

# RenShape® SL

Accurate and durable  
black coloured SL Resin

# 7820

## Key features

- Black parts with high strength and good dimensional stability, even in humid conditions
- ABS like, fine surface
- Low viscosity supports easy recoating during the build as well as good drainage for fast cleaning
- Good green strength requires minimal finishing

## Key benefits

- Users can build accurate, robust parts
- Throughput is increased with reduced cure time and minimal part finishing
- Black color produces aesthetically pleasing parts with an ABS-like appearance

## Key applications

RenShape SL 7820 is a black, low viscosity stereolithography resin with excellent accuracy, designed for use on solid state SLA® platforms. It offers a large working envelope of physical properties, high elongation and impact strength suitable for building concept models, functional prototype parts





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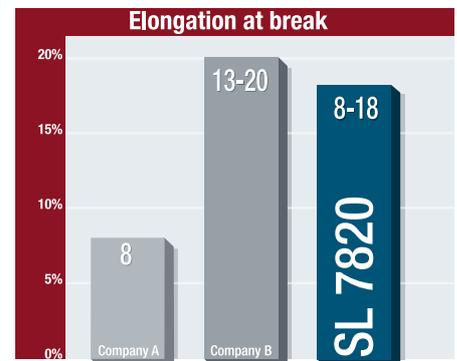
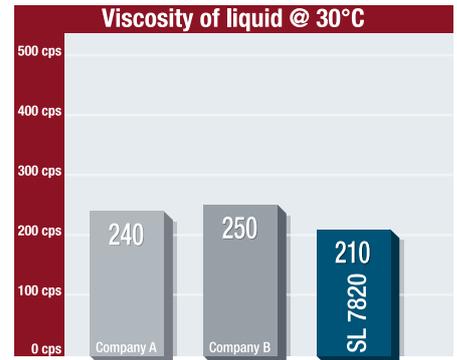
RenShape® SL 7820 stereolithography material is a white, low viscosity stable liquid that produces strong black models and prototypes with good surface finish and detail, an ABS-like appearance. The product is also well suited for building RTV patterns. Parts built with SL7820 exhibit durability over time beyond 6 months..

## Liquid material

<b>Appearance</b>	White liquid
<b>Density</b> at 25°C (77°F)	1.13 g/cm <sup>3</sup>
<b>Viscosity</b>	
at 28°C (82°F)	240 cps
at 30°C (86°F)	210 cps
<b>Penetration depth (Dp)</b>	4.5 mils
<b>Critical exposure (Ec)</b>	10 mJ/cm <sup>2</sup>
<b>Part building layer thickness*</b>	0.10 mm (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 @ 80°C (176°F) thermal post-cure
<b>Hardness</b> ASTM D-2240	86 Shore D	87 Shore D
<b>Flexural modulus</b> ASTM D-790	2 000-2 400 MPa (290-348 ksi)	2 100-2 500 MPa (304-362 ksi)
<b>Flexural strength</b> ASTM D-790	59-80 MPa (8 500-11 100 psi)	62-80 MPa (9 000-11 100 psi)
<b>Tensile modulus</b> ASTM D-638	1 900-2 400 MPa (274-348 ksi)	2 000-2 500 MPa (290-362 ksi)
<b>Tensile strength</b> ASTM D-638	36-51 MPa (5 200-7 400 psi)	39-51 MPa (5 700-7 400 psi)
<b>Elongation at break</b> ASTM D-638	8-18%	9-14%
<b>Impact strength, notched Izod</b> 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.)
<b>Heat deflection temperature</b> ASTM D-648 @ 66 psi	51°C (124°F)	50°C (122°F)
ASTM D-648 @ 264 psi	-°C (-°F)	-°C (-°F)
<b>Glass transition, Tg</b> DMA, E" peak	62°C (144°F)	62°C (144°F)
<b>Coefficient of thermal expansion</b> TMA (T<Tg)	93x10 <sup>-6</sup> / °C	93x10 <sup>-6</sup> / °C
<b>Cured density</b>	1.16 g/cm <sup>3</sup>	-

[advanced\\_materials@huntsgman.com](mailto:advanced_materials@huntsgman.com) • [www.huntsgman.com/advanced\\_materials](http://www.huntsgman.com/advanced_materials)

### EUROPE / MIDDLE EAST

Huntsman Advanced Materials (Switzerland) GmbH, Klybeckstrasse 200,  
CH-4057 Basel, Switzerland  
Tel + 41 61 966 33 33 - Fax + 41 61 966 33 34

### AMERICAS

Huntsman Advanced Materials (Americas) Inc, Americas Customer Service Center,  
10003 Woodloch Forest Drive, The Woodlands, Texas 77380, USA  
Tel +1 281 719 6000 - Fax +1 281 719 6416 - Fax +1 713 235 6416

### ASIA / PACIFIC

Huntsman Advanced Materials, Shibakoen Ridge Bldg. 3F,  
1-8-21 Shibakoen Minato-ku Tokyo 105-0011, Japan  
Tel + 813 54 03 8195 - Fax + 813 5403 8186

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