CRP Technology Windform® SP Polyamide-Carbon Fiber Composite for 3D Printing

Category : Polymer , Rapid Prototyping Polymer , Thermoplastic , Nylon , Nylon 12

Material Notes:

Processed by selective laser sintering (SLS). Windform® SP is a deep black composite polyamide that is a "Top" level material within the polyamide Windform® materials for additive manufacturing. It has excellent mechanical properties similar to Windform XT 2.0. In addition it has the added advantage of increased resistance to shocks, vibrations and deformations. This material shows increases in impact strength and elongation at break. Moreover the Windform® SP retains its excellent thermal properties and resistance to high temperature. Windform® SP parts have high mechanical characteristics per weight.Uses: Windform® SP is suitable to create accurate and reliable prototypes and is perfect for functional applications in motorsports, automotive (suitable for example for components under the hood, such as intake manifolds), Air (components for UAV , Unmanned Aerial Vehicle) and aerospace design, since it allows applications fully functional as well as dyno tests, track tests and development of pre-serie parts. It is also recommended for all applications requiring resistance to damage, vibration and deformation. These applications only examples; the versatility of the product combined with the technology used allows infinite possibilities. Another important element of this material is its resistance to absorption of liquids and moisture.Information provided by CRP Technology.

Order this product through the following link:
http://www.lookpolymers.com/polymer_CRP-Technology-Windform-SP-Polyamide-Carbon-Fiber-Composite-for-3D-Printing.php

Physical Properties	Metric	English	Comments
Density	1.106 g/cc	0.03996 lb/in³	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	76.10 MPa	11040 psi	UNI EN ISO 527-1(97) and UNI EN ISO 527-2(97)
Elongation at Break	11.38 %	11.38 %	UNI EN ISO 527-1(97) and UNI EN ISO 527-2(97)
Tensile Modulus	6.2196 GPa	902.09 ksi	UNI EN ISO 527-1(97) and UNI EN ISO 527-2(97)
Flexural Strength	120.08 MPa	17416 psi	UNI EN ISO 14125: 2000
Flexural Modulus	4.647 GPa	674.1 ksi	UNI EN ISO 14125: 2000
Charpy Impact Unnotched	2.868 J/cm²	13.65 ft-lb/in²	ISO 179-1:2007
Charpy Impact, Notched	0.582 J/cm²	2.77 ft-lb/in²	ISO 179-1:2007

Thermal Properties	Metric	English	Comments
Melting Point	193.3 °C	379.9 °F	ISO 11357-2
Deflection Temperature at 1.8 MPa (264 psi)	185.6 °C	366.1 °F	ASTM D648 Type B

Thermal Properties	Metric	English	Comments
Vicat Softening Point	189.9 °C	373.8 °F	10 N; ASTM D1525-09

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 1e+8 ohm-cm	<= 1e+8 ohm-cm	ASTM D257-93
Surface Resistance	<= 1e+8 ohm	<= 1e+8 ohm	ASTM D257-93

Descriptive Properties	Value	Comments
Color	Deep Black	
Surface Finish	1.15 Ra µm	After CNC Machining
	1.45 Ra µm	After Manual Finishing
	6.2 Ra µm	After SLS Process

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