

3D Systems Accura® SI 40 Plastic for the SLA® 250 System

Category : Polymer , Rapid Prototyping Polymer

Material Notes:

Accura 40 "Ar" or "Hc" type materials - for the SLA 250 system. Mimics Nylon 6:6
 Applications: High temperature testing, Under hood bolt-on testing, Wind tunnel testing, HVAC testing, Prototyping and testing of rigid cases and enclosures, Flow visualization, Drilling and self-tapping, Pressure tappings, Snap fit assemblies, RTV mold patterns.
 Features: Stiffness matches nylon 6:6, High heat resistance without brittleness, Good durability, Outstanding accuracy with minimal distortion, Fully developed and tested build styles.
 All information provided by 3D Systems.

Order this product through the following link:

http://www.lookpolymers.com/polymer_3D-Systems-Accura-SI-40-Plastic-for-the-SLA-250-System.php

Physical Properties	Metric	English	Comments
Density	1.10 g/cc	0.0397 lb/in ³	Liquid
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Viscosity	485 cP	485 cP	
	@Temperature 30.0 °C	@Temperature 86.0 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	90	90	90 Minute UV Cure; ASTM D2240
	90	90	90 Minute UV Cure + Thermal; ASTM D2240
Tensile Strength, Yield	64.9 - 65.7 MPa	9410 - 9530 psi	90 Minute UV Cure; ASTM D638
	75.2 - 75.7 MPa	10900 - 11000 psi	90 Minute UV Cure + Thermal; ASTM D638
Elongation at Break	4.4 - 5.5 %	4.4 - 5.5 %	90 Minute UV Cure; ASTM D638
	5.3 - 8.2 %	5.3 - 8.2 %	90 Minute UV Cure + Thermal; ASTM D638
Tensile Modulus	3.169 - 3.238 GPa	459.6 - 469.6 ksi	90 Minute UV Cure; ASTM D638
	3.10 - 3.309 GPa	450 - 479.9 ksi	90 Minute UV Cure + Thermal; ASTM D638
Flexural Strength	106.7 - 110.2 MPa	15480 - 15980 psi	90 Minute UV Cure; ASTM D790
	110.9 - 112.3 MPa	16080 - 16290 psi	90 Minute UV Cure + Thermal; ASTM D790
Flexural Modulus	3.10 - 3.186 GPa	450 - 462.1 ksi	90 Minute UV Cure + Thermal; ASTM D790
	3.169 - 3.238 GPa	459.6 - 469.6 ksi	90 Minute UV Cure; ASTM D790

Impact Notched Mechanical Properties	0.1658 - 0.1872 J/cm Metric	0.3106 - 0.3507 ft-lb/in English	90 Minute UV Cure; ASTM D256 Comments
	0.1281 - 0.230 J/cm	0.2400 - 0.431 ft-lb/in	90 Minute UV Cure + Thermal; ASTM D256
Penetration	4.7	4.7	mils

Thermal Properties	Metric	English	Comments
CTE, linear	53.7 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	29.8 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	90 Minute UV Cure + Thermal; T<Tg; ASTM E831-93
	61.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	33.9 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	90 Minute UV Cure; T<Tg; ASTM E831-93
	103 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	57.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	90 Minute UV Cure + Thermal; T>Tg; ASTM E831-93
	147 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	81.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	90 Minute UV Cure; T>Tg; ASTM E831-93
Deflection Temperature at 0.46 MPa (66 psi)	61.0 $^{\circ}\text{C}$	142 $^{\circ}\text{F}$	90 Minute UV Cure; ASTM D648
	120 $^{\circ}\text{C}$	248 $^{\circ}\text{F}$	90 Minute UV Cure + Thermal; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	55.0 $^{\circ}\text{C}$	131 $^{\circ}\text{F}$	90 Minute UV Cure; ASTM D648
	105 $^{\circ}\text{C}$	221 $^{\circ}\text{F}$	90 Minute UV Cure + Thermal; ASTM D648
Glass Transition Temp, Tg	76.0 $^{\circ}\text{C}$	169 $^{\circ}\text{F}$	90 Minute UV Cure; DMA, E''
	99.0 $^{\circ}\text{C}$	210 $^{\circ}\text{F}$	90 Minute UV Cure + Thermal; DMA, E''

Descriptive Properties	Value	Comments
Appearance	Clear amber	
Critical Exposure (mJ/cm ²)	13.9	
Tested Build Styles	EXACT™	

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