

Accura® Fidelity™

Manufacture high yield investment casting patterns with ultra-low viscosity, antimony-free stereolithography (SLA) resin.

Casting Class

Stereolithography (SLA)

INVESTMENT CASTING PATTERNS STABILITY AND CLEAN BURNOUT

QuickCast® investment castings patterns printed with Accura Fidelity lead to an increase in casting yields. Designed for a variety of castable metals, this antimony free, low viscosity clean burn resin is perfect for titanium alloy.

Combined with cutting edge software, Accura Fidelity quickly creates large, light weight, and easy to handle casting patterns through our industry leading QuickCast process.

Liquid Material

MEASUREMENT	CONDITION	VALUE
Viscosity	@ 30 °C (86 °F)	117 cps
Penetration Depth (Dp)		5.28 mils
Critical Exposure (Ec)		12.8 mJ/cm ²
Color		Clear / Transparent
Liquid Density	@ 25 °C (77 °F)	1.13 g/cm ³ 0.04 lbs/in ³

APPLICATIONS

- Medium to large size patterns without tooling
- One-off investment castings
- Low production runs investment castings
- Any casting materials

BENEFITS

- Accurate QuickCast patterns
- Clean burnout with ultra-low ash content (<0.010%)
- Patterns dimensional stability
- Fast and effective pattern draining
- Designed to eliminate bubble formation

FEATURES

- Antimony-free material
- Ultra-low coefficient of thermal expansion
- Excellent humidity/moisture resistance
- Low viscosity material
- Transparent material

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Post-Cured Material

MECHANICAL PROPERTIES			
MEASUREMENT	CONDITION	METRIC	U.S.
Tensile Strength (MPa PSI)	ASTM D638	65	18900
Tensile Modulus (MPa KSI)	ASTM D638	2790	809
Elongation at Break	ASTM D638	5-11%	
Flexural Strength (MPa PSI)	ASTM D790	124	36000
Flexural Modulus (MPa KSI)	ASTM D790	2400	696
Notched Izod Impact Strength (J/m Ft-lbs/in)	ASTM D256	25-39	0.47-0.73
Heat Deflection Temperature @ 0.45 MPa (66 PSI) @ 1.82 MPa (264 PSI)	ASTM D648	63 °C	146 °F
		55 °C	130 °F
Coefficient of Thermal Expansion (CTE) ($\mu\text{m}/\text{m}\cdot\text{°C}$ $\mu\text{in}/\text{in}\cdot\text{°F}$)	ASTM E831-93		
	-40-0°C (-40-32°F)	62	34
	0-55°C (32-131°F)	78	43
	55-90°C (131-194°F)	124	69
	90-140°C (194-284°F)	166	92
Glass Transition (Tg)	DMA, E''	61 °C	141 °F
Hardness, Shore D		84	
Water Absorption at Saturation	ASTM D570-98	0.38%	
Solid Density (g/cm ³ lbs/in ³)	@ 25 °C (77 °F)	1.19	0.043
Ash Content	TGA	<0.010%*	
Antimony Content (ICP)	ASTM 6020B	<0.1 ppm	

* Measured value within TGA device resolution.



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