

CREATOR TOUGH

ABS-Like Resin for Minis & Figurines

Creator Tough is a strong and semi-flexible ABS-Like resin specifically formulated for use with non-Formlabs LCD and DLP 3D printers



Mechanical Properties	REAL WORLD MEANING	METRIC		IMPERIAL		METHOD
		GREEN	10MIN CURE	GREEN	10MIN CURE	
Ultimate Tensile Strength	How hard can I pull on it before failure?	26 MPa	30 MPa	3770 psi	4350 psi	ASTM D 638-14
Tensile Modulus	How much does it resist stretching when pulled?	1.2 GPa	1.4 GPa	174 ksi	203 ksi	ASTM D 638-14
Elongation at Break	How far can it stretch before breaking?	32 %	34%	32%	34%	ASTM D 638-14
Hardness	How hard it is to indent the surface?	73 Shore D	76 Shore D	73 Shore D	76 Shore D	ASTM D 2240-15
Flexural Properties		METRIC		IMPERIAL		METHOD
Flexural Strength	How hard can I bend it before it breaks?	36 MPa	46 MPa	5220 psi	6670 psi	ASTM D 790-15
Flexural Modulus	How much does it resist bending?	1 GPa	1.2 GPa	145 ksi	174 ksi	ASTM D 790-15
Impact Properties		METRIC		IMPERIAL		METHOD
Notched Izod	How tough is it when hit or dropped?	27 J/m	27 J/m	0.51 ft-lbs/in	0.51 ft-lbs/in	ASTM D 256-10
Thermal Properties		METRIC		IMPERIAL		METHOD
Heat Deflection Temp. @ 0.45 MPa	What temperature can it handle before deforming under force?	48 °C	49 °C	118 °F	120 °F	ASTM D 648-16

USABILITY DATA

Viscosity	328 cP	Measured at 25 °C
Liquid Density	1.08 g/mL	Measured at 25 °C
Shelf Life	2 years	Store in cool, dark environment
Scaling Factor	1.007	Scaling offset for true-to-CAD printed parts

SOLVENT COMPATIBILITY

When a cube is placed in a solvent for 24 hours, how much of the solvent is absorbed into the part?

Solvent	24 hr weight gain (%)	Imperial	24 hr weight gain (%)
Acetic Acid 5%	0.8	Mineral oil, heavy	0.3
Acetone	8.3	Mineral oil, light	0.4
Bleach ~5% NaOCl	0.7	Salt Water (3.5% NaCl)	0.7
Hydrogen peroxide (3%)	2.30	Water	0.7
Isopropyl Alcohol	0.6		

User Guide

1.

Download print settings and print.
2.

Wash in IPA or Formlabs Resin Washing Solution for 10 minutes.
3.

Air dry for 30-60 minutes or use compressed air for 30-60 seconds to dry.
4.

Post-cure in an Anycubic Wash/Cure Combo, or similar machine, for 10 minutes.

¹ Material properties may vary based on part geometry, print orientation, printer, print settings, temperature, cure unit, and cure settings.

² Data for post-cured samples were measured on Type IV tensile bars printed on a Elegoo Mars 4 printer with 50 µm settings, washed in a Form Wash for 5 minutes in >99% Isopropyl Alcohol, and post-cured at room temperature in an Anycubic Cure 3.

Creator Tough Print Settings

Anycubic Photon Mono 2		
	RELIABLE	FAST
Layer Height (mm)	0.05	0.05
Bottom Layer Count	5	5
Exposure Time (s)	8.5	7.5
Bottom Exposure Time (s)	45	45
Transition Layer Count	10	10
Transition Type	Linear	Linear
Waiting Mode During Printing	Resting Time	Resting Time
Rest Time Before Lift (s)	0	0
Rest Time After List (s)	0	0
Rest Time After Retract (s)	5	0.5
Bottom Lift Distance (mm)	3 + 5	2 + 4
Lifting Distance (mm)	3 + 5	2 + 4
Bottom Retract Distance (mm)	5 + 3	4 + 2
Retract Distance (mm)	5 + 3	4 + 2
Bottom Lift Speed (mm/min)	60 + 120	90 + 430
Lifting Speed (mm/min)	60 + 120	150 + 430
Bottom Retract Speed (mm/min)	120 + 60	430 + 90
Retract Speed (mm/min)	120 + 60	430 + 150
Shrinkage Compensation: X (%)	100.716	100.716
Shrinkage Compensation: Y (%)	100.716	100.716
Shrinkage Compensation: Z (%)	100.000	100.000

Anycubic Photon D2		
	RELIABLE	FAST
Layer Height (mm)	0.05	0.05
Bottom Layer Count	5	5
Exposure Time (s)	9.5	9.5
Bottom Exposure Time (s)	45	45
Transition Layer Count	10	10
Transition Type	Linear	Linear
Light-off Delay (s)	4	0.5
Bottom Lift Distance (mm)	3 + 5	2 + 4
Lifting Distance (mm)	3 + 5	2 + 4
Bottom Retract Distance (mm)	5 + 3	4 + 2
Retract Distance (mm)	5 + 3	4 + 2
Bottom Lift Speed (mm/min)	60 + 90	90 + 430
Lifting Speed (mm/min)	20 + 90	150 + 430
Bottom Retract Speed (mm/min)	90 + 60	430 + 90
Retract Speed (mm/min)	90 + 60	430 + 150
Shrinkage Compensation: X (%)	100.716	100.716
Shrinkage Compensation: Y (%)	100.716	100.716
Shrinkage Compensation: Z (%)	100.000	100.000

