

Advanced Materials**RenShape® SL 7811**

STEREOLITHOGRAPHY MATERIALS
For use on Solid State Laser SLA® Systems

ABS Like Performance
Good Durability

DESCRIPTION

RenShape® SL 7811 stereolithography material is a white, low viscosity stable liquid that produces strong white models and prototypes with good surface finish and detail, an ABS-like appearance. The product is also well suited for building RTV patterns. Parts built with SL7811 exhibit durability over time beyond 6 months.

MEASUREMENT	CONDITION	VALUE
Appearance		White liquid
Density	@ 25 °C (77 °F)	1.11 g/cm ³
Viscosity	@ 28 °C (82 °F)	240 cps
Viscosity	@ 30 °C (86 °F)	210 cps
Penetration depth (Dp)		5.25 mils
Critical exposure (Ec)		10.97 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	86
Flexural modulus	ASTM D-790	1,500-2,200 MPa (220-320 ksi)	1,500-2,000 MPa (220-290 ksi)
Flexural strength	ASTM D-790	35-54 MPa (5,000-7,800 psi)	33-52 MPa (4,800-7,500 psi)
Tensile modulus	ASTM D-638	1,500-2,000 MPa (220-290 ksi)	1,500-2,000 MPa (220-290 ksi)
Tensile strength	ASTM D-638	34-42 MPa (4,900-6,000 psi)	34-40 MPa (4,900-5,800 psi)
Elongation at break	ASTM D-638	15-30%	15-30%
Impact strength, notched Izod	ASTM D-256	42-59 J/m (0.78-1.10 ft.-lb./in.)	43-65 J/m (0.80-1.21 ft.-lb./in.)
Heat deflection temperature	ASTM D-648 @ 66 psi @ 264 psi	47 °C (117 °F) -- °C (-- °F)	46 °C (115 °F) -- °C (--- °F)
Glass transition, Tg	DMA, E" peak	63 °C (145 °F)	n/a
Coefficient of thermal expansion	TMA (T<Tg) TMA (T>Tg)	92 x 10 ⁻⁶ /°C 207 x 10 ⁻⁶ /°C	n/a
Cured Density		1.15g/cm ³	n/a

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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**FOR PROFESSIONAL AND INDUSTRIAL USE ONLY**

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