

### P-650R Polyester Prepregs

Park's P-650R is a non-styrenated/low VOC polyester resin system that has been designed for optical clarity. P-650 exhibits good mechanical properties up to 121°C.

#### Key Features & Benefits

- Non-styrenated / low VOC resin system
- Meets requirements of MIL-R-7575C, grades A and B, class 2
- Good optical clarity for aircraft lighting, etc.

#### Product Forms

- Available on a wide variety of reinforcements
- Solution coated fabrics up to 152 cm wide
- Compatible with Autoclave, Vacuum Bag/Oven or Press Molding processes

#### Applications / Qualifications

- Aircraft lighting
- Wing-light lenses
- Aircraft floor lighting

#### For Information about Park's materials:

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### P-650R Polyester Prepregs

#### Prepreg Physical Properties

| Reinforcement                | 7781 E-glass |
|------------------------------|--------------|
| Fabric Area Weight (gsm)     | 300          |
| Prepreg Resin Content (%)    | 38 – 44      |
| Volatiles (104°C, 8 min) (%) | 1.0 max      |
| Flow (135°C, 103 kPa) (%)    | 10 – 11      |
| Gel Time (sec)               | 29           |

#### Processing Guidelines

##### Prepreg Storage Life

- Out Life: 30 days @ 24°C
- Shelf Life: 8 months @ 4°C  
12 months @ -18°C

Note: The following guidelines are provided to assist Park material users with general recommendations for successful processing. The recommendations are for general review purposes only and process adjustments may be required to achieve optimum results in your specific manufacturing environment.

##### Autoclave Cure Cycle

- Apply 610 mmHg vacuum (minimum) for 1 hour before beginning heat cycle
- Apply 517 kPa autoclave pressure, vent vacuum at 103 – 138 psi
- Heat at 1 – 3 °C/min from room temperature to 118 -124°C
- Cure product at 118 -124°C for 90 minutes
- Cool to 66°C at no more than 5°C/min prior to releasing autoclave pressure

#### Laminate Physical Properties

| Reinforcement            | 7781 E-glass |
|--------------------------|--------------|
| Hardness (Barcol)        | 76           |
| Specific Gravity         | 1.88         |
| Cured Ply Thickness (cm) | 0.025        |

All test data provided are typical values and not intended to be specification values. For review of critical specification tolerances, please contact a Park representative directly. Park reserves the right to change these typical values as a natural process of refining our testing equipment and techniques.



### P-650R Polyester Prepregs

#### Laminate Physical Properties

| Reinforcement  | 7781<br>E-glass      |
|--|----------------------|
| <b>Tensile Strength, 0° (MPa)</b><br>24°C Dry<br>24°C Wet<br>ASTM-D-638 Type 1   | 469<br>421           |
| <b>Tensile Modulus, 0° (GPa)</b><br>24°C Dry<br>24°C Wet<br>ASTM-D-638 Type 1    | 25.5<br>24.8         |
| <b>Compressive Strength (MPa)</b><br>24°C Dry<br>24°C Wet<br>ASTM-D-695          | 421<br>393           |
| <b>Compressive Modulus (GPa)</b><br>24°C Dry<br>24°C Wet<br>ASTM-D-695           | 27.6<br>25.5         |
| <b>Flexural Strength (MPa)</b><br>24°C Dry<br>24°C Wet<br>71°C Dry<br>ASTM-D-790 | 669<br>586<br>496    |
| <b>Flexural Modulus (GPa)</b><br>24°C Dry<br>24°C Wet<br>71°C Dry<br>ASTM-D-790  | 22.8<br>22.8<br>21.4 |

\* Wet Condition: 2 hour water boil

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