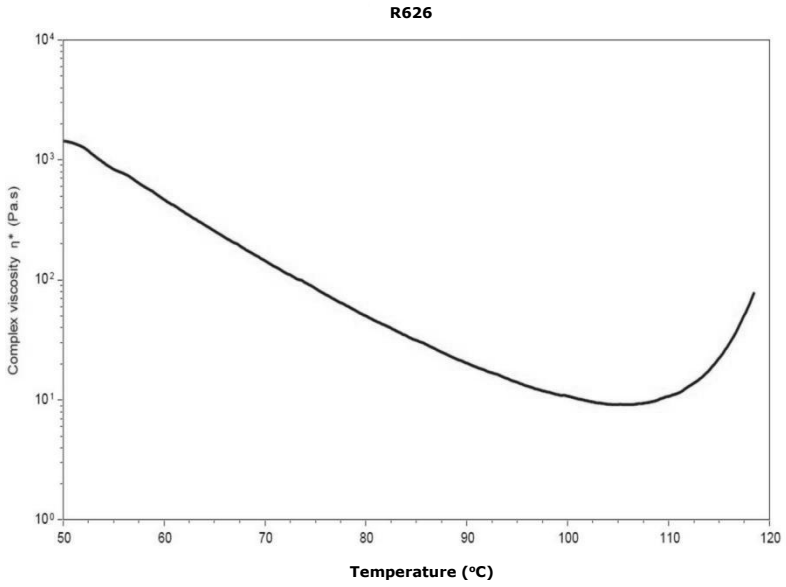
General Characteristics		
		Toughened
Cured resin's density	(g/cm3)	1.19 - 1.21
Gel Time at 125 °C	(min)	4 - 5.5
Tack		low
Out-life (23 °C)	(weeks)	3
Shelf Life (-18 °C)	(months)	12

Viscosity Profile

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



Curing Cycles

Curing Temperature (ºC)	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.

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 ± 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.

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