



Tough

Photopolymer Resin for Form 1+

MATERIAL PROPERTIES

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Formlabs Tough resin displays a balance of strength and elongation, allowing you to print tough plastic parts on the Form 1+ 3D printer. Parts are less brittle and more impact-resistant, making this resin ideal for various engineering applications. Parts require thorough postcure to achieve final mechanical properties.

	METRIC ¹	IMPERIAL ¹	METHOD
	Postcured²	Postcured²	
Tensile Properties			
Tensile Strength at Yield	52.2 MPa	7570 psi	ASTM D 638-10
Young's Modulus	2.24 GPa	325 ksi	ASTM D 638-10
Elongation at Failure	31%	31%	ASTM D 638-10
Flexural Properties			
Flexural Stress at 5% Strain	39.4 MPa	5720 psi	ASTM D 790-10, Procedure A
Flexural Modulus	1.16 GPa	168 ksi	ASTM D 790-10, Procedure A
Impact Properties			
Notched Izod	51.1 J/m	0.96 ft-lbf/in	ASTM D 256-10, Test Method A
Temperature Properties			
Heat Deflection Temp. @ 66 psi	43.2 °C	109.8 °F	ASTM D 648-07, Method B

NOTES:

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

²Data refers to post-cured properties obtained after exposing green parts for 2 hours in a 30 W UVA curing chamber.