Elegoo Saturn 3 Ultra

	RELIABLE	FAST
Layer Height (mm)	0.05	0.05
Bottom Layer Count	5	5
Exposure Time (s)	7.5	7.5
Bottom Exposure Time (s)	45	45
Transition Layer Count	10	10
Transition Type	Linear	Linear
Waiting Mode During Printing	Resting Time	Resting Time
Rest Time Before Lift (s)	0	0
Rest Time After List (s)	0	0
Rest Time After Retract (s)	5	1
Bottom Lift Distance (mm)	3 + 5	2 + 4
Lifting Distance (mm)	3 + 5	2 + 4
Bottom Retract Distance (mm)	5 + 3	4 + 2
Retract Distance (mm)	5 + 3	4 + 2
Bottom Lift Speed (mm/min)	60 + 90	90 + 430
Lifting Speed (mm/min)	60 + 90	150 + 430
Bottom Retract Speed (mm/min)	90 + 60	430 + 90
Retract Speed (mm/min)	90 + 60	430 + 150
Shrinkage Compensation: X (%)	100.716	100.716
Shrinkage Compensation: Y (%)	100.716	100.716
Shrinkage Compensation: Z (%)	100.000	100.000

Elegoo Mars 4

	RELIABLE	FAST
Layer Height (mm)	0.05	0.05
Bottom Layer Count	5	5
Exposure Time (s)	7.5	7.5
Bottom Exposure Time (s)	45	45
Transition Layer Count	10	10
Transition Type	Linear	Linear
Waiting Mode During Printing	Resting Time	Resting Time
Rest Time Before Lift (s)	0	0
Rest Time After List (s)	0	0
Rest Time After Retract (s)	4	0.5
Bottom Lift Distance (mm)	3 + 5	2 + 4
Lifting Distance (mm)	3 + 5	2 + 4
Bottom Retract Distance (mm)	5 + 3	4 + 2
Retract Distance (mm)	5 + 3	4 + 2
Bottom Lift Speed (mm/min)	90 + 150	90 + 430
Lifting Speed (mm/min)	90 + 150	90 + 430
Bottom Retract Speed (mm/min)	150 + 90	430 + 150
Retract Speed (mm/min)	150 + 90	430 + 150
Shrinkage Compensation: X (%)	100.716	100.716
Shrinkage Compensation: Y (%)	100.716	100.716
Shrinkage Compensation: Z (%)	100.000	100.000

Phrozen Sonic Mini 8K

	RELIABLE	FAST
Layer Height (mm)	0.05	0.05
Bottom Layer Count	5	5
Exposure Time (s)	8	7.5
Bottom Exposure Time (s)	45	45
Transition Layer Count	10	10
Transition Type	Linear	Linear
Waiting Mode During Printing	Resting Time	Resting Time
Rest Time Before Lift (s)	0	0
Rest Time After List (s)	0	0
Rest Time After Retract (s)	4	1
Bottom Lift Distance (mm)	3 + 5	2 + 4
Lifting Distance (mm)	3 + 5	3 + 5
Bottom Retract Distance (mm)	5 + 3	4 + 2
Retract Distance (mm)	5 + 3	5 + 3
Bottom Lift Speed (mm/min)	75 + 150	240 + 430
Lifting Speed (mm/min)	75 + 150	240 + 430
Bottom Retract Speed (mm/min)	150 + 75	430 + 230
Retract Speed (mm/min)	150 + 75	430 + 240
Shrinkage Compensation: X (%)	100.716	100.716
Shrinkage Compensation: Y (%)	100.716	100.716
Shrinkage Compensation: Z (%)	100.000	100.000

Uniformation GK2

	RELIABLE	FAST
Layer Height (mm)	0.05	0.05
Bottom Layer Count	5	5
Exposure Time (s)	7.5	7.5
Bottom Exposure Time (s)	45	45
Transition Layer Count	10	10
Transition Type	Linear	Linear
Waiting Mode During Printing	Resting Time	Resting Time
Rest Time Before Lift (s)	0	0
Rest Time After List (s)	0	0
Rest Time After Retract (s)	4	0.5
Bottom Lift Distance (mm)	3 + 5	2 + 4
Lifting Distance (mm)	3 + 5	3 + 5
Bottom Retract Distance (mm)	5 + 3	4 + 2
Retract Distance (mm)	5 + 3	5 + 3
Bottom Lift Speed (mm/min)	90 + 150	90 + 430
Lifting Speed (mm/min)	90 + 150	90 + 430
Bottom Retract Speed (mm/min)	150 + 90	430 + 150
Retract Speed (mm/min)	150 + 90	430 + 150
Shrinkage Compensation: X (%)	100.716	100.716
Shrinkage Compensation: Y (%)	100.716	100.716
Shrinkage Compensation: Z (%)	100.000	100.000

Creality Halot Mage

	RELIABLE	FAST
Layer Height (mm)	0.05	0.05
Bottom Layer Count	5	5
Exposure Time (s)	7.5	7.5
Bottom Exposure Time (s)	45	45
Light-off Delay (s)	5	5
Lifting Distance (mm)	8 + 0	8 + 0
Lifting Speed (mm/min)	120 + 0	270 + 0
Shrinkage Compensation: X (%)	100.716	100.716
Shrinkage Compensation: Y (%)	100.716	100.716
Shrinkage Compensation: Z (%)	100.000	100.000