

Advanced Materials**RenCast® 6443 / Ren® 6443**

POLYUREA ELASTOMER
 A WEAR-RESISTANT, SEMI-RIGID SHORE 95 ± 5A ELASTOMER

DESCRIPTION :

RenCast® 6443 (Resin) / Ren® 6443 (Hardener) is a two-component elastomer designed for tooling applications. When fully cured, RenCast® 6443 exhibits excellent physical strength and abrasion resistance. RenCast® 6442 develops excellent physical properties when cured at room temperature.

APPLICATIONS :

- Foundry patterns
- Core boxes
- Tough wear-resistant parts

MIXING INSTRUCTIONS :

Reaction Ratio 100R to 60H (by wt.)
 100R to 60H (by vol.)

Mixing : Stir each component thoroughly before use. Weigh each component accurately (± 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 MIXED PROPERTIES :

Property	ASTM Test Method	Test Values ⁽¹⁾
Gel time and Viscosity Profile (4 fl. oz.)	<u>Time (min)</u>	<u>Viscosity (cP)</u>
	5	2,450
	10	4,200
	15	23,000
	19	gelled
Color Resin	Visual	Light yellow
		Light amber
Viscosity Resin	D-2393	8,000 – 12,000 cP
		Hardener
Demold time (for most applications)		Without 24 hours

⁽¹⁾ Tested 7 days @ 77 °F (25 °C)

TYPICAL CURED PROPERTIES :

Property	ASTM Test Method	Test Values⁽¹⁾
Density (g/cm ³)	D-792	1.06
Hardness (durometer) (Shore A)	D-2240	95 ± 5
Tensile Strength (psi)	D-638 @ 20"/min.	3,500 psi (24,100 kPa)
Ultimate Elongation (%)	D-638 @ 20"/min.	475
Tear Strength (ppi)	D-624 @ 20"/min.	<u>375 ppi</u>
Taber Wear Index	DIE C	65;7 KN/m
	D-4060	4.1 mg/100 cycles
	Wheel H-18	
Compression set* (%)	D-395 B	39
Linear shrinkage Mold#1 (in/in)	D-2566	0.001

⁽¹⁾ Cure Schedule – 7 days @ 77 °F (25 °C), tested @ 77 °F

*** Compression set ASTM D-395 Method B**

The percent of permanent deformation resulting from constant deflection/pressure required to compress samples 25 %.

Actual amount of set in ½" samples is (% compression set x 1/8").

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

CURING INSTRUCTIONS :

Although room temperature polyurethanes will normally set up to a rigid, demoldable state within 24 hours at room temperature (75 °F ± 5 °F), these systems reach their full cure after seven days at room temperature. A full cure can be accelerated by applying heat after the part has set rigid. We recommend a post cure of 176 °F for a minimum of 16 hours. (Add to this adequate time to bring the part to the post cure temperature). After cure, the part should be cooled at a slow rate so as not to shock the part thermally.

Uniform heat distribution is also required during post cure ; concentrated heat, such as that directed from a lamp, can cause warp. An elevated temperature cure will slightly increase the shrinkage compared to a room temperature cure.

HANDLING :**RenCast® 6443 and Ren® 6443**

This product is moisture-sensitive and packaged under a blanket of dry nitrogen. Maintain factory seal, after use re-blanket with dry nitrogen and tightly reseal.

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

STORAGE :

RenCast® 6443 (Resin) / Ren® 6443 (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**

IMPORTANT LEGAL NOTICE

Huntsman Advanced Materials warrants only that its products meet the specifications agreed with the user. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications.

The manufacture of materials is the subject of granted patents and patent applications; freedom to operate patented processes is not implied by this publication.

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