

Advanced Materials**RenShape[®] SL 7820 Stereolithography Material**For use on Solid State Laser SLA[®] Systems

White to Black Resin

ABS Like Performance

Good Durability

DATA SHEET**DESCRIPTION**

RenShape[®] SL 7820 Stereolithography Material is a white, low-viscosity stable liquid that produces strong black models and prototypes with good surface finish and detail, and an ABS-like appearance. The product is also well suited for building RTV patterns. Parts built with RenShape[®] SL 7820 Stereolithography Material exhibit durability over time beyond 6 months.

MEASUREMENT	CONDITION	VALUE
Appearance		White liquid
Density	@ 25°C (77°F)	1.13 g/cm ³
Viscosity	@ 28°C (82°F)	240 cps
Viscosity	@ 30°C (86°F)	210 cps
Penetration depth (Dp)		4.5 mils
Critical exposure (Ec)		10 mJ/cm ²
Part building layer thickness*		0.10 mm (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	2,000-2,400 Mpa (290-348 Ksi)	2,100-2,500 Mpa (304-362 Ksi)
Flexural strength	ASTM D-790	59-80 Mpa (8,500-11,600 Psi)	62-80 Mpa (9,000-11,600 Psi)
Tensile modulus	ASTM D-638	1,900-2,400 Mpa (274-348 Ksi)	2,000-2,500 Mpa (290-362 Ksi)
Tensile strength	ASTM D-638	36-51 Mpa (5,200-7,400 Psi)	39-51 Mpa (5,700-7,400 Psi)
Elongation at break	ASTM D-638	6-16%	7-13%
Impact strength, notched Izod	ASTM D-256	42-48 J/m (0.79-0.91 ft-lb/in)	30-49 J/m (0.88-0.93 ft-lb/in)
Heat deflection temperature	ASTM D-648 @ 66 psi @ 264 psi	51°C (124°F) --°C (--°F)	50°C (122°F) --°C (---°F)
Glass transition, Tg	DMA, E" peak	62°C (144°F)	62°C (144°F)
Coefficient of thermal expansion	TMA (T<Tg)	93 x 10 ⁻⁶ /°C	93 x 10 ⁻⁶ /°C
Cured Density		1.16g/cm ³	

STORAGE

RenShape® SL 7820 Stereolithography Material may be stored for up to 18 Months from date of manufacture of the material at between 18 and 35°C provided the material is stored in sealed containers.

Handling precautions

Caution

Do not use this product until the MSDSs have been read and understood. To protect against any potential health risks presented by our products, the use of proper personal protective equipment (PPE) is recommended. Eye and skin protection is normally advised. Respiratory protection may be needed if mechanical ventilation is not available or is insufficient to remove vapors. For detailed PPE recommendations and exposure control options consult the product MSDS or a Huntsman EHS representative.

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