

Epoxy Prepreg System

## RP570 FR

### eXpress cure

Snap Cure resin system

#### Applications

- Fire retardent components
- Aerospace
- Automotive
- Motorsport
- Marine
- Defence

#### Processing Methods

- Pressing
- Autoclave

TDS059





## Description

RP570 FR eXpress cure is a class-leading ultra-fast/Snap Cure prepreg system. Formulated for structural components requiring FST properties, RP570 FR is cured and demouldable after 5 minutes at 160°C. This eXpress resin system is principally designed for snap cure press moulding, however it can equally be used in conventional autoclave moulding and significantly reduces time in the autoclave – up to 50% less – thereby increasing productivity and lowering energy consumption per part.

## Key Features & Benefits

- Fully cured and demouldable in 5 minutes at 160°C
- Cure range from 140°C - 160°C
- DMA Tg E' Onset: 127.9°C
- DMA Tg Tan  $\delta$  Peak: 161.8°C
- Excellent surface finish
- Can be preformed

## FST Properties Summary

Test panel of 2mm carbon fibre:

- **FAR 25.853** Appendix F Part 1 (b) (4) – Vertical Test (12 second) **PASS**
- **FAR 25.853** Appendix F Part 1 (b) (4) – Vertical Test (60 second) **PASS**
- **AITM 2.0007** Determination of the specific optical smoke density of component parts or sub-assemblies of aircraft interior – Smoke Density **PASS**
- **AITM 3.0005** Determination of specific gas components of smoke generated by aircraft interior materials – Smoke Toxicity **PASS**
- **UL94** – Vertical Burning Test for Classifying Materials V-0, V-1 or V-2 – Vertical Test (30 second) **V1**
- **Federal Motor Vehicle Safety Standard No.302** – Flame Surface Spread **PASS**

## Cure Cycles

Cure Cycle			
Temperature	Time	Hot Demould?	Pressure
140°C	18 minutes	Yes	10 Bar
150°C	10 minutes	Yes	10 Bar
160°C	5 minutes	Yes	10 Bar

For autoclave cure cycles, please contact our technical team.



## Storage Conditions

≤-18°C	1 year
20°C ± 2:	60 days

## Material Handling

Health and Safety: Refer to the full Material Safety Datasheet before use.

## Mechanical Properties

PANEL			
Fibre	Carbon		
Fabric Weave Style	Twill 2/2		
Fibre type	T300B	TR30S	
Fabric weight (g/m <sup>2</sup> )	245	245	
Nominal Resin content (%)	42	42	
PROPERTIES			
DMA Tg by E' Onset (°C)	127.9		
DMA Tg by Tanδ Peak (°C)	161.8		
Tensile Strength (MPa)	ISO 527	684	824
Tensile Modulus (GPa)	ISO 527	73.8	62.8
Compressive Strength (MPa)	ASTMD695	-	567
Compressive Modulus (GPa)	ASTMD695	-	60
Interlaminar shear strength (ILSS) (MPa)	ISO 14130	75.8	58.9
Flexural Strength (MPa)	ISO 14125	989	892
Flexural Modulus (Gpa)	ISO 14125	59	58.1

All values are nominal.



## FST Properties

### Methods

FAR 25.853 Appendix F Part 1 (b) (4) – Vertical Test (12 second)

FAR 25.853 Appendix F Part 1 (b) (4) – Vertical Test (60 second)

AITM 2.0007 Determination of the specific optical smoke density of component parts or sub-assemblies of aircraft interior – Smoke Density

AITM 3.0005 Determination of specific gas components of smoke generated by aircraft interior materials – Smoke Toxicity

UL94 – Vertical Burning Test for Classifying Materials V-0, V-1 or V-2 – Vertical Test (30 second)

Federal Motor Vehicle Safety Standard No.302 – Flame Surface Spread

### Panel

Fibre	Carbon	Carbon	Carbon
Nominal Thickness	0.5 mm	2 mm	4 mm
FAR 25.853 – Vertical Test (12 second)	-	Pass	-
FAR 25.853 – Vertical Test (60 second)	-	Pass	-
AITM 2.0007 – Smoke Density	-	Pass	-
AITM 3.0005 – Smoke Toxicity	-	Pass	-
UL94 – Vertical Test (30 second)	V0	V1	V1
FMVSS 302 – Flame Surface Spread	-	Pass	-

All values are nominal.

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### Important Notice

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