SLS POWDERS

formlabs

Nylon 11 CF Powder

Carbon Fiber Reinforced, for Strong and Lightweight parts

Get the best of nylon and carbon fiber with this highly stable, high-performance material, perfect for end-use applications that require both high stiffness and superior strength and can take an impact.

Nylon 11 CF Powder is specifically developed for use on the Fuse 1+ 30W.

Functional composite prototypes

Tooling, Jigs, Fixtures

Replacement and spare alternatives to metal parts

High-impact equipment

ORDER A FREE SAMPLE PART →

V1 **FLP11C01**

*** May not be available in all regions**

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MATERIAL PROPERTIES DATA

Nylon 11 CF Powder

	METRIC [1,2]			IMPERIAL [1,2]			METHOD
Tensile Properties	X	Y	Z	X	Y	Z	
Ultimate Tensile Strength	69 MPa	52 MPa	38 MPa	10 ksi	7.6 ksi	5.5 ksi	ASTM D 638-14 Type 1
Tensile Modulus	5.3 GPa	2.8 GPa	1.6 GPa	770 ksi	410 ksi	240 ksi	ASTM D 638-14 Type 1
Elongation at Break	9%	15%	5%	9%	15%	5%	ASTM D 638-14 Type 1
Mechanical Properties							
Flexural Strength	110 MPa			16 ksi			ASTM D 790-15
Flexural Modulus	4.2 GPa			610 ksi			ASTM D 790-15
Notched Izod	74 J/m			1.4 ft-lb/in			ASTM D256-10
Thermal Properties							
Heat Deflection Temp. @ 1.8 MPa	178 °C			352 °F			ASTM D 648-16
Heat Deflection Temp. @ 0.45 MPa	188 °C			370 °F			ASTM D 648-16
Vicat Softening Temperature	188 °C			370 °F			ASTM D 1525

[1] Material properties may vary with part geometry, print orientation and temperature.

[2] Parts were printed using Fuse 1+ 30W, with Nylon 11 CF Powder. Parts were conditioned at 50% relative humidity and 23 °C for 7 days before testing.

SOLVENT COMPATIBILITY

Percent weight gain over 24 hours for a printed 1 x 1 x 1 cm cube immersed in respective solvent:

Solvent	24 hr weight gain, %	Solvent	24 hr weight gain, %
Acetic Acid 5%	0.2	Mineral oil, heavy	1.0
Acetone	0.2	Mineral oil, light	1.3
Bleach ~5% NaOCl	0.2	Salt Water (3.5% NaCl)	0.2
Butyl Acetate	0.2	Skydrol 5	0.8
Diesel Fuel	0.6	Sodium hydroxide solution (0.025% pH = 10)	0.2
Diethyl glycol monomethyl ether	0.5	Strong Acid (HCl Conc)	0.8
Hydraulic Oil	1.0	TPM	0.8
Hydrogen peroxide (3%)	0.2	Water	0.1
Isooctane	0.0	Xylene	0.2
Isopropyl Alcohol	0.2		