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Advanced Materials

RenCast® 6402-1 / Ren® 6402-2 System

POLYURETHANE ELASTOMER
A TOUGH SHORE 82 ± 7A ELASTOMER FOR FLEXIBLE MOLDS

DESCRIPTION:

RenCast® 6402-1(Resin) / Ren® 6402-2(Hardener) is an off-white, two-component polyurethane that cures at room temperature to form a tough, flexible elastomer. The low viscosity of this general purpose casting material allows easy mixing and excellent reproduction of detail. Although excellent properties are obtained with room temperature cure, a mild heat post-cure produces optimum properties.

APPLICATIONS:

- Production models
- Sound dampening metal forming pads
- Mechanical parts
- High performance flexible molds

MIXING INSTRUCTIONS:

Reaction Ratio 35R 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[3]
Gel time and Viscosity Profile (135g)		Time (min) 5 10 23	Viscosity (cP) 940 1,600 gelled
Color	Resin Hardener	Visual	Amber Off-white (natural)
Viscosity	Resin Hardener	D-2393	50 cP 1,300 cP
Demold time (for most applications)			24 hours
Cure time (for ultimate properties)			3 - 7 days

TYPICAL CURED PROPERTIES:

Property	ASTM Test Method	Test Values[(1)]
Density (g/cc)	D-792	1.08
Hardness (Shore A)	D-2240	82 ± 7
Ultimate Tensile Strength (psi)	D-638 @ 20"/min.	1,800 (12.41 MPa)
Ultimate Elongation (%)	D-638 @ 20"/min.	280
Tear Strength (ppi)	D-624 @ 20"/min. DIE C	249 (43.6 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 in 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 postcure of 176°F for a minimum of 16 hours. (Add to this adequate time to bring the part to the postcure 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 postcure; concentrated heat, such as that directed from a lamp, can cause warp. An elevated temperature cure will increase the shrinkage compared to a room temperature cure.

STORAGE/HANDLING INFORMATION:

RenCast® 6402-1 / Ren® 6402-2 System should be stored in a dry place, in the sealed original containers, at temperatures between +2°C and +40°C (+35.6°F and 104°F). Under these storage conditions, the shelf life of the RenCast® 6402-1 is 1 year, the Ren® 6402-2 is 2 years, and the RenCast® 6402-1 / Ren® 6402-2 system as a unit kit is 1 year from date of manufacture. The product should not be exposed to direct sunlight.

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.

RenCast® 6402-1 Resin
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® 6402-2 Hardener
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.

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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