

Advanced Materials**RenCast[®] 6444 / Ren[®] 6444**

REN[®] POLYURETHANES
SEMI-RIGID, SHORE 60 ± 5 D POLYUREA ELASTOMER

DESCRIPTION :

RenCast[®] 6444 (Resin) and Ren[®] 6444 (Hardener) system is an extremely effective semi-rigid, amber, two-component polyurea elastomer for applications in which wear resistance is critical. RenCast[®] 6444 R/H develops excellent physical properties when cured at room temperature. The low viscosity and good working life allows easy handling and release of entrapped air.

APPLICATIONS :

- Foundry patterns
- Core boxes
- Tough wear-resistant parts
- Nest and holding fixtures for assembly equipment
- Repair of metal tooling
- Can be applied by casting, surface casting, or roto-molding

ADVANTAGES :

- Low mixed viscosity
- Very low moisture sensitivity when mixing and pouring
- Long pot life
- Excellent wear resistance
- Tough, impact resistant

ACCESSORIES :

Use RenPIM[®] Color Pastes for the best coloring results. It may be difficult to obtain very light shades during cure to the amber color of the hardener component. Other coloring materials may not be compatible with this product and yield undesirable results.

MIX RATIO :

By weight : 100 to 60 Resin to Hardener
By volume : 100 to 60 Resin to Hardener

Mixing Instructions : Stir each component thoroughly before use. Weight each component accurately (\pm 5%) into clean containers. Thoroughly mix resin and hardener together (minimum 3 minutes) scraping container sidewalls, bottom and mixing stick several times to assure a uniform mix.

TYPICAL HANDLING PROPERTIES :

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

Property	Criteria	ASTM Test Method	Test Value
Color	Resin	Visual	Light yellow
	Hardener		Amber
	Cured		Amber
Special Gravity	Resin	D-1963	1.04
	Hardener		1.06
Viscosity, cP	Mixed	D-2393	2,500
Gel time, 4 fl. Oz., min.		D-2471	27

NOTE : Typical Properties – These physical properties are reported as typical test values obtained by our test laboratory. If assistance is needed in establishing product specifications, please consult with our Quality Control Department.

DEMOLD TIME :

Temperature	Time	Thickness
77 °F (25 °C)	24 hours	1/8"

RECOMMENDED CURE SCHEDULE :

Temperature	Time
77 °F (25 °C)	7 days

Curing Instructions : Room temperature polyurethanes will normally set up to a rigid, demoldable state within 24 hours at room temperature. These systems reach their full cure after seven days at room temperature.

An elevated temperature cure will increase the shrinkage compared to a room temperature cure.

TYPICAL CURED PROPERTIES :

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

Property	ASTM Test Method	Test Values ¹
Density, lb./ft ³ (g/cm ³)	D-792	67 (1.08)
Cubic inch per pound	D-792	25.6
Hardness, Shore D	D-2240	60±5
Flexural Strength, at yield, psi	D-790	1,800
Flexural Strength, 5% strain, psi	D-790	1,500
Flexural Modulus, psi	D-790	42,000
Ultimate Tensile Strength, psi	D-638	3,400
% Elongation	D-638	325
Deflection Temperature, °F	D-648	154 (68)
		122 (50)
Compressive Strength, 0.2% offset, psi	D-695	1,100
Compressive Modulus, psi	D-695	39,000
Izod Impact, notched, ft-lb./in	D-256	14
Coefficient of Thermal Expansion	D-3386	
		1.04 x 10 ⁻⁶
		18.7 x 10 ⁻⁶
Tear Strength, ppi	D-624	550
Linear Shrinkage, in/in	D-2566	0.001
Wear Test, %	Vantico Method	0.21

¹ Molds are half round steel, 10 inches long, 0.875 inches deep

¹ Tested @ 77 °F (25 °C)

HANDLING :**RenCast® 6444**

Product may crystallize if exposed to freezing temperatures. If the resin appears thick, lumpy, or gummy, and does not flow smoothly, it may be crystallized. We recommend letting the container sit at room temperature until liquefied.

If absolutely necessary, warm the material at 40 °C (104 °F) to 50 °C (122 °F) until the crystallized material melts. **DANGER** Avoid breathing vapors released from heated materials. Harmful if inhaled.

Work in a well-ventilated area and use clean, dry tools for mixing and applying. For a two-component system, combine the resin and hardener according to mix ratio. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65 °F (18 °C) when mixing.

STORAGE :

RenCast[®] 6444 (Resin) and Ren[®] 6444 (Hardener) should be stored in a dry place, in the sealed original container, at temperatures between +2°C and +40°C (+35.6°F and 104°F). Under these storage conditions, the shelf life is 2 years from date of manufacture. The product should not be exposed to direct sunlight.

PRECAUTIONARY STATEMENT :

Huntsman Advanced Materials Americas LLC 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.

First Aid!

Refer to MSDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

FOR PROFESSIONAL AND INDUSTRIAL USE ONLY

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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
Website :
www.huntsman.com/advanced_materials

Distributed by
Freeman Manufacturing & Supply Co.
www.freemansupply.com (800) 321-8511

