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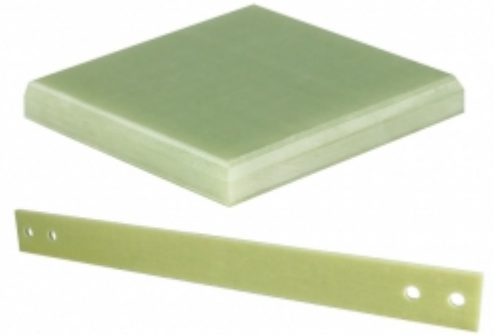
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# CYPLY

CYPLY is a cured epoxy composite material based on a unique non-woven, parallel filament construction. This type of construction minimizes filament stress abrasion that can shorten fatigue life in conventional reinforced plastics. CYPLY uses type E continuous filament fiberglass. It is supplied as cured flat panels or cut to size shapes.



## APPLICATIONS

Its many applications include : vibratory springs, dock shelter staves, shocks and struts, insulation spacers, insulated rail joints, flexible coupling and furniture springs.

## SPECIFICATIONS

### Features and benefits

<b>High impact strength</b>	
<b>High strength-to-weight performance</b>	
<b>Low notch sensitivity</b>	
<b>Resistant to cleaning fluids and solvents</b>	
<b>Weight reduction</b>	
<b>Chemical and corrosion resistance</b>	
<b>Excellent fatigue life and high strain capability</b>	
<b>Less downtime in harsh environments</b>	
<b>Greater capacity to store energy than 1060 spring steel</b>	

### Availability

<b>Orientation</b>	
Unidirectional (one ply)	
• Average cured thickness	0.010" (0.25 mm)
• Average uncured thickness	0.011" (0.28 mm)
Crossply (two plies)	
• Average cured thickness	0.020" (0.50 mm)
• Average uncured thickness	0.022" (0.56 mm)
Isotropic (three plies)	
• Average cured thickness	0.030" (0.76 mm)
• Average uncured thickness	0.033" (0.84 mm)

## Physical properties

<b>Weight (lb/yd<sup>2</sup>) (kg/m<sup>2</sup>)</b>	<b>0.85 (046) Unidirectional</b>
<b>Resin Content (% by weight)</b>	<b>36 +/- 3%</b>
<b>Specific gravity (cured average)</b>	<b>1.85</b>
<b>Barcol hardness</b>	<b>70</b>
<b>Wet strength retention (2 hours boil)</b>	<b>85%</b>

## Mechanical properties at various temperatures

<b>Flexural strength (PSI x 103) (ASTM D-790)</b>	<b>76 (525 Mpa)</b>
<b>Flexural modulus (PSI x 0 103) (ASTM D-790)</b>	<b>3.5 (24.1 Gpa)</b>
<b>Flexural modulus (PSI x 103) (ASTM D-790)</b>	<b>2.9 (20.0 Gpa)</b>
<b>Tensile strength (PSI x 103) (ASTN D-638)</b>	<b>48 (330 Mpa)</b>
<b>Tensile modulus (PSI x 106) (ASTM D-638)</b>	<b>2.5 (17.2 Gpa)</b>
<b>Compressive strength (PSI x 103) (ASTM D-3410)</b>	<b>75 (520 Mpa)</b>

## Electrical properties

<b>Dissipation factor</b>	
Conditioned @ R.H.	50%

Test temperature	23°C
Frequency 1KC	0.0033
<b>Dielectric constant</b>	
Conditioned @ R.H.	50%
Test temperature	23°C
Frequency 1 KC	6.1
<b>Volume resistivity (Ohms-cm)</b>	
Conditioned @ R.H.	50%
Test temperature	23°C
Frequency 60 Hz (109 V.D.C)	4.9 X 10 <sup>17</sup>
<b>Insulation resistance (Ohms)</b>	
Conditioned @ R.H.	50%
Test temperature	23°C
Frequency (109 V.D.C.)	6.2 X 10 <sup>11</sup>
<b>Dielectric strength</b>	
Conditioned @ R.H.	50%
Test temperature	23°C
Frequency (Volts/Mil)	620
<b>Arc Resistance</b>	
Conditioned @ R.H.	90%
Test temperature	23°C
Time in seconds	
• Across filaments	80
<b>Resistance</b>	
Time in seconds	
• With filaments	20

**N.B.** The information, details and values indicated are to the best of our knowledge. We recommend to conduct tests according to local conditions. The data is subject to some variations without notice.