

Cytec Thornel® T-650/42 6K Carbon Fiber, Polyacrylonitrile (PAN) Precursor

Category : Carbon , Carbon Fiber , Other Engineering Material , Composite Fibers

Material Notes:

Data provided by the manufacturer, Amoco Performance Products, Inc. Continuous length, high strength, high modulus fiber made from a polyacrylonitrile precursor. The fiber surface has been treated to increase the interlaminar shear strength in a resin matrix composite. 6000 filaments/strand, 94% carbon assay, 5.1 µm filament diameter, 4.47 m/g yield, 0 tpm twist (also available twisted), 1.29 mm² fiber area in yarn cross section. Thornel® products were sold by Amoco and are now owned by Cytec.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Cytec-Thornel-T-65042-6K-Carbon-Fiber-Polyacrylonitrile-PAN-Precursor.php

| Physical Properties | Metric | English | Comments |
|-----------------------|------------------------|---------------------------|----------|
| Density | 1.78 g/cc | 0.0643 lb/in ³ | |
| Specific Surface Area | 0.50 m ² /g | 0.50 m ² /g | |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|----------|------------|------------|
| Tensile Strength, Ultimate | 4820 MPa | 699000 psi | |
| Elongation at Break | 1.7 % | 1.7 % | |
| Modulus of Elasticity | 290 GPa | 42100 ksi | In Tension |

| Thermal Properties | Metric | English | Comments |
|----------------------|----------------------|-----------------------------------|----------|
| CTE, linear | -0.500 µm/m-°C | -0.278 µin/in-°F | |
| | @Temperature 20.0 °C | @Temperature 68.0 °F | |
| Thermal Conductivity | 15.0 W/m-K | 104 BTU-in/hr-ft ² -°F | |

| Electrical Properties | Metric | English | Comments |
|------------------------|----------------|----------------|----------|
| Electrical Resistivity | 0.00142 ohm-cm | 0.00142 ohm-cm | |

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