

Material Information

Tough Resin Yellow



Introduction

Tough Resin Yellow is a photosensitive resin material designed for SLA 3D printing. It combines good hardness and toughness with the fine details and smooth surface finish associated with resin 3D printing. Its yellow appearance makes it suitable for visual prototypes, proof-of-concept models, and selected functional prototypes that require a balance of surface quality and mechanical performance.

Advantages

Good hardness and toughness make Tough Resin Yellow suitable for prototypes that need to withstand routine handling and selected mechanical testing.

Disadvantages

Although Tough Resin Yellow offers a balance of hardness and toughness, its performance depends on the part design and fabrication conditions. It should not automatically be treated as a replacement for engineering thermoplastics in demanding load-bearing applications.

Tolerance

±200µm or 0.2%

Recommendation

Tough Resin Yellow is suitable for visual prototypes, proof-of-concept models, and functional prototypes for selected use cases. It is particularly appropriate for product housings, structural mockups, consumer product concepts, and detailed models that require a distinctive yellow appearance and good surface quality. The material can also be combined with suitable 3D Plus™ post-processing services.

Material Specifications		
Heat Deformation (0.46MPa)	ASTM D648M	56.4°C
Tensile Strength	ASTM D638M	62.4MPa
Tensile Modulus	ASTM D638M	3200MPa
Elongation at Break	ASTM D638M	6.8%
Flexural Strength	ASTM D 790	83.1MPa

Flexural Modulus	ASTM D790M	2390MPa
Notched Impact Strength	ASTM D256A	42 J/m

Attention

Tough Resin Yellow is a photopolymer material, so its long-term performance depends on the application environment and post-processing conditions. Prolonged exposure to direct sunlight may contribute to material aging and brittleness. For parts requiring improved surface protection or a customized appearance, suitable 3D Plus™ post-processing, such as spray painting or coating, should be considered.

Applications

3DSPRO finds people using Tough Resin Yellow to make functional parts and prototypes in the following industries and applications.

Artwork and models:

Sculptures, props, miniatures, figurines, decorative objects, display models, and other detailed designs that benefit from SLA printing quality and a distinctive yellow appearance.

Consumer electronics and appliances:

Product housings, electronic device mockups, mobile phone concepts, control panels, accessory prototypes, and other components used to evaluate product appearance and assembly.

Electromechanical equipment:

Instrument housings, switch enclosures, control components, measuring tool prototypes, equipment panels, and other parts requiring detailed features and suitable mechanical performance for prototype evaluation.

Industrial and general product development:

Concept models, structural mockups, assembly prototypes, jigs, fixtures, and selected functional test parts used to evaluate product geometry, fit, and overall design before final manufacturing.