Resin Printing

3D

UTILITY3D INC.

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Modulus	٩	Pliable	 Stiff
Elongation	٩	Low	 High
Springback	٩	Slow	 Fast

Durable Resin Similar physical properties to polypropylene (PP) or high-

density polyethylene (HDPE), where high elongation, deformation, or impact resistance are required. Durable Resin is the most pliable, impact resistant, and lubricious material in our functional family of Tough and Durable Resins. Choose Durable Resin for squeezable parts and low-friction assemblies.

Durable Resin is ideal for:

- Squeezable prototypes
- Jigs and fixtures undergoing significant impacts
- Low friction assemblies and non-degrading surfaces
- Simulating the strength and stiffness of polyethylene (PE)

Durometer	٩	Soft	 Hard
Springback	٩	Slow	 Fast
Ultimate Tensile Strength	٩	Low	 High

Elastic 50A Resin Designed for applications requiring high elongation

and high energy return. Use for prototypes that must bend, stretch, compress, and hold up to repeated cycles. Our softest Engineering Resin, this 50A Shore durometer material is suitable for prototyping parts normally produced with silicone. Choose Elastic 50A Resin for parts that will bend, stretch, compress, and hold up to repeated cycles without tearing, and spring back quickly to their original shape.

- Wearables, such as straps
- Stretchable enclosures and casings
- Compressible buttons
- Soft tissue anatomy



Durometer	(1)	Soft	 Hard
Springback	0	Slow	 East
Ultimate	٢	510W	I dSL
Tensile Strength	١	Low	 High

Flexible 80A Resin Simulates 80A durometer rubber, high impact

resistance and compression, great for ergonomic soft-touch grips. Flexible 80A Resin is the stiffest soft-touch material in our library of Flexible and Elastic Resins, with an 80A Shore durometer to simulate the flexibility of rubber or TPU. Balancing softness with strength, Flexible 80A Resin can withstand bending, flexing, and compression, even through repeated cycles.

- Handles, grips, and overmolds
- Cushioning, damping, and shock absorption
- Seals, gaskets, and masks
- Cartilage, tendon, and ligament anatomy



Grey Pro Resin Versatile material, resistant to deformation over

time, suitable for concept modeling, functional prototyping, and parts intended for repeated use. Grey Pro Resin offers high precision, moderate elongation, and low creep. This material is great for concept modeling and functional prototyping, especially for parts that will be handled repeatedly.

Grey Pro Resin is ideal for:

- Form and fit testing
- Injection molded product prototypes
- Mold masters for plastics, silicones, and more
- Jigs and fixtures for manufacturing



High Temp Resin HDT of 238 °C @ 0.45 MPa for V2 (FLHTAM02)

and 289 °C @ 0.45 MPa for V1 (FLHTAM01), designed for static applications that experience high temperatures, including thermoforming, vulcanization, and electronics encapsulation.

High Temp Resin is ideal for:

- Hot air, gas, and fluid flow
- Heat resistant mounts, housings, and fixtures
- Molds and inserts

	Modulus	٩	Stiff	 Extremely Stiff
	Tensile Strength	٩	Low	 High
	Thermal and Chemical Resistance	٩	Low	 High

Rigid 4000 Resin Reinforced with glass for very high stiffness and a

polished finish, highly resistant to deformation over time. Great for printing thin walls and features. Not suited for parts that must bend. Glass-filled Rigid 4000 Resin prints with a smooth, polished finish and is ideal for stiff and strong parts that can withstand minimal deflection. Consider Rigid 4000 Resin for general load-bearing applications.

Rigid 4000 Resin is ideal for:

- Mounts and brackets
- Thin-walled parts
- Jigs and fixtures

- Simulates stiffness of PEEK





Rigid 10K Resin With a stiffness simulating that of glass and

fiber-filled thermoplastics, Rigid 10K Resin is designed to maintain structural integrity under any condition. This highly glass-filled resin is the stiffest material in our engineering portfolio. Choose Rigid 10K Resin for precise industrial parts that need to withstand significant load without bending. Rigid 10K Resin exhibits a smooth matte finish and is highly resistant to heat and chemicals.

- Short-run injection mold masters and inserts
- Heat resistant and fluid exposed components, jigs, and fixtures
- Aerodynamic test models
- Simulates stiffness of glass and fiber-filled thermoplastics



Modulus	١	Pliable	 Stiff
Elongation	٩	Low	 High
Springback	١	Slow	 Fast

Tough 2000 Resin Simulates ABS plastic. Choose for

applications that will undergo high stress and strain. Great for functional prototyping of assemblies, machining, and snap-fits. Tough 2000 Resin is the strongest and stiffest material in our functional family of Tough and Durable Resins. Choose Tough 2000 Resin for prototyping strong and sturdy parts that should not bend easily.

Tough 2000 Resin is ideal for:

- Strong and stiff prototypes
- Jigs and fixtures requiring minimal deflection
- Simulating the strength and stiffness of ABS

	Modulus	٩	Pliable	 Stiff
BC N	Elongation	٩	Low	 High
	Springback	٩	Slow	 Fast

<u>Tough 1500 Resin</u> Simulates PP plastic. Great for functional prototyping of assemblies, snap-fits and hinges. Tough 1500 Resin is the most resilient material in our functional family of Tough and Durable Resins. Choose Tough 1500 Resin for stiff and pliable parts that bend and spring back quickly.

Tough 1500 Resin is ideal for:

- Prototypes that repeatedly bend and quickly return to shape
- Jigs and fixtures requiring repeated deflection
- Simulating the strength and stiffness of polypropylene (PP)
- Certified for permanent skin contact*

Printing volume



PRINTING VOLUME

14.5 × 14.5 × 18.5 cm

5.7 × 5.7 × 7.3 in

TYPE OF FILE SUPPORTED

.STL

.OBJ

.STEP

MAIN ONES USED, CONTACT IF NOT SURE

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Standard resins



Standard Resin

Materials for High-Resolution Rapid Prototyping & High Resolution.

Standard Resins are ideal for:

- For demanding applications, the resins capture the finest features in the model.

- Strength and Precision. The standard resins create accurate and robust parts, ideal for rapid prototyping and product development.

- Surface Finish. Perfectly smooth right out of the printer.

Different colors available:

- Clear
- White
- Gray
- Black
- Range of colors



Draft Resin for Truly Rapid Prototyping Draft Resin prints up to four times faster than 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.

Draft Resin is ideal for:

- Initial prototypes
- Live 3D printing demos
- Rapid design iterations
- High throughput applications

Standard resins



PRINTING VOLUME

14.5 × 14.5 × 18.5 cm 5.7 × 5.7 × 7.3 in

TYPE OF FILE SUPPORTED

.STL .OBJ .STEP MAIN ONES USED, CONTACT IF NOT SURE