formlabs

Rebound

Production-Ready Elastic 3D Printing Material Resin

With five times the tear strength, three times the tensile strength, and two times the elongation of other production-grade elastomeric materials on the market, Rebound Resin is perfect for 3D printing springy, resilient parts.

End-use production

Gaskets, seals, and grommets

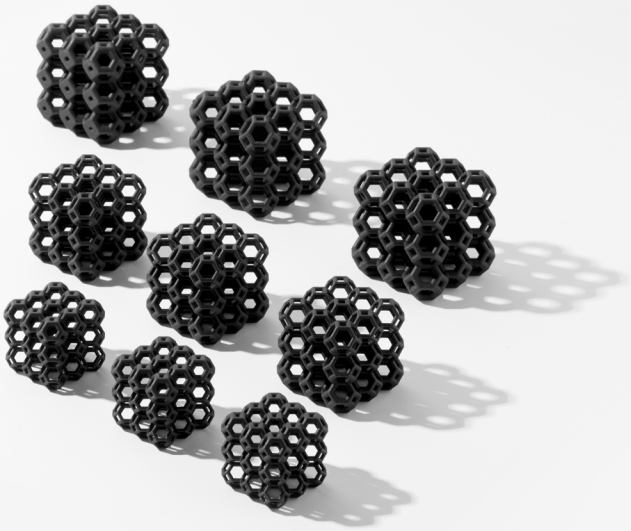
Compliant robotics

Custom cases

Handles, grips, and overmolds

Complex geometries

This material is available exclusively through partnership with Formlabs and requires a minimum quantity commitment to get started. After you contact us, you'll have the opportunity to request a standard sample, purchase a run of custom samples to evaluate, and finally, buy a turnkey package of the equipment needed to print in Rebound Resin at your facility.



V1 **FLRBBL01** *** May not be available in all regions**

Prepared 03 . 18 . 2020
Rev. 01 03 . 18 . 2020

MATERIAL PROPERTIES DATA

Rebound Resin

	METRIC [1]	IMPERIAL [1]	METHOD
	Post-Cured	**Post-Cured**	
Tensile Properties			
Ultimate Tensile Strength	22 MPa	3,391 psi	ASTM D 412-06 (A)
Modulus at 50% Elongation	3.46 MPa	501.83 psi	ASTM D 412-06 (A)
Elongation at Break	300%	300%	ASTM D 412-06 (A)
Compression set at 25 °C for 22 hrs	16%	16%	ASTM D 395-03 (B)
Compression set at 70 °C for 22 hrs	40%	40%	ASTM D 395-03 (B)
Tear Strength	110 kN/m	628 lbf/in	ASTM D 624-00
Hardness, Shore A	86A	86A	ASTM D 2633
Bayshore Rebound Resilience	57%	57%	ASTM D 2633
Abrasion	101 mm^3	101 mm^3	ISO 4649, 40 rpm, 10 N load
Ross Flexing Fatigue (23 °C)	> 50,000 cycles (no crack propagation)	> 50,000 cycles (no crack propagation)	ASTM D1052, (notched), 23 °C, 60 degree bending, 100 cycles/minute
Ross Flexing Fatigue (-10 °C)	> 50,000 cycles (no crack propagation)	> 50,000 cycles (no crack propagation)	ASTM D1052, (notched), -10 °C, 60 degree bending, 100 cycles/minute
Dielectric Properties			
Dielectric Constant	7.7	7.7	ASTM D150, 1MHz
Dissipation Factor	0.069	0.069	ASTM D150, 1MHz
Thermal Properties			
Glass Transition Temperate	-50 °C	-58 °F	DSC

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

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, %
Water	9	Dichloromethane	367
Salt Water	7	Propylene Glycol Diacetate	9
Isopropyl Alcohol	8	Diethylene Glycol Monomethyl Ether	16
Acetone	37	Mineral Oil (Light)	< 1.0
Hexane	1	Castor Oil	< 1.0
Butyl Acetate	26	Hydraulic Oil	< 1.0