

Material Information

Castable Wax Resin



Introduction

Formlabs Castable Wax Resin is a high-precision, 3D printing resin engineered for direct investment casting in jewelry, dental, and other fine-detail applications. Containing 20% wax and offering zero ash content, it delivers clean burnout and exceptional surface finish.

Advantages

Its high stiffness and strength allow for the printing of delicate geometries that maintain dimensional accuracy, while the smooth surface finish supports easy removal of light-touch supports without leaving marks. The absence of a post-cure requirement streamlines production, and its high green strength makes it particularly suited for thin, detailed patterns that might otherwise deform.

Disadvantages

It is not intended for functional load-bearing parts or applications requiring high impact resistance. Care must be taken to store and handle printed parts in controlled conditions to maintain optimal quality before casting.

Tolerance

$\pm 200\mu\text{m}$ or 0.2%

Color

Purple

Recommendation

Best suited for applications that demand exceptional detail, clean burnout, and a smooth surface finish, particularly in jewelry casting, dental frameworks, and small-scale artistic or decorative metalwork. It is ideal for producing intricate filigree, thin-walled patterns, and complex geometries that must retain their shape during handling and investment.

Material Specifications		
Property	Method	Green
Tensile Strength	ASTM D638-10	12MPa
Tensile Modulus	ASTM D638-10	220MPa
Elongation at Break	ASTM D638-10	13%
Temp @ 5% Mass Loss	/	249°C
Ash Content (TGA)	/	0.0 - 0.1%

Attention

Due to the characteristics of resin materials, products printed with resin materials will gradually turn yellow and become brittle after long-term exposure to direct sunlight. If you want to avoid this from happening, you may need to move it out of direct sunlight or add 3D Plus™ services (such as coating) to block out the sunlight.

Applications

3DSPRO finds people using Castable Wax Resin in the following industries and applications:

Jewelry design and casting:

Intricate engagement rings, filigree earrings, custom pendants, signet rings, and ornamental charms are ready for direct investment casting.

Dental restorations and frameworks:

Crowns, bridges, removable partial denture frameworks, pressed ceramic patterns, and precision-fit dental prosthetic components.

Luxury watchmaking and micro-mechanics:

Miniature gears, bezels, ornamental dials, winding crowns, and decorative case elements require flawless casting.

Fine art and collectibles:

Small-scale sculptures, high-detail figurines, commemorative medals, and limited-edition art pieces.