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Advanced Materials

RenGel® 177-144 / Ren® 1500

STYRENE RESISTANT SURFACE COAT

DESCRIPTION :

RenGel® 177-144 (Resin) / Ren® 1500 (Hardener) is a styrene resistant epoxy surface coat. Special wear resistant fillers are incorporated to increase the abrasion resistance of the cured surface coat.

APPLICATIONS :

Possible applications include RIM RTM cold compression and spray-up molding applications where resistance to styrene monomer and abrasive fiber reinforcement is necessary.

MIXING INSTRUTIONS :

Reaction Ratio 100R to 10H by weight

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 (4 fl. oz.)		D-2471	60 mins.
Color Mixed		Visual	Gray
Mixed Sag	Pass	D-2730	1/16”
	Fail		1/8”

(1) Tested @ 77 °F (25 °C)

TYPICAL CURED PROPERTIES :

Property	ASTM test Method	Test Values[1]	Test Values[2]
Specific Gravity	D-792	1.51	1.56
Cubic inch per lb.	D-792	18.3	17.8
Izod Impact	D-256	0.32	0.49
Hardness (Shore D)	D-2240	91	92
Ultimate Compressive Strength (psi)	D-695	19,000	28,000
Ultimate Flexural Strength (psi)	D-790		12,500
Flexural Modulus (psi)	D-790		7.0×10^5
Ultimate Tensile Strength (psi)	D-638		7,000
Tg per DMA (°C)	D-3418		140
Coefficient of Thermal expansion	D-3386		
(in/in/°F) -22 °F to +86 °F			2.4×10^{-5}
+86 °F to +212 °F			3.8×10^{-5}
Shrinkage (in/in) Cast Mold#0	D-2566		0.002

[1] Cure Schedule – 4 hours at 150 °F, tested at 77 °F
[2] Cure Schedule – post cured 24 hours at 77 °F (25 °C) + 2 hours at 150 °F (66 °C) + 2 hours at 200 °F (93 °C) + 2 hours at 250 °F (121 °C) + 2 hours at 300 °F (149 °C), tested at 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 epoxies 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 150 °F for six 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 t 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 :

RenGel® 177-144 and Ren® 1500
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.

RenGel® 177-144
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.

PACKAGING :

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

5-gal. Resin with 1-gal. Hardener

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

STORAGE :

RenGel® 177-144 (Resin) / Ren® 1500 (Hardener) should be stored in a dry place, preferably 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 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.

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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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