

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



7820 RenShape® SL

HUNTSMAN

Enriching lives through innovation

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

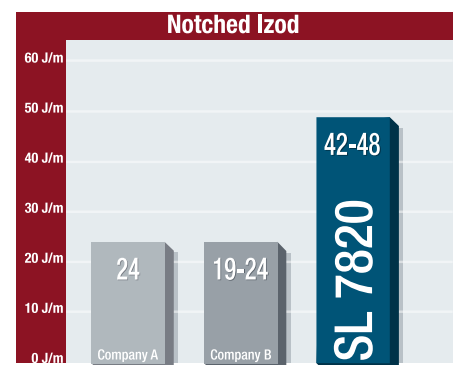
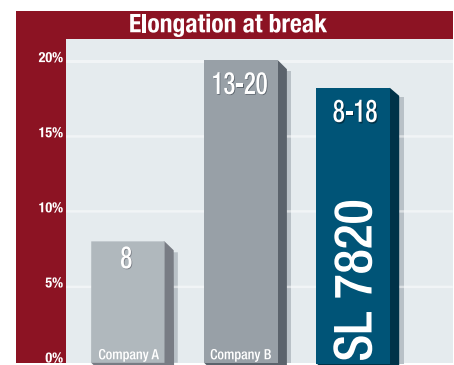
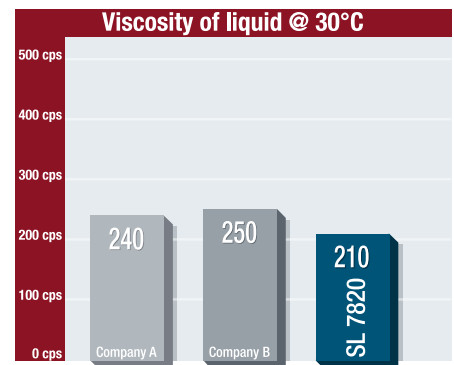
Appearance	White liquid
Density at 25°C (77°F)	1.13 g/cm ³
Viscosity	
at 28°C (82°F)	240 cps
at 30°C (86°F)	210 cps
Penetration depth (Dp)	4.5 mils
Critical exposure (Ec)	10 mJ/cm ²
Part building layer thickness*	0.10 mm (0.004 in.)

* Dependent upon part geometry and build parameters

Post-cured material

	90-minute UV post-cure	90-minute UV + 2 hours @ 80°C (176°F) thermal post-cure
Hardness ASTM D-2240	86 Shore D	87 Shore D
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 (8 500-11 100 psi)	62-80 MPa (9 000-11 100 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	8-18%	9-14%
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	51°C (124°F)	50°C (122°F)
ASTM D-648 @ 264 psi	-°C (-°F)	-°C (-°F)
Glass transition, Tg DMA, E" peak	62°C (144°F)	62°C (144°F)
Coefficient of thermal expansion TMA (T<Tg)	93x10 ⁻⁶ / °C	93x10 ⁻⁶ / °C
Cured density	1.16 g/cm ³	-

Comparison tables



advanced_materials@huntsgman.com • 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

While all the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, nothing herein is to be construed as a warranty, express or otherwise. In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any product for its own particular purpose. The sale of products referred to in this publication is subject to the general terms and conditions of sale of Huntsman Advanced Materials (Europe) BVBA or of its affiliated companies. RenShape® is a registered trademark of Huntsman Corporation or an affiliate thereof in one or more, but not all, countries. SLA® is a trademark of 3D systems Corporation. Copyright © 2006 Huntsman Advanced Materials (Switzerland) GmbH.