RENCAST® 6402-1 Resin / REN® 6402-3 Hardener

Product Description

The RENCAST® 6402-1 Resin / REN® 6402-3 Hardener system is an off-white, two-component polyurethane systems that cures at room temperature to form a tough and flexible elastomer for use in flexible molds. The low-viscosity RENCAST® 6402-1 Resin / REN® 6402-3 Hardener system make it easy to process and handle in the manufacturing of parts.

Applications

- Flexible molds
- Resilient parts
- Strippers and pads

Features

- High Resilience
- High Flexibility
- Low viscosity for easy process

Typical Properties

Property	RENCAST® 6402-1 Resin	REN® 6402-3 Hardener	Test Method
Color	Amber	Off-white	Visual
Viscosity at 77ºF (25ºC), cP	49 - 51	1,200 – 1,400	ASTM D-2393

Processing

Mix ratio

Product	Parts by weight
RENCAST® 6402-1 Resin	35.0
REN® 6402-3 Hardener	100.0

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 ensure a homogenous mix.

Typical Mixed Properties

Property		
Viscosity for 135 grams at 77 ºF (25 ºC), cp - After mixing for:	5 min.	920 - 960
	10 min.	900 - 1,100
	31 - 33 min.	19,900 - 20,100

Curing Instructions

Although ambient curing polyurethane systems will normally set up to a rigid, de-moldable state within 24 hours at room temperature (75 °F ± 5 °F), these systems only reach their full cure after seven days at room temperature. Curing may be accelerated by applying heat after the part has set rigid. A post cure of 176 °F for a minimum of 16 hours is recommended after the part has been allowed to reach the post cure temperature. After completing the curing cycle, the part should be allowed to cool slowly in order to avoid any thermal shock.

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

Demold time (for most applications) ~ 24 hours

Cure time (for ultimate properties) ~ 3 - 7 days

Typical Physical Properties

Cure Schedule: 7 days at 77 ºF (25ºC), Tested at 77 ºF (25 ºC)

Property	Test Method	Value
Density, g / cm^3	ASTM D-792	1.08
Hardness (Shore A)	ASTM D-2240	82 ± 7
Ultimate Tensile Strength, psi	ASTM D-412 (*)	2,172 (14.9 Mpa)
Ultimate Elongation, %	ASTM D-412 (*)	270
Tear Strength (lb.f / in)	ASTM D-624, Die C (*)	285 (49.8 kN/m)
Linear Shrinkage	ASTM D-2566 Mold #1	0.001

(*) tested at 20 inch / minute

Unless otherwise stated, the data were determined with typical production batches using standard test methods. They are typical values only, and do not constitute a product specification.

Handling

The RENCAST® 6402-1 Resin and REN® 6402-3 Hardener System is moisture-sensitive and packaged under a blanket of dry nitrogen. Container should be purged with a dry nitrogen blanket and tightly resealed after each use.

Work in a well-ventilated area and use clean, dry tools for mixing and applying the RENCAST® 6402-1 Resin and REN® 6402-3 Hardener System. Material temperature should not be below 65 °F (18 °C) when mixing.

If a crust is formed in the RENCAST® 6402-1 Resin, the material is no longer usable and should be disposed of in accordance to local and State regulations.

Storage

When stored in a dry place in their original sealed containers at a temperature between +2°C and +40°C (+35.6°F and 104°F), the RENCAST® 6410-1 Resin and REN® 6402-3 Hardener have 12 months shelf life. The product should not be exposed to direct sunlight.

RENCAST® 6402-1 Resin may crystallize upon storage. In case the resin is crystallized, vent container and heat it to 125°F - 145°F until crystals are completely dissolved. Stir well after the resin has liquified.

REN® 6402-3 Hardener upon storage, will form hard precipitation at bottom of the container. This is normal and does not affect the product quality. In this case, do not attempt to mix the precipitation back into the hardener solution but stir the liquid portion well before use.

Precautionary Statement

Huntsman Advanced Materials Americas LLC maintains up–to-date Safety Data Sheets (SDS) 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 SDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

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