MATERIAL DATA SHEET

Draft Resin

Draft Resin for Truly Rapid Prototyping

$149 / L

Our fastest printing material, Draft Resin is suitable for printing large, bulky parts quickly. With a 300 micron layer height, it has acceptable accuracy for prototyping needs while enabling faster design iterations.

Same day design iterations

Large, bulky parts or multiple part assemblies

Jig and fixture prototyping

FLDRBL01

formlabs

Prepared		12 . 28 . 2018
Rev	01	12 . 28 . 2018

Material Properties Data

	METRIC[1]			IMPERIAL[1]			METHOD
	Green[2]	Post-Cured at Room Temperature[3]	Post-Cured at 60 °C[4]	Green[2]	Post-Cured at Room Temperature[3]	Post-Cured at 60 °C[4]	
Tensile Properties							
Ultimate Tensile Strength	23 MPa	28 MPa	36 MPa	3336 psi	4061 psi	5221 psi	ASTM D 638-14
Elongation at Break	17%	10%	7%	17%	10%	7%	ASTM D 638-14
Tensile Modulus	0.9 GPa	1.3 GPa	1.6 GPa	131 ksi	189 ksi	232 ksi	ASTM D 638-14
Flexural Properties							
Flexural Modulus	0.6 GPa	0.9 GPa	1.5 GPa	87 ksi	131 ksi	218 ksi	ASTM D 790-15
Impact Properties							
Notched IZOD	35 J/m	35 J/m	21 J/m	0.7 ft-lbf/in	0.7 ft-lbf/in	0.4 ft-lbf/in	ASTM D 256-10
Temperature Properties							
Heat Deflection Temp. @ 1.8 MPa	43.3 °C	44.3 °C	50.1 °C	110.0 °F	111.7 °F	122.2 °F	ASTM D 648-16
Heat Deflection Temp. @ 0.45 MPa	50.6 °C	50.7 °C	63.4 °C	123.1 °F	123.3 °F	146.1 °F	ASTM D 648-16
Thermal Expansion	-	-	98.8 µm/m/ °C	-	-	54.9 µin/in/°F	ASTM E 831-14

[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, 300 µm, Draft Resin settings, washed for 5 minutes in Form Wash and air dried without post cure.

[3] Data was obtained from parts printed using a Form 2, 300 micron, Draft Resin settings, and post-cured with Form Cure at room temperature for 5 minutes.

[4] Data was obtained from parts printed using a Form 2, 300 micron, Draft Resin settings, and post-cured with Form Cure at 60 °C for 5 minutes.

Solvent Compatibility

Percent weight gain over 24 hours for a printed and post-cured (60 °C for 5 minutes)

1 x 1 x 1 cm^3 cube immersed in respective solvent:

Mechanical Properties	24 hr size gain (%)	24 hr weight gain (%)	Mechanical Properties	24 hr size gain (%)	24 hr weight gain (%)
Acetic Acid, 5 %	<1	<1	Hydrogen Peroxide (3 %)	<1	<1
Acetone	<1	2	Isooctane	<1	<1
Isopropyl Alcohol	<1	<1	Mineral Oil, light	<1	<1
Bleach, ~5 % NaOCl	<1	<1	Mineral Oil, heavy	<1	<1
Butyl Acetate	<1	<1	Salt Water (3.5 % NaCl)	<1	<1
Diesel	<1	<1	Sodium hydroxide (0.025 %, pH = 10)	<1	<1
Diethyl glycol monomethyl ether	<1	1	Water	<1	<1
Hydrolic Oil	<1	<1	Xylene	<1	<1
Skydrol 5	<1	1.1	Strong Acid (HCl Conc)	<1	<1