Stereolithography Materials

SL DIRECT

Accura® SL 5530

for use on SLA 350/3500/5000 system

High Temperature Resistant Stereolithography Material

- High temperature resistance
- Very high throughput material
- Good water resistance
- Suitable for under-the-hood applications
- Suitable for electrical applications
- Resistant to automotive fluids

Liquid Material

MEASUREMENT	CONDITION	VALUE
Appearance		Clear Amber
Density	@ 25°C (77°F)	1.19 g/cm^3
Viscosity	@ 28°C (82°F)	270 cps
Viscosity	@ 30°C (86°F)	210 cps
Penetration depth (Dp)		5.4 mils (5.6 mils on SLA 350/3500 systems)
Critical exposure (Ec)		8.9 mJ/cm^2 (9.4 mJ/cm^2 on SLA 350/3500 systems)
Part building layer thickness*		0.05 mm (0.002 in) 0.10 mm (0.004 in)

*Dependent upon part geometry and build parameters.

Post-Cured Material

MEASUREMENT	CONDITION	VALUE	VALUE
		90-minute UV post-cure	90-minute UV + 2 hours @ 160° thermal post-cure
Hardness, Shore D	ASTM D 2240	88	90
Flexural modulus	ASTM D 790	2,620 - 3,240 MPa (380 - 470 KSI)	3,496 - 3,634 MPa (507 - 527 KSI)
Flexural strength	ASTM D 790	63 - 87 MPa (9,100 - 12,600 PSI)	96 - 108 MPa (13,900 - 15,700 PSI)
Tensile modulus	ASTM D 638	2,889 - 3,144 MPa (419 - 456 KSI)	3,585 - 3,758 MPa (520 - 545 KSI)
Tensile strength	ASTM D 638	57 - 61 MPa (8,300 - 8,900 PSI)	47 - 61 MPa (6,800 - 8,900 PSI)
Elongation at break	ASTM D 638	3.8 - 4.4%	1.3 - 2.9%
Impact strength, notched Izod	ASTM D 256	21 J/m (0.4 ft - lbs/in	21 J/m (0.4 ft - lbs/in)
Heat deflection temperature	ASTM D 648 @ 66 PSI @ 264 PSI	70 - 85°C (158 - 185°F) 55 - 58°C (131 - 136°F)	170 - 250°C (338 - 482°F) 110 - 120°C (230 - 248°F)
Glass transition, Tg	DMA, E" peak	79°C (174°F)	122°C (252°F)
Coefficient of thermal expansion	TMA (T<Tg) TMA (T>Tg)	76 x 10^{-6}/°C 152 x 10^{-6}/°C	84 x 10^{-6}/°C 159 x 10^{-6}/°C
Thermal conductivity		0.173 W/m °K 4.2 x 10^{-4} cal/sec.cm.°C	
Density		1.25 g/cm^3	

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