

Advanced Materials**RenCast[®] 6432-1 / Ren[®] 6432-1**

POLYURETHANE ELASTOMER
GENERAL PURPOSE, HAND CASTABLE, QUICK DEMOLD POLYURETHANE

DESCRIPTION :

RenCast[®] 6432-1 (Resin) / Ren[®] 6432-1 (Hardener) is a non-mercury, hard 72D polyurethane casting system. The low viscosity of RenCast[®] 6432-1 aids the production of finely detailed parts. The combination of rapid curing with a gel time of 5 to 6 minutes assists in rapid production of parts without the use of meter-mix equipment.

This product does not contain mercury.

APPLICATIONS :

Prototype parts and short-run production parts.

MIX RATIO :

By weight :	100 to 50	Resin to Hardener
By volume :	100 to 50	Resin to Hardener

Mixing Instructions : Stir resin and hardener thoroughly before use. Weigh resin and hardener accurately ($\pm 5\%$) into clean containers. Thoroughly mix resin and hardener together (minimum 1 minutes) scraping container sidewalls, bottom and mixing stick several times to assure a uniform mix.

Whenever possible, de-air the mixture before casting to remove unwanted air bubbles using a suitable vacuum pump and chamber.

DEMOLD TIME :

Temperature	Time	Thickness
77 °F (25 °C)	1 – 2 hours	1/8"

RECOMMENDED FULL CURE SCHEDULE :

Temperature 77 °F (25 °C)	Time 7 days
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TYPICAL HANDLING PROPERTIES :

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

Property	Criteria	ASTM Test Method	Test Value
Color	Resin	Visual	Clear amber
	Hardener		Off White
	Cured		Off White
Specific Gravity	Resin	D-792	1.10
	Hardener		1.06
Viscosity, cP	Resin	D-2393	50
	Hardener		1,100
Gel Time, minutes	150 g	D-2471	5 - 6

NOTE : 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.

TYPICAL CURED PROPERTIES :

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

Property	ASTM Test Method	Test¹ Values	Test² Values	
Density, lb./ft ³ (g/cm ³)	D-792	71 (1.13)	70 (1.12)	
Cubic Inch per Pound		24.5	24.7	
Hardness, Shore D	D-2240	72	75	
Ultimate Flexural Strength, psi	D-790	8,600	9,700	
Flexural Modulus, psi	D-790	234,000	237,000	
Ultimate Tensile Strength, psi	D-638	5,900	5,700	
% Elongation	D-638	27	25	
Tg by DMA, °F (°C)	D-4065	153 (67)	192 (89)	
Deflection Temperature °F (°C)	D-648	66 psi	198 (92)	
		264 psi	178 (81)	
Ultimate Compressive Strength, psi	D-695	7,200	9,800	
Compressive Modulus, psi	D-695	240,000	275,000	
Izod Impact, notched, ft-lb./in	D-256	0.6	0.7	
Coefficient of Thermal Expansion	D-3386			
		-22 ° to 86 °F, in/in/°F	60 x 10 ⁻⁶	61 x 10 ⁻⁶
		-30 ° to 30 °C, in/in/°C	108 x 10 ⁻⁶	110 x 10 ⁻⁶
Linear Shrinkage, in/in	D-2256	0.005	--	

¹ Cured 7 days at 77 °C (25 °C) ² Cured 24 hours at 77 °F (25 °C) plus 16 hours at 176 °F (80 °C)
^{*} Radius Depth 0.875 Length 10"

PACKAGING :

<u>Unit</u>		<u>Weight</u>
A package	System	13.8 lb.
Pail	Resin (2 required)	37.5 lb.
Pail	Hardener	37.5 lb.

Please call Customer Service (800) 367-8793 for price and availability.

STORAGE :

Store at 70 to 90 °F. This product is moisture-sensitive and packaged under a blanket of nitrogen. Maintain factory seal, after use re-blanket with dry nitrogen and tightly reseal.

CONDITIONING :**RenCast® 6432-1**

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® 6432-1

Stir well before use. This material will separate.

RenCast® 6432-1 System

If heating of products in plastic packaging is necessary, heat in a ventilated oven to 145 °F maximum. Before heating loosen the container lid slightly to relieve any pressure buildup and place container to be heated into a metal bucket of sufficient volume to contain the product should the container tip over or leak.

HANDLING :

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 ration. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65 °F (18 °C) when mixing.

SHELF LIFE :

Provided this material is stored under the recommended storage conditions in the original containers, it will remain in useable condition for six months from date of shipping.

SAFETY :

Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

RenCast® 6432-1

WARNING. Harmful if inhaled. Causes skin and eye irritation. Causes allergic skin and respiratory reaction. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Ren® 6432-1

CAUTION In accord with good industrial practice, handle with due care. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

FIRST AID :

In case of contact

Skin : Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Eyes : Immediately flush with water for at least 15 minutes. Call a physician.

Ingestion : If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.

Inhalation : Remove to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Other : Referral to physician is recommended if there is any question about the seriousness of any injury.

PRECAUTION NOTE :

Thermosetting systems generate heat when curing. The amount of heat and the period of time in which heat is released vary significantly between systems. Additionally, ambient or compound temperature, amount of material mixed, and construction and shape of the mold or container can also be factors in the temperature profile of a mixed system.

In some cases, the thermosetting reaction can be vigorous, generation heat sufficient to cause decomposition of the system with subsequent liberation of large volumes of acrid smoke.

A good rule of thumb is never mix more material than can be applied during the stated pot life or gel time. Also take care when using materials in applications other than stated on the Product Data Sheet, i.e., a laminating resin for casting.

Please feel welcome to call our Product Information Department or your local Ren[®] representative for instructions before you start your job.

Caution To protect against any potential health risks presented by our products, the use of proper personal protective equipment (PPE) is recommended. Eye and skin protection is normally advised. Respiratory protection may be needed if mechanical ventilation is not available or is insufficient to remove vapors. For detailed PPE recommendations and exposure control options consult the product MSDS or a Huntsman EHS representative.

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