

Standard Resins

Materials for High-Resolution Rapid Prototyping

High Detail. For demanding applications, our carefully-engineered resins capture the finest features in your model.

Strong and Precise. Our resins create accurate and robust parts, ideal for rapid prototyping and product development.

Smooth Surface Finish. Perfectly smooth right out of the printer, parts printed on the Formlabs stereolithography printers have the polish and finish of a final product.

* May not be available in all regions



formlabs 

-  CLEAR
FLGPCL04
-  WHITE
FLGPWH04
-  GREY
FLGPGR04
-  BLACK
FLGPBL04
-  COLOR
FLGPCB01

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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.

MATERIAL PROPERTIES DATA

Standard Resins

The following material properties are comparable for Clear Resin, White Resin, Grey Resin, Black Resin, and Color Kit.

	METRIC ¹		IMPERIAL ¹		METHOD
	Green ²	Post-Cured ³	Green ²	Post-Cured ³	
Tensile Properties					
Ultimate Tensile Strength	38 MPa	65 MPa	5510 psi	9380 psi	ASTM D638-14
Tensile Modulus	1.6 GPa	2.8 GPa	234 ksi	402 ksi	ASTM D638-14
Elongation at Break	12%	6%	12%	6%	ASTM D638-14
Flexural Properties					
Flexural Modulus	1.3 GPa	2.2 GPa	181 psi	320 psi	ASTM D 790-15
Impact Properties					
Notched IZOD	16 J/m	25 J/m	0.3 ft-lbf/in	0.46 ft-lbf/in	ASTM D256-10
Temperature Properties					
Heat Deflection Temp. @ 1.8 MPa	43 °C	58 °C	109 °F	137 °F	ASTM D 648-16
Heat Deflection Temp. @ 0.45 MPa	50 °C	73 °C	121 °F	134 °F	ASTM D 648-16

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, Clear settings, without additional treatments.

³ Data was obtained from parts printed using Form 2, 100 µm, Clear settings and post-cured with 1.25 mW/cm² of 405 nm LED light for 60 minutes at 60 °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%	< 1.0	Mineral oil (Heavy)	< 1.0
Acetone	Sample cracked	Mineral oil (light)	< 1.0
Bleach ~5% NaOCl	< 1.0	Salt Water (3.5% NaCl)	< 1.0
Butyl Acetate	< 1.0	Skydrol 5	1
Diesel Fuel	< 1.0	Sodium Hydroxide solution (0.025% PH 10)	< 1.0
Diethyl glycol Monomethyl Ether	1.7	Strong Acid (HCl conc)	Distorted
Hydraulic Oil	< 1.0	Water	< 1.0
Hydrogen peroxide (3%)	< 1.0	Xylene	< 1.0
Isooctane (aka gasoline)	< 1.0		
Isopropyl Alcohol	< 1.0		

HIGH DETAIL

For demanding applications, our carefully-engineered resins capture the finest features in your model.

STRONG AND PRECISE

Our resins create accurate and robust parts, ideal for our rapid prototyping and product development.

SMOOTH SURFACE FINISH

Perfectly smooth right out of the printer, parts printed on Formlabs printers have the polish and finish of a final product.



CLEAR

Clear Resin polishes to near optical transparency, making it ideal for showcasing internal features.



WHITE

White Resin emphasizes fine details and has a matte finish with a warm, slightly ivory color.



GREY

Grey Resin has a smooth, matte finish and shows details beautifully without primer.



BLACK

Black Resin's opaque matte finish rivals the look of injection-molded plastics, capable of producing incredible looks-like prototypes.



COLOR KIT

Color Kit contains a Color Base cartridge and five Color Pigments. Use Color Kit to mix and print matte, opaque parts in a range of colors without the manual work of finishing and painting.

