

801

120-160°F (50-70°C) Cure Tooling epoxy Resin System

Typical application

Composite tooling

Out life

7 days at 70°F (21°C)

Shelf life

12 months at 0°F (-18°C)

Description

801 is a low temperature, 120°F (49°C) - 160°F (71°C), curing epoxy tooling prepreg. After a post cure at 350°F (177°C), high end use temperature, over 380°F (193°C) can be achieved.

Benefits/features

- Low initial cure temperature and flexible cure condition*
- High end use temperature (high T_g) after post cure
- 7 days out-life at room temperature
- 12 months shelf life at 0°F (-18°C)
- Moderate tack and drape
- Capable of freestanding post cure
- Excellent surface finish with autoclave cure
- Low Coefficient of Thermal Expansion (CTE)

*Please contact MCCFC if you have different need for cure conditions

Availability

801 is supplied in two formats, 3K 2x2 twill woven carbon fabric and 12K 2x2 twill woven carbon fabric.

Recommended processing conditions

801 can be cured with the following cure cycle.

Initial cure cycle

Temperature	Min. time (hrs)
120°F (49°C)	40 - 50
140°F (60°C) *	13 - 15 **
160°F (71°C) *	7 **

Post cure cycle***

Temperature	Min. time (hrs)
350°F (177°C)	5

**Recommended cure cycle

***Ramp rate of 1 -2 ° F/min





Carbon tooling laminate properties

[values are average and do not constitute a specification]

Laminate comprising 3K 2x2 twill carbon fabric, RC 46% and 12K 2x2 twill carbon fabric, RC 35%.

Property	Value
T _g (DMA, Onset), °F (°C)	392 (200)*
CTE with carbon fiber woven (/K)	5.5 x 10 ⁻⁶

*After 350°F post cure

Mechanical data [values are average and do not constitute a specification]

3K 2x2 twill carbon fabric, RC 46%, normalized to 60%FV

Initial cure: Autoclave cured, 90psi, 15hrs at 140°F, Post cure: Oven cured, 5 hrs at 350°F

Property	Test method	RT
0° Tensile strength, ksi (MPa)	ASTM D3039	97 (665)
0° Tensile modulus, Msi (GPa)		10.1 (70)
0° Compression strength, ksi (MPa)	ASTM D695 mod	136 (938)
0° Compression modulus, Msi (GPa)		9.7 (67)
0° Flexural strength, ksi (MPa)	ASTM D790	140 (963)
0° Flexural modulus, Msi (GPa)		9.6 (66)
Short beam shear strength, ksi (MPa)	ASTM D2344	8.5 (59)

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