

### P-670I Polyester Prepregs

Park's P-670I is a versatile, non-styrenated/low VOC polyester resin. P670I is used in a wide variety of applications including radomes, tooling and aircraft structures.

#### Key Features & Benefits

- Non-styrenated / low VOC resin system
- Meets requirements of MIL-R-7575C, grade B class 4
- Flame retardant formulation
- Good electrical properties at elevated temperatures
- Retains good mechanical properties after exposure to high-temperature conditioning 121°C

#### Product Forms

- Available on a wide variety of reinforcements, including any MIL-C-9084 fabrics
- Solution coated fabrics up to 152 cm wide
- Compatible with Autoclave, Vacuum Bag/Oven or Press Molding processes

#### Applications / Qualifications

- Radomes
- Tooling
- Aircraft Structures

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

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### P-670I Polyester Prepregs

#### Prepreg Physical Properties

Reinforcement	7781 E-glass
Fabric Area Weight (gsm)	300
Prepreg Resin Content (%)	37 – 43
Volatiles (104°C, 8 min) (%)	2.0 max
Flow (135°C, 103 kPa) (%)	8 – 12
Gel Time (sec)	30 – 90

#### Processing Guidelines

#### Prepreg Storage Life

- Out Life: 30 days @ 24°C
- Shelf Life: 3 months @ 4°C  
6 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 276 - 345 kPa autoclave pressure, vent vacuum at 103 – 138 kPa
- Heat at 1 – 3 °C/min from room temperature to 121 - 163°C
- Cure product at 121 – 163°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)	75
Density	2.00
Flammability Method 2021	5"
Water Absorbtion (%) 24hr immersion in DI H <sub>2</sub> O	0.68
Dielectric Constant (Dk) @9.375 MHz	4.8
Loss Tangent @9.375 MHz	0.019

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.

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#### Laminate Physical Properties

Reinforcement	7781 E-glass
<b>Tensile Strength, 0° (MPa)</b>	
24°C Dry	483
24°C Wet	414
121°C Wet	421
177°C Wet	386
ASTM-D-638 Type 1	
<b>Tensile Modulus, 0° (GPa)</b>	
24°C Dry	27.6
24°C Wet	25.5
121°C Wet	24.1
177°C Wet	22.8
ASTM-D-638 Type 1	
<b>Compressive Strength (MPa)</b>	
24°C Dry	400
24°C Wet	372
ASTM-D-695	
<b>Flexural Strength (Mpa)</b>	
24°C Dry	600
24°C Wet	545
121°C Wet	393
177°C Wet	248
ASTM-D-790	
<b>Flexural Modulus (GPa)</b>	
24°C Dry	22.1
24°C Wet	23.4
121°C Wet	19.3
177°C Wet	18.6
ASTM-D-790	

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