



Product Data

PROVISIONAL DATA SHEET

RenCast™ 178-88 with Ren® 6444

POLYUREA ELASTOMER

SHORE 60 ± 5D ELASTOMER, RED

DESCRIPTION: RenCast 178-88(Resin)/Ren 6444(Hardener) is an extremely effective, semi-rigid, red, two-component polyurethane elastomer for applications in which wear resistance is critical. RenCast 178-88/Ren 6444 develops excellent physical properties when cured at room temperature without containing MOCA⁽¹⁾, TDI⁽²⁾, or MDA⁽³⁾. The low viscosity and good working life allows easy handling and release of entrapped air. RenCast 178-88/Ren 6444 is formulated as a red version of RenCast 6444.

APPLICATIONS:

- Foundry patterns
- Core boxes
- Tough wear-resistant parts
- Can be applied by casting, surface casting or roto-molding

MIXING INSTRUCTIONS: Reaction Ratio 100R to 60H by weight
100R to 60H by volume

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 ⁽⁴⁾
Gel time (4 fl.oz.)	D-2471	27 min.
Color Resin Hardener Mixed	Visual	Red Amber Red
Viscosity, mixed	D-2393	2,500 cP

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

⁽²⁾TDI – toluene diisocyanate

⁽³⁾MDA – 4,4' methylene dianiline

⁽⁴⁾Tested @ 77°F (25°C)



TYPICAL CURED PROPERTIES:

Property	ASTM Test Method	Test Values ⁽¹⁾
Hardness (Shore D)	D-2240	60 ± 5
Ultimate Tensile Strength (psi)	D-638 @ 20"/min.	3,400
Ultimate Elongation (%)	D-638 @ 20"/min.	325
Tear Strength (ppi)	D-624 @ 20"/min. DIE C	550

⁽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 in establishing product specifications, please consult with our Quality Control Department.

CURING INSTRUCTIONS: 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.

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

STORAGE/HANDLING INFORMATION:

RenCast 178-88 and Ren 6444

Store at 70-90°F. 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 ratio. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65°F (18°C) when mixing.

SHELF LIFE: Provided materials are stored under the recommended storage conditions in their original containers, they will remain in useable condition for six months from date of shipping.

PACKAGING: This product is available in the following package size(s):

- RenCast 178-88/Ren 6444 is a make-to-order product. The resin and hardener are available in 5-gal. pail, and 55-gal. drum units.

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

SAFETY/HANDLING PRECAUTIONS: Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

RenCast 178-88

DANGER! CORROSIVE – causes eye burns and skin irritation. Harmful if inhaled. May cause allergic skin and respiratory reactions.

Do not get in eyes. Avoid contact with 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.



SAFETY/HANDLING PRECAUTIONS continued

Ren 6444

WARNING! Causes eye, skin, and respiratory irritation. May cause allergic skin 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.

NOTICE! Overexposure may cause liver damage.
Nuisance dust may be generated when sanding or sawing cured material.

FIRST AID: In case of contact with:

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.

PRECAUTIONARY 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, generating 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.

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