

**Advanced Materials****RenGel® 1320R Resin  
Ren® 1510H Hardener****EPOXY SURFACE COAT**

- Heat Resistant
- Aluminum Filled
- Non-MDA Material

**DESCRIPTION :**

RenGel® 1320R resin/Ren® 1510H hardener epoxy surface coat is a graphite fiber-reinforced material formulated with a high-temperature resistant, multifunctional epoxy resin. The surface coat offers good resistance to crazing after long-term, high-temperature exposure. RenGel® 1320R resin/Ren® 1510H hardener epoxy surface coat is well suited for projects requiring an extended tack time, such as large or complex shapes.

**TYPICAL PROPERTIES AS RECEIVED :**

<u>Property</u>	<u>1320R</u>	<u>1510H</u>	<u>1320R/1510H</u>	<u>Test Method</u>
Color	Black	Lt. Amber	Black	Visual
Specific Gravity	1.51 - 1.62	1.04 - 1.06	--	ASTM D-1963
Sag Resistance 2730-68			Pass 1/16 in. Fail 1/8 in.	ASTM-D-
Gel time, 4 fl. oz. at 77°F (25°C), hrs.	--	--	5	ASTM-D-2471
Shelf life at 77°F (25°C), unopened, months	12	12	--	--

NOTE : These physical properties are reported as typical test values obtained by Huntsman Advanced Materials test laboratory. If assistance is needed in establishing product specifications, please consult with the Product Management Department.

<b>MIX RATIO</b>	<b>By Weight</b>	<b>By Volume</b>
Resin to Hardener	100 to 8	100 to 12

**CURE SCHEDULE :**

16 to 24 hours at 77°F (25°C) PLUS 2 hours at 200°F (93°C) PLUS 2 hours at 250°F (121°C) PLUS 2 hours at 300°F (149°C) PLUS 3 hours at 375°F (191°C).

---

**TYPICAL CURED PROPERTIES** (Not for specification purposes)

Tested at 77°F (25°C) unless otherwise noted.

	<u>Cure Value</u>	<u>Test-Method</u>
Density, lb./ft <sup>3</sup> (g/cm <sup>3</sup> )	94 (1.50)	ASTM D-792
Cubic Inch per Pound	18.5	ASTM D-792
Durometer hardness, Shore D	93	ASTM-D-2240
Ultimate Flexural Strength, at 77°F (25°C), psi (MPa)	12,300 (84.8)	ASTM-D-790
Ultimate Tensile Strength, at 77°F (25°C), psi (MPa)	8,800 (60.7)	ASTM D-638
Tg by DMA, E'', °F (°C)	396 (202)	ASTM D-4065
Ultimate Compressive Strength, at 77°F (25°C), psi (MPa)	28,500 (196.5)	ASTM D-695
Coefficient of Thermal Expansion		ASTM D-3386
68°F to 212°F, in./in./°F	24.8 x 10 <sup>-6</sup>	
20°C to 100°C, in./in./°C	44.6 x 10 <sup>-6</sup>	
Linear Shrinkage, in./in. (mm/mm)	0.003 (0.003)*	ASTM D-2566

\* Molds are half-round steel, 10-inches long, 0.5 inches deep.

---

**STORAGE/ SHELF LIFE :**

Epoxy resins and hardeners should be stored in a dry place in their original, sealed containers at temperatures from 60-100°F (16-38°C). Material temperatures should be above 65°F (18°C) when mixing. After use, tightly reseal containers.

Under these conditions, epoxy resins and hardeners will remain useable for 12 months from date of shipping from Huntsman.

---

**CAUTION :**

Huntsman Advanced Materials Americas Inc. maintains up-to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material. Copies of the latest MSDS may be requested by calling our customer service group at 800-367-8793 or emailing your request to [adhesives\\_group@huntsman.com](mailto:adhesives_group@huntsman.com).

**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**

---

**IMPORTANT LEGAL NOTICE**

Sales of the product described herein ("Product") are subject to the general terms and conditions of sale of either Huntsman Advanced Materials LLC, or its appropriate affiliate including without limitation Huntsman Advanced Materials (Europe) BVBA, Huntsman Advanced Materials Americas Inc., or Huntsman Advanced Materials (Hong Kong) Ltd. ("Huntsman"). The following supercedes Buyer's documents.

Huntsman warrants that at the time and place of delivery all Products sold to Buyer shall conform to the specifications provided to Buyer by Huntsman.

While the information and recommendations included in this publication are, to the best of Huntsman's knowledge, accurate as of the date of publication, NOTHING CONTAINED HEREIN (EXCEPT AS SET FORTH ABOVE REGARDING CONFORMANCE WITH SPECIFICATIONS PROVIDED TO BUYER BY HUNTSMAN) IS TO BE CONSTRUED AS A REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS, OR WARRANTIES AS TO QUALITY OR CORRESPONDENCE WITH PRIOR DESCRIPTION OR SAMPLE, AND THE BUYER ASSUMES ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM THE USE OF SUCH PRODUCT, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES.

No statements or recommendations made herein are to be construed as a representation about the suitability of any Product for the particular application of Buyer or user or as an inducement to infringe any patent or other intellectual property right. Buyer is responsible to determine the applicability of such information and recommendations and the suitability of any Product for its own particular purpose, and to ensure that its intended use of the Product does not infringe any intellectual property rights.

The Product may be or become hazardous. The Buyer should obtain Material Safety Data Sheets and Technical Data Sheets from Huntsman containing detailed information on Product hazards and toxicity, together with proper shipping, handling and storage procedures for the Product, and should comply with all applicable governmental laws, regulations and standards relating to the handling, use, storage, distribution and disposal of, and exposure to the Product. Buyer shall also take all steps necessary to adequately inform, warn and familiarize its employees, agents, direct and indirect customers and contractors who may handle or be exposed to the Product of all hazards pertaining to and proper procedures for safe handling, use, storage, transportation and disposal of and exposure to the Product, and the containers or equipment in which the Product may be handled, shipped or stored.

Ren and RenGel are registered trademarks of Huntsman LLC or an affiliate thereof in one or more countries, but not all countries.

© 2007 Huntsman Advanced Materials Americas Inc.

Main Offices :  
**Huntsman Corporation**  
10003 Woodloch Forest Dr.  
The Woodlands  
Texas 77380  
(281) 719-6000

**Huntsman Advanced Technology  
Center**  
8600 Gosling Rd.  
The Woodlands  
Texas 77381  
(281) 719-7400