

RenShape® SL

Accurate and durable
general purpose SL resin

7800

Key features

- Ultra low ash content (reduced by 95-98%) which is suitable for QuickCast™ application
- Improved retention of strength and dimensions of parts in humid condition
- Built parts passes the USP 23 Class VI test (same as our medical modeling grade resins)
- Low viscosity of liquid resin permits easy recoating and draining of parts and allows easy cleaning of parts and machines
- Good green strength requires minimal part finishing
- Superior vat life to current SL resins on the market

Key benefits

- Users can build accurate and tough parts that retain dimensions and impact resistance over time without switching vat for different applications
- Less part finishing time with ease of post-curing
- Higher quality casting masters for the investment casting parts

Key applications

Designed for use on solid state SLA® platforms, RenShape® SL 7800 is suitable for master patterns, concept models, functional prototypes and general parts.



7800 RenShape® SL

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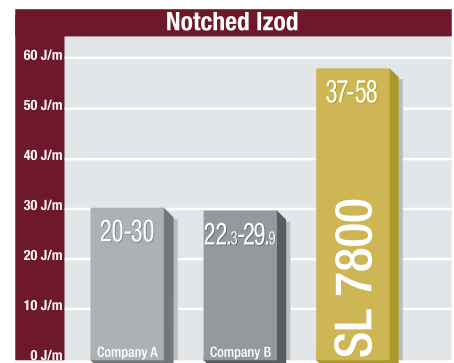
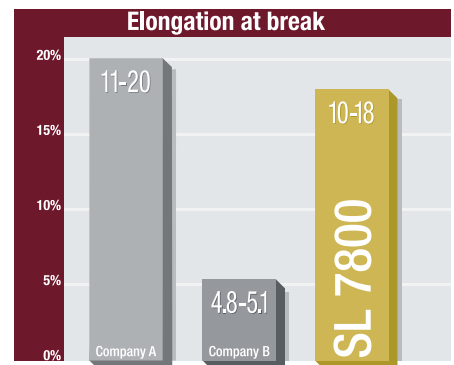
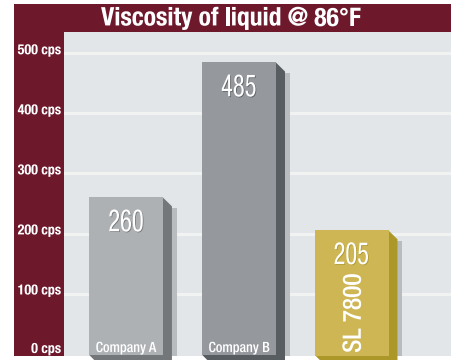
RenShape® SL 7800 stereolithography material is a general purpose resin that combines accuracy with durability. This clear, light amber-coloured photopolymer is designed to produce accurate concept models and functional prototypes with a unique combination of high impact strength and elongation, which eliminates the need to switch photopolymers for each new applications. New RenShape® SL 7800 solid-state resin also conforms to FDA-approved USP 23 Class VI testing for use in medical modeling and prototyping.

Liquid material

Appearance	Clear amber liquid
Density at 77°F	1.12 g/cm ³
Viscosity	
at 82°F	300 cps
at 86°F	205 cps
Penetration depth (Dp)	
on SLA 7000/5000 systems	5.74 mils
on SLA 500/3500/Viper Si2 systems	5.67 mils
Critical exposure (Ec)	
on SLA 7000/5000 systems	9.98 mJ/cm ²
on SLA 500/3500/Viper Si2 systems	9.51 mJ/cm ²
Part building layer thickness*	0.004 in.

* Dependent upon part geometry and build parameters

Comparison tables



Post-cured material

	90-minute UV post-cure	90-minute UV + 2 hours @ 176°F thermal post-cure
Hardness ASTM D-2240	87 Shore D	87 Shore D
Flexural modulus ASTM D-790	330-380 ksi	340-380 ksi
Flexural strength ASTM D-790	9 900-10 600 psi	10 400-10 600 psi
Tensile modulus ASTM D-638	300-350 ksi	310-320 ksi
Tensile strength ASTM D-638	6 000-6 800 psi	6 400 psi
Elongation at break ASTM D-638	10-18%	10-15%
Impact strength, notched Izod ASTM D-256	0.7-1.1 ft.-lb./in.	0.7-0.9 ft.-lb./in.
Heat deflection temperature ASTM D-648 @ 66 psi	144°F	144°F
Glass transition, Tg DMA, E" peak	135°F	138°F
Coefficient of thermal expansion TMA (T<Tg)	100x10 ⁻⁶ / °C	109x10 ⁻⁶ / °C
Density	1.15 g/cm ³	-

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