

Stereolithography Materials

SL
DIRECT

RenShape™ SL 5170

for use on
SLA® 190/250
system

Highly Accurate Stereolithography Material for Master Patterns

- Low viscosity
- Wide process latitude and high yield
- Highly accurate with superior surface finish
- Suitable for QuickCast™ applications
- Suitable as master patterns for tooling inserts
- Suitable for form, fit and function testing

Liquid Material

| MEASUREMENT | CONDITION | VALUE |
|--------------------------------|---------------|---------------------------------------|
| Appearance | | Clear Amber |
| Density | @ 25°C (77°F) | 1.14g/cc |
| Viscosity | @ 28°C (82°F) | 220 cps |
| Viscosity | @ 30°C (86°F) | 165 - 195 cps |
| Penetration depth (Dp) | | 4.8 mils |
| Critical exposure (Ec) | | 13.5 mJ/cm² |
| Part building layer thickness* | | 0.10 mm (0.004 in) 0.15 mm (0.006 in) |

*Dependent upon part geometry and build parameters.

Post-Cured Material

| MEASUREMENT | TEST METHOD | VALUE |
|----------------------------------|-----------------------------------|---|
| | | 90-minute UV post-cure |
| Hardness, Shore D | ASTM D 2240 | 85 |
| Flexural modulus | ASTM D 790 | 2,920 - 3,006 MPa (423 - 436 KSI) |
| Flexural strength | ASTM D 790 | 107 - 108 MPa (15,500 - 15,700 PSI) |
| Tensile modulus | ASTM D 638 | 3,737 - 4,158 MPa (542 - 603 KSI) |
| Tensile strength | ASTM D 638 | 59 - 60 MPa (8,600 - 8,800 PSI) |
| Elongation at break | ASTM D 638 | 7 - 19% |
| Impact strength, notched Izod | ASTM D 256 DIN 53455/ISO R 527 | 27 - 37 J/m (0.5 - 0.7 ft - lbs/in) |
| Heat deflection temperature | ASTM D 648 @ 66 PSI @ 264 PSI | 55°C (131°F) 49°C (120°F) |
| Glass transition, Tg | DMA, E" peak | 65 - 90°C (149 - 184°F) |
| Coefficient of thermal expansion | TMA (T<Tg) | 90 x 10 ⁻⁶ /°C |
| Thermal conductivity | | 0.200 W/m °K (4.78 x 10 ⁻⁴ cal/sec.cm.°C) |
| Density | | 1.22 g/cm ³ |

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