



PRODUCT DATA SHEET

LC-E420
250° Curing
Epoxy Carbon Prepreg

Description

LC-E420 is a single or two side coated, 250°F (121°C) epoxy carbon prepreg designed for a multitude of sandwich panel construction(s) as well as multiple ply laminates. This system can be used in a low tack version (press applications) or high tack and drape for complex contours and shapes.

Advantages

LC-E420 can be layed up using various core materials without the use of additional film adhesives. Excellent strength and toughness allow for LC-E420 to perform well in a variety of finished part shapes and sizes. Low volatiles have also proven ideal for low void, multiple ply lay ups. A wide variety of cure cycles, cure temperatures and pressure also allow for LC-E420 to be very user friendly throughout processing.

Physical Properties

Density: 1.40 G/cm³ per ASTM D792
Gel Time @ 275°F (135°C): 4-6 minutes
Tg: 218°F (103°C)
Color: Cream
Tack: Medium

Shelf Life/Out Life/Storage

Shelf Life: 6 months from Certification Date
Out Life: 14 days @ 70°F (21°C)
Storage Temp: 40° F or below

Processing/Cure Cycle Recommendations

LC-E420 can be processed at temperatures from 235°F (113°C.) for 90 minutes to 290°F (143°C.) for 40 minutes. A 250°F (121°C) cure for 60 minutes is optimal in most cases using press, vacuum bag or autoclave processing.

| Mechanical Properties | | | | |
|-------------------------------------|--------------------------|--------------|----------|--------|
| Property | Tested per Specification | R.T. (75 °F) | R.T. Wet | 160 °F |
| Ultimate Tensile Strength (psi) | FTMS 406 | 60,300 | 51,500 | 50,700 |
| Tensile Modulus (PSI x 10E6) | FTMS 406 | 3.7 | 3.6 | 3.6 |
| Ultimate Compression Strength (psi) | FTMS 406 | 62,500 | 53,600 | 51,000 |
| Compression Modulus (PSI x 10E6) | FTMS 406 | 3.7 | 3.6 | 3.6 |
| Ultimate Flexural Strength (psi) | FTMS 406 | 88,100 | N/A | 63,500 |
| Flexural Modulus (PSI x 10E6) | FTMS 406 | 3.6 | N/A | 3.2 |
| Interlaminar Shear (psi) | FTMS 406 | 6,200 | N/A | N/A |

| Sandwich Properties | | | | |
|------------------------------------|--------------------------|--------------|-----|-----|
| Property | Tested per Specification | R.T. (75 °F) | N/A | N/A |
| Sandwich Peel Strength (in lbs/in) | FTMS 406 | 5 | N/A | N/A |
| Flatwise Tensile Strength (psi) | FTMS 406 | 1,300 | N/A | N/A |

*Tests performed using 2 plies LC-E420-C100 @ 43% RC, press cured @ 250°F (121°C), 25 psi pressure using ½” thick, 1/8” cell, 3# Nomex™ honeycomb core.

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