

STANDARD RESIN

# Draft

## Draft Resin for Truly Rapid Prototyping

Draft Resin prints up to four times faster than Formlabs standard materials, making it ideal for initial prototypes and rapid iterations to help bring products to market faster. Parts printed with Draft Resin exhibit a smooth grey finish and high accuracy. Use 200 micron settings for fast print speeds, or use 100 micron settings for models with finer details.

Initial prototypes

Live 3D printing demos

Rapid design iterations

High throughput applications



V2

FLDRGR02

formlabs 

Prepared 10 . 07 . 2020  
Rev 01 10 . 07 . 2020

To the best of our knowledge the information contained herein is accurate. However, Formlabs, Inc. makes no warranty, expressed or implied, regarding the accuracy of these results to be obtained from the use thereof.

## DRAFT MATERIAL PROPERTIES DATA

	METRIC <sup>1</sup>			IMPERIAL <sup>1</sup>			METHOD
	Green <sup>2</sup>	Post-Cured at Room Temperature <sup>3</sup>	Post-Cured at 60 °C <sup>4</sup>	Green <sup>2</sup>	Post-Cured at Room Temperature <sup>3</sup>	Post-Cured at 60 °C <sup>4</sup>	
<b>Tensile Properties</b>							
Ultimate Tensile Strength	24 MPa	36 MPa	52 MPa	3481 psi	5221 psi	7542 psi	ASTM D638-14
Tensile Modulus	0.8 GPa	1.7 GPa	2.3 GPa	122 ksi	247 ksi	334 ksi	ASTM D638-14
Elongation at Break	14%	5%	4%	14%	5%	4%	ASTM D638-14
<b>Flexural Properties</b>							
Flexural Modulus	0.6 GPa	1.8 GPa	2.3 GPa	87 ksi	261 ksi	334 ksi	ASTM D790-17
<b>Impact Properties</b>							
Notched IZOD	26 J/m	29 J/m	26 J/m	0.5 ft-lbf/in	0.5 ft-lbf/in	0.5 ft-lbf/in	ASTM D256-10
<b>Temperature Properties</b>							
Heat Deflection Temp. @ 1.8 MPa	37 °C	44 °C	57 °C	99 °F	111 °F	135 °F	ASTM D648-18
Heat Deflection Temp. @ 0.45 MPa	43 °C	53 °C	74 °C	109 °F	127 °F	165 °F	ASTM D648-18

<sup>1</sup> Material properties may vary with part geometry, print orientation and temperature.

<sup>2</sup> Data was obtained from green parts, printed using a Form 3, 200 micron, Draft v2 Resin settings, washed in Form Wash and air dried without post cure.

<sup>3</sup> Data was obtained from parts printed using a Form 3, 200 micron, Draft v2 Resin settings and post-cured with a Form Cure at Room Temperature for 5 minutes.

<sup>4</sup> Data was obtained from parts printed using a Form 3, 200 micron, Draft v2 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 1 x 1 x 1 cm cube immersed in respective solvent:

Solvent	24 hr weight gain, %	Solvent	24 hr weight gain, %
Acetic Acid 5%	0.18	Mineral oil (Heavy)	< 0.10
Acetone	4.24	Mineral oil (light)	< 0.10
Bleach ~5% NaOCl	0.14	Salt Water (3.5% NaCl)	0.34
Butyl Acetate	0.11	Skydrol 5	0.31
Diesel Fuel	0.10	Sodium Hydroxide solution (0.025% PH 10)	0.28
Diethyl glycol Monomethyl Ether	0.77	Strong Acid (HCl conc)	< 0.10
Hydraulic Oil	< 0.10	TPM	0.29
Hydrogen peroxide (3%)	0.23	Water	< 0.10
Isooctane (aka gasoline)	< 0.10	Xylene	< 0.10
Isopropyl Alcohol	< 0.10		