

## COI Ceramics Nicalon™ HI SiC Low O Ceramic Fiber

Category : Ceramic , Carbide

### Material Notes:

**Description:** Manufactured near-oxygen-free using electron-beam curing. The fiber is homogeneously composed of ultrafine beta-SiC crystallites and carbon. The fiber has excellent strength and modulus properties. HI-Nicalon™ is highly resistant to oxidation and chemical attack and is available in a variety of product forms, depending on the intended use. The fiber is coated with polyvinyl alcohol (PVA) sizing for improved handling. **Special Properties:** CMC's reinforced with HI-Nicalon™ ceramic fiber offers distinct advantages over other materials. Oxide fiber and superalloys generally lose mechanical properties above 800C. SiCO fiber generally loses properties above 1000C. 100 micron diameter monofilament SiC fiber is generally not weavable. HI-Nicalon™ ceramic fiber overcomes these drawbacks. **Product Forms:** Continuous Fiber: Supplied as multi-filament tow, spooled on 3 inch ID bobbins to 500 meters in length (100 grams in weight). Also available in random lengths at a reduced price. Woven Cloth: Available as Plain Weave, 5HS Weave or 8HS Weave, HI-Nicalon™ cloth is typically supplied as 1 meter-wide continuous rolls of specific lengths. Other widths weave or braid styles can be made available. Chopped Fiber: Available as 1-mm length chopped multi-filament tow. Longer lengths also available. **Uses:** HI-Nicalon™ ceramic fiber is primarily designed to be used as reinforcements for high temperature ceramic composites. It can also be used as a reinforcement for plastic, and metal matrix composites. Surface treatments are normally recommended to facilitate processing and maximize composite properties. The fiber can also be used to form fibrous products such as high temperature insulation, filters, etc. Its resistance to chemical attack allows it to be used in harsh environments. Information from COI Ceramics, Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_COI-Ceramics-Nicalon-HI-SiC-Low-O-Ceramic-Fiber.php](http://www.lookpolymers.com/polymer_COI-Ceramics-Nicalon-HI-SiC-Low-O-Ceramic-Fiber.php)

Physical Properties	Metric	English	Comments
Density	2.74 g/cc	0.0990 lb/in <sup>3</sup>	
Filament Diameter	14 µm	14 µm	
Fiber Count	2000 dtex	1800 denier	

Mechanical Properties	Metric	English	Comments
Tensile Strength	2800 MPa	406000 psi	
Tensile Modulus	270 GPa	39200 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	3.50 µm/m-°C	1.94 µin/in-°F	
	@Temperature 25.0 - 500 °C	@Temperature 77.0 - 932 °F	
Specific Heat Capacity	0.670 J/g-°C	0.160 BTU/lb-°F	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
	1.17 J/g-°C	0.280 BTU/lb-°F	

Thermal Properties	Metric	English	Comments
Thermal Conductivity	7.77 W/m-K	53.9 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
	10.1 W/m-K	70.1 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 500 °C	@Temperature 932 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	37 %	37 %	
Oxygen, O	0.50 %	0.50 %	
Silicon, Si	62 %	62 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.4 ohm-cm	1.4 ohm-cm	

Descriptive Properties	Value	Comments
C/Si Atomic Ratio	1.39	
Filaments per tow	500	

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China