

Stereolithography Materials

SL
DIRECT

for use on

RenShape™ SL 7545

Solid State Laser
SLA® systems

Durable Stereolithography Material for Polypropylene-like Parts

- High green strength
- Accurate material with wide process latitude
- Excellent side walls and fine features
- High durability
- High elongation at break
- Suitable for snap-fit parts

Liquid Material

MEASUREMENT	CONDITION	VALUE
Appearance		Clear Amber
Density	@ 25°C (77°F)	1.15 g/cm ³
Viscosity	@ 28°C (82°F)	430 cps
Viscosity	@ 30°C (86°F)	350 cps
Penetration depth (Dp)		6.6 mils
Critical exposure (Ec)		9.6 mJ/cm ²
Part building layer thickness*		0.10mm (0.004in) 0.15mm (0.006in)

*Dependent upon part geometry and build parameters.

Post-Cured Material

MEASUREMENT	TEST METHOD	**VALUE	**VALUE
		90-minute UV post-cure	90-minute UV + 2 hours @ 80°C thermal post-cure
Hardness, Shore D	ASTM D 2240	79	81
Flexural modulus	ASTM D 790	1,390 - 1,560 MPa (200 - 225 KSI)	1,460 - 1,600 MPa (210 - 230 KSI)
Flexural strength	ASTM D 790	50 - 55 MPa (7,300 - 8,000 PSI)	52 - 56 MPa (7,500 - 8,100 PSI)
Tensile modulus	ASTM D 638	1,400 - 1,900 MPa (200 - 275 KSI)	1,500 - 1,900 MPa (220 - 280 KSI)
Tensile strength	ASTM D 638	35 - 40 MPa (5,000 - 5,700 PSI)	35 - 40 MPa (5,000 - 5,700 PSI)
Elongation at break	ASTM D 638	12 - 21%	10 - 16%
Impact strength, notched Izod	ASTM D 256	28 - 39 J/m (0.5 - 0.7 ft - lbs/in)	22 - 33 J/m (0.4 - 0.6 ft - lbs/in)
Heat deflection temperature	ASTM D 648	@ 66 PSI: 48 - 50°C (118 - 122°F) @ 264 PSI: 43 - 48°C (109 - 118°F)	58 - 60°C (136 - 140°F) 48 - 50°C (118 - 122°F)
Glass transition, Tg	DMA, E" peak	55°C (131°F)	58°C (136°F)
Density		1.19 g/cm ³	

**Values dependent upon SLA system and build parameters.

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