ENGINEERING RESIN

Grey Pro

Grey Pro Resin for Versatile Prototyping

Grey Pro Resin offers high precision, moderate elongation, and low creep. This material is great for concept modeling and functional prototyping, especially for parts that will be handled repeatedly.

Form and fit testing

High quality product prototypes

Mold masters for plastics and silicones

Jigs and fixtures for manufacturing

V1 **FLPRGR01** * May not be available in all regions

formlabs

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MATERIAL PROPERTIES DATA

Grey Pro Resin

	METRIC [1]		IMPERIAL [1]		METHOD
	Green[2]	Post-Cured [3]	Green[2]	Post-Cured [3]	
Tensile Properties					
Ultimate Tensile Strength	35 MPa	61 MPa	5076 psi	8876 psi	ASTM D638-14
Tensile Modulus	1.4 GPa	2.6 GPa	203 ksi	377 ksi	ASTM D638-14
Elongation at Break	33%	13%	33%	13%	ASTM D638-14
Flexural Stress at 5% Strain	39 MPa	86 MPa	5598 psi	12400 psi	ASTM D 790-15
Flexural Properties					
Flexural Modulus	0.94 GPa	2.2 GPa	136 ksi	319 ksi	ASTM D 790-15
Impact Properties					
Notched IZOD	not tested	19 J/m	not tested	0.35 ft-lbf/in	ASTM D256-10
Temperature Properties					
Heat Deflection Temp. @ 1.8 MPa	not tested	62 °C	not tested	144 °F	ASTM D 648-16
Heat Deflection Temp. @ 0.45 MPa	not tested	78 °C	not tested	171 °F	ASTM D 648-16
Thermal Expansion (0-150°C)	not tested	79 µm/m/°C	not tested	43 µin/in/°F	ASTM E 831-13

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

[2] Data was obtained from green parts, printed using Form 2, 100 µm, Grey Pro settings, without additional treatments.

[3] Data was obtained from parts printed using Form 2, 100 µm, Grey Pro settings and post-cured with a Form Cure for 120 minutes at 80 °C.

SOLVENT COMPATIBILITY

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

Solvent	24 hr weight gain, %	Solvent	24 hr weight gain, %
Acetic Acid 5%	0.8	Mineral oil (Light)	0.4
Acetone	10.8	Mineral oil (Heavy)	0.3
Bleach ~5% NaOCl	0.7	Salt Water (3.5% NaCl)	0.6
Butyl Acetate	0.8	Skydrol 5	0.5
Diesel Fuel	< 0.1	Sodium Hydroxide solution (0.025% PH 10)	0.7
Diethyl glycol Monomethyl Ether	2.4	Strong Acid (HCl conc)	8.2
Hydraulic Oil	0.2	Tripropylene glycol monomethyl ether	1.5
Hydrogen peroxide (3%)	0.8	Water	0.8
Isooctane (aka gasoline)	< 0.1	Xylene	0.4
Isopropyl Alcohol	1.6		