

Park Electrochemical Nelcote® E-752 Epoxy Prepreg, 6K 5HS 630-500 Reinforced

Category : Polymer , Thermoset , Epoxy

Material Notes:

Nelcote® E-752 is a toughened, 185°C cure epoxy system designed for demanding structural applications up to 130°C. E-752 offers a good balance of toughness, high service temperature and good moisture resistance, as well as excellent tack and drape. Formulated for both oven and autoclave cure, E-752 provides for easy processing with oven cure, without sacrificing mechanical properties. Key Features and Benefits: Specifically designed to allow both oven cure and autoclave cure Allows oven curing without sacrificing mechanical properties Service temperatures up to 130°C Controlled flow for ease of processing Flexible cure temperature 132°C to 185°C Good mechanical properties can be achieved through oven curing at 132°C, followed by post-cure at 185°C Self-adhesive grade for sandwich panel applications Applications/Qualifications: Primary and Secondary Aircraft Structures Ducting Fairings Nacelles Information provided by Park Electrochemical Corp.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Park-Electrochemical-Nelcote-E-752-Epoxy-Prepreg-6K-5HS-630-500-Reinforced.php

| Physical Properties | Metric | English | Comments |
|---------------------|---------------------------------|---------------------------------|----------|
| Volatiles | <= 1.0 % @Temperature 135 °C | <= 1.0 % @Temperature 275 °F | 8 min |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|-----------------------------------|------------------------------------|---|
| Tensile Strength, Yield | 902.5 MPa @Temperature 121 °C | 130900 psi @Temperature 250 °F | 0° Direction, Wet, 365° Oven Cured; ASTM D3039 |
| | 946.0 MPa @Temperature 23.9 °C | 137200 psi @Temperature 75.0 °F | 0° Direction, Dry, 365° Oven Cured; ASTM D3039 |
| | 1016 MPa @Temperature 121 °C | 147300 psi @Temperature 250 °F | 0° Direction, Dry, 365° Oven Cured; ASTM D3039 |
| Tensile Modulus | 64.8 GPa @Temperature 121 °C | 9400 ksi @Temperature 250 °F | 0° Direction, Dry, 365° Oven Cured; ASTM D3039 |
| | 64.8 GPa @Temperature 121 °C | 9400 ksi @Temperature 250 °F | 0° Direction, Wet, 365° Oven Cured; ASTM D3039 |
| | 67.6 GPa @Temperature 23.9 °C | 9800 ksi @Temperature 75.0 °F | 0° Direction, Dry, 365° Oven Cured; ASTM D3039 |
| Compressive Strength | 328 MPa @Temperature 23.9 °C | 47600 psi @Temperature 75.0 °F | Open-Hole, Dry, 365°F Oven Cured; ASTM D6484 |

| Mechanical Properties | 538 MPa Metric | 78000 psi English | Comments |
|---------------------------|----------------------|----------------------|---|
| | @Temperature 121 °C | @Temperature 250 °F | |
| | 696 MPa | 101000 psi | Dry, 365° Oven Cured; SACMA 1R-94 |
| | @Temperature 121 °C | @Temperature 250 °F | |
| | 820 MPa | 119000 psi | Dry, 365° Oven Cured; SACMA 1R-94 |
| | @Temperature 23.9 °C | @Temperature 75.0 °F | |
| Compressive Modulus | 42.1 GPa | 6100 ksi | Open-Hole, Dry, 365°F Oven Cured; ASTM D6484 |
| | @Temperature 23.9 °C | @Temperature 75.0 °F | |
| | 63.4 GPa | 9200 ksi | Dry, 365° Oven Cured; SACMA 1R-94 |
| | @Temperature 121 °C | @Temperature 250 °F | |
| | 64.8 GPa | 9400 ksi | Dry, 365° Oven Cured; SACMA 1R-94 |
| | @Temperature 23.9 °C | @Temperature 75.0 °F | |
| | 65.5 GPa | 9500 ksi | Wet, 365° Oven Cured; SACMA 1R-94 |
| | @Temperature 121 °C | @Temperature 250 °F | |
| Shear Modulus | 4.14 GPa | 600 ksi | In-Plane, Dry, 365° Oven Cured; ASTM D3518 |
| | @Temperature 121 °C | @Temperature 250 °F | |
| | 4.14 GPa | 600 ksi | In-Plane, Wet, 365° Oven Cured; ASTM D3518 |
| | @Temperature 121 °C | @Temperature 250 °F | |
| | 4.83 GPa | 700 ksi | In-Plane, Dry, 365° Oven Cured; ASTM D3518 |
| | @Temperature 23.9 °C | @Temperature 75.0 °F | |
| Shear Strength | 64.1 MPa | 9300 psi | In-Plane, Wet, 365° Oven Cured; ASTM D3518 |
| | @Temperature 121 °C | @Temperature 250 °F | |
| | 88.3 MPa | 12800 psi | In-Plane, Dry, 365° Oven Cured; ASTM D3518 |
| | @Temperature 121 °C | @Temperature 250 °F | |
| | 98.6 MPa | 14300 psi | In-Plane, Dry, 365° Oven Cured; ASTM D3518 |
| | @Temperature 23.9 °C | @Temperature 75.0 °F | |
| Thermal Properties | Metric | English | Comments |
| Glass Transition Temp, Tg | 170 °C | 338 °F | Wet; DMA |
| | 190 °C | 374 °F | Dry; DMA |

| Processing Properties | Metric | English | Comments |
|-----------------------|-----------------------|-----------------------|----------|
| Gel Time | 5.00 - 12.0 min | 5.00 - 12.0 min | |
| Shelf Life | 12.0 Month | 12.0 Month | |
| | @Temperature -17.8 °C | @Temperature 0.000 °F | |

| Descriptive Properties | Value | Comments |
|--|-------|--------------|
| Fabric Area Weight (g/m ²) | 378 | |
| Prepreg Resin Content (%) | 35-43 | |
| Resin Flow (%) | 6-20 | 275°F, 50psi |

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