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## Advanced Materials

# RenCast<sup>®</sup> 1774 / Ren<sup>®</sup> 1774 / Ren<sup>®</sup> 1774 Additive

## EPOXY FOAM SYSTEM

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### DESCRIPTION:

RenCast<sup>®</sup> 1774 (Resin) / Ren<sup>®</sup> 1774 (Hardener) / Ren<sup>®</sup> 1774 Additive, a slow-rising epoxy foam, cures at room temperature and can be used in tooling back-up and lightweight casting applications. Depending on the room temperature, the amount of foaming additives used and mass size poured, the foam produced ranges from 12 to 18 pounds per cubic foot.

This three-part system (resin, hardener and foaming additive) possesses excellent handling characteristics and will foam under normal shop conditions. The foam factor varies from 2.5 to 3.5 times the initial poured depth; however, this can be influenced by adding slightly more or less of the foaming additive.

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### APPLICATIONS:

- Tooling back-up and lightweight casting applications
- Polyester spray-ups, vacuum formed thermoplastics and other sheet materials
- Electronic packaging applications

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### ADVANTAGES:

- Low shrinkage
- Slow rising
- Uniform closed structure
- Cures at same temperature as room temperature resistant tools

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### MIXING INTRUSCTIONS:

Reaction Ratio            100R to 25H to 1.2 Additive (by wt)  
                                  100R to 39H to 1.4 Additive (by vol)

At 75°F this three-component system should be cast in place in less than five minutes after mixing. If left to stand for more than five minutes, foaming will commence and may be destroyed in the act of pouring.

When subsequent layers will be cast, the preceding layer should be gelled and slightly tacky before casting the next layer onto it. Depending on the room temperature and the volume of the layers, the normal interval between such casting operations should be four to five hours.



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**TYPICAL MIXED PROPERTIES:**

<b>Property</b>	<b>ASTM Test Method</b>	<b>Test Values<sup>1</sup></b>
Gel Time (100g. mass)	D-2471	360 mins.
Get Time (16lb. mass.)	D-2471	60-70 mins
Color, mixed	Visual	White
Viscosity, mixed	D-2393	9,900 cP

<sup>(1)</sup> Tested @ 77 °F (25 °C)

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**TYPICAL CURED PROPERTIES:**

<b>Property</b>	<b>ASTM Test Method</b>	<b>Test Values<sup>1</sup></b>
Density (g/cc)	D-792	0.25 – 0.28
Ultimate Compressive Strength (psi)	D-695	450
Ultimate Flexural Strength (psi)	D-790	380
Modulus of Elasticity (psi)	--	25,000
Deflection Temperature (264psi) (°F)	D-648	128
Coefficient of Thermal Expansion (in/in/°F)	D-696	3.21 x 10 <sup>-5</sup>
(in/in/°C)		5.79 x 10 <sup>-5</sup>

<sup>(1)</sup> Cure Schedule – 7 days @ 77 °F (25 °C), or overnight at R.T. plus 4 hrs. at 150°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.

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**MIXING INSTRUCTIONS:**

- 1) Open RenCast<sup>®</sup> 1774 quart can of **Resin**
- 2) Add contents of 1/2-pint can of RenCast<sup>®</sup> 1774 **Hardener**
- 3) Mix together thoroughly by hand, scraping sides and bottom of can (about 3 minutes)
- 4) Fill plastic measuring cup to 10ml mark with RenCast<sup>®</sup> 14774 **Additive** and add to resin and hardener mix.
- 5) Blend by hand stirring for about one (1) minute
- 6) Cast mixture into place within four (4) minutes

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**HANDLING :****RenCast<sup>®</sup> 1774 / Ren<sup>®</sup> 1774 / Ren<sup>®</sup> 1774 Additive**

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 18 °C (65 °F) when mixing.

**RenCast<sup>®</sup> 1774 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.

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**PACKAGING :**

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

Small Preweighed Units: 6 qts. Resin / 6 preweighed Hardener

Pail Units: Pail Resin / appropriate Hardener

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

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**STORAGE:**

RenCast® 1774 (Resin) / Ren® 1774 (Hardener) / Ren® 1774 Additive should be stored in a dry place, 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.

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**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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