

Product Data

RenShape[®] SL 7870

STEREOLITHOGRAPHY MATERIAL

For use on:
Solid State Laser
SLA[®] Systems

- High Clarity
- ABS-like Performance

DESCRIPTION

RenShape[®] SL 7870 stereolithography material is a water clear, low viscosity stable liquid that produces high clarity models and prototypes with good surface finish and detail. The SL 7870 prototypes also exhibit good dimensional stability even in a humid atmosphere. Parts made from SL 7870 deliver high impact resistance while retaining durability over time.

MEASUREMENT	CONDITION	VALUE
Appearance		Clear liquid
Density	@ 25 °C (77 °F)	1.13 g/cm ³
Viscosity	@ 28 °C (82 °F)	210 cps
Viscosity	@ 30 °C (86 °F)	180 cps
Penetration depth (Dp)		7.2 mils
Critical exposure (Ec)		10.6 mJ/cm ²
Part building layer thickness*		0.10mm (0.004 in.)

* Dependent upon part geometry and build parameters.

Post-Cured Material

MEASUREMENT	TEST METHOD	VALUE 90-minute UV post-cure	VALUE 90-minute UV + 2 hours @ 80 °C (176 °F) thermal postcure
Hardness, Shore D	ASTM D-2240	86	87
Flexural modulus	ASTM D-790	1,980-2,310 MPa (286-333 ksi)	2,010-2,350 MPa (289-338 ksi)
Flexural strength	ASTM D-790	65-71 MPa (9,400-10,300 psi)	65-74 MPa (9,400-11,000 psi)
Tensile modulus	ASTM D-638	1,930-2,020 MPa (278-291 ksi)	1,860-2,030 MPa (268-292 ksi)
Tensile strength	ASTM D-638	38-42 MPa (5,470-6,050 psi)	39-42 MPa (5,620-6,050 psi)
Elongation at break	ASTM D-638	10-22%	10-23%
Impact strength, notched Izod	ASTM D-256	45-61 J/m (0.85-1.15 ft.-lb./in.)	43-60 J/m (0.81-1.13 ft.-lb./in.)
Heat deflection temperature	ASTM D-648 @ 66 psi @ 264 psi	48 °C (118 °F) 41 °C (106 °F)	49 °C (120 °F) 43 °C (109 °F)
Glass transition, Tg	DMA, E'' peak	56 °C (133 °F)	57 °C (135 °F)
Coefficient of thermal expansion	TMA (T<Tg) TMA (T>Tg)	97 x 10 ⁻⁶ /°C 216 x 10 ⁻⁶ /°C	87 x 10 ⁻⁶ /°C 213 x 10 ⁻⁶ /°C
Cured Density		1.15g/cm ³	

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FIRST AID!

Eyes and skin: Flush eyes with water for 15 minutes. Contact a physician if irritation persists. Wash skin thoroughly with soap and water. Remove and wash contaminated clothing before reuse.

Inhalation: Remove subject to fresh air.

Swallowing: Dilute by giving water to drink and contact a physician promptly. Never give anything to drink to an unconscious person.

KEEP OUT OF REACH OF CHILDREN

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