

Advanced Materials**RenCast[®] 6403-1 / Ren[®] 6403-3**

POLYURETHANE ELASTOMER
A FAST CURING GOOD LOAD RECOVERY SHORE 92 ± 7A ELASTOMER

DESCRIPTION :

RenCast[®] 6403-1 (Resin) / Ren[®] 6403-3 (Hardener) is a low viscosity, milky-white, two-component polyurethane casting elastomer. RenCast[®] 6403-1/ Ren[®] 6403-3 contains no MOCA⁽¹⁾ or TDI⁽²⁾, yet it develops high tensile and tear strengths without a heat post-cure. It can be further strengthened with mild heat post cure, if desired. The low viscosity permits excellent reproduction of detail and good air release.

APPLICATIONS :

High resiliency makes RenCast[®] 6403-1/ Ren[®] 6403-3 ideal for durable parts such as impellers and rollers.

MIXING INTRUSCTIONS :

Reaction Ratio 50R to 100H (by wt.)

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 (150g)	<u>Time (min.)</u>	<u>Viscosity (cP)</u>
	5	710
	10	890
	18.4	20,000
	19.5	gelled
Color	Resin Hardener Visual	Amber Milky-white
Viscosity	Resin Hardener D-2393	35 – 50 cP 1,100 – 1,500 cP
Demold time (for most applications)		24 hours
Cure time (for ultimate properties)		7 days

⁽¹⁾MOCA – 4,4' methylene bis (2-chloroaniline)

⁽²⁾TDI – toluene diisocyanate

⁽³⁾ Tested @ 77 °F (25 °C)



TYPICAL CURED PROPERTIES :

Property	ASTM Test Method	Test Values⁽¹⁾
Density (g/cc)	D-792	1.10
Hardness (Shore A)	D-2240	85 – 90
Ultimate Tensile Strength (psi)	D-638 @ 20"/min.	3,334 (23 MPa)
Ultimate Elongation (%)	D-638 @ 20"/min.	328
Tear Strength (ppi)	D-624 @ 20"/min.	419
	DIE C	(73.3 kN/m)
Linear shrinkage (in/in)	D-2566 Mold #1	0.001

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

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 polyurethane 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® 6403-1 / Ren® 6403-3**

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

RenCast® 6403-1

This product may crystallize upon storage. If crystallized, vent container and heat to 125 – 145 °F until crystals dissolve. Stir well after product has liquefied.

Ren® 6403-3

This product upon storage will form a hard precipitate on the bottom of the container. Do not attempt to mix back in as this is normal and does not affect the quality of the product. However do stir the liquid portion well before use.

PACKAGING :

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



Product is available in "A" packages containing appropriate quantities of resin and hardener. Ren[®] 6403-3 is available in 5-gallon and drum units to match appropriate quantities of existing package sizes for RenCast[®] 6403-1. Please call Customer Service (888-564-9318) for distributor contact information.

STORAGE :

RenCast[®] 6403-1 (Resin) / Ren[®] 6403-3 (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. 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.

WHILE ALL THE INFORMATION AND RECOMMENDATIONS IN THIS PUBLICATION ARE, TO THE BEST OF HUNTSMAN ADVANCED MATERIAL'S KNOWLEDGE, INFORMATION AND BELIEF, ACCURATE AT THE DATE OF PUBLICATION, nothing herein is to be construed as a warranty, whether express or implied, including but without limitation, as to merchantability or fitness for a particular purpose. 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 behavior of the products referred to in this publication in manufacturing processes and their suitability in any given end-use environment are dependent upon various conditions such as chemical compatibility, temperature, and other variables, which are not known to Huntsman Advanced Materials. It is the responsibility of the user to evaluate the manufacturing circumstances and the final product under actual end-use requirements and to adequately advise and warn purchasers and users thereof.

Products may be toxic and require special precautions in handling. The user should obtain Safety Data Sheets from Huntsman Advanced Materials containing detailed information on toxicity, together with proper shipping, handling and storage procedures, and should comply with all applicable safety and environmental standards.

Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent on manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.

Except where explicitly agreed otherwise, the sale of products referred to in this publication is subject to the general terms and conditions of sale of Huntsman Advanced Materials LLC or of its affiliated companies including without limitation, Huntsman Advanced Materials (Europe) BVBA, Huntsman Advanced Materials Americas Inc., and Huntsman Advanced Materials (Hong Kong) Ltd.

Huntsman Advanced Materials is an international business unit of Huntsman Corporation. Huntsman Advanced Materials trades through Huntsman affiliated companies in different countries including but not limited to Huntsman Advanced Materials LLC in the USA and Huntsman Advanced Materials (Europe) BVBA in Europe.

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

Copyright © 2007 Huntsman Corporation or an affiliate thereof. All rights reserved.

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



