POLYJET

RGD450 (Rigur)

Durable Rigid Resin for High-Performance Prototypes

RGD450 is a durable white rigid resin offering superior durability and impact resistance with polypropylene-like properties. Enhanced elongation and flexural strength make it ideal for demanding prototyping applications requiring exceptional mechanical performance.



BUILD VOLUME	LEAD TIME	LAYER HEIGHT	TOLERANCE
342 × 342 × 200 mm	**2-4 business days**	**0.016-0.03 mm**	**±0.2% (min ±0.2 mm)**

MECHANICAL PROPERTIES

RGD450 (Rigur) delivers dependable strength and impact resistance for functional prototypes requiring snap-fit assemblies, living hinges and compliant mechanisms. Its balanced mechanical profile maintains structural integrity while preventing brittleness, so clips and hinge webs flex and return during assembly testing.

Stratasys publishes each value as a range. Read the modulus and elongation values together: Rigur gives up some stiffness for stretch, which is what lets snap-fits engage without cracking. Generous radii at clip roots and bosses help parts survive repeated assembly.

PROPERTY	VALUE	TEST STANDARD
Tensile Strength	**40–45 MPa**	ASTM D638
Tensile Modulus	**1700–2100 MPa**	ASTM D638
Elongation at Break	**20–35 %**	ASTM D638
Flexural Strength	**52–59 MPa**	ASTM D790
Flexural Modulus	**1500–1700 MPa**	ASTM D790
Impact Strength, Notched Izod	**30–35 J/m**	ASTM D256

THERMAL PROPERTIES

Heat deflection and glass transition values show where Rigur begins to soften, so it suits room-temperature fit checks, handling, design reviews and display rather than heated environments. The deflection temperature drops as load rises, so check both heat and load when a prototype sits near motors, lamps or direct sun.

For hot-air paths, under-hood tests or parts exposed to heat sources, choose High Temperature resin or a nylon instead.

PROPERTY	VALUE	TEST STANDARD
HDT @ 0.45 MPa	**49–54 °C**	ASTM D648
HDT @ 1.82 MPa	**45–50 °C**	ASTM D648
Glass Transition Temperature	**48–52 °C**	DMA, E″

PHYSICAL PROPERTIES

Consistent density and surface quality keep critical features in tolerance and downstream finishing predictable. Shore D and Rockwell M hardness describe a firm surface that takes handling and paint.

PROPERTY	VALUE	TEST STANDARD
Polymerized Density	**1.20–1.21 g/cm³**	ASTM D792
Shore Hardness D	**80–84**	—
Rockwell Hardness M	**58–62**	—
Ash Content	**0.3–0.4 %**	USP 281
Colour	**Bright white**	—

MANUFACTURING

Colours & finishes	**Bright white, painted for other colours; support removal by water jet or dissolving, and threading**