

**Advanced Materials****RenLam®/Ren® 1700-1 System**

## GENERAL PURPOSE LAMINATING SYSTEM

**DESCRIPTION :**

RenLam®/Ren® 1700-1 system is an unfilled two-component general purpose laminating system that cures at room temperature. Low viscosity, a 20-minute gel time, excellent wet-out characteristics, and controlled flow make RenLam®/Ren® 1700-1 system easy to apply and work with. This system was designed for hand lay-up applications and can be used for building tools, parts, and for repair work.

**APPLICATIONS :**

RenLam®/Ren® 1700-1 system is well suited for patterns, drill jigs, assembly fixtures, Keller models, body cubes, draw dies, master dir models, spotting racks, etc.

**MIXING INSTRUCTIONS :**

Reaction Ratio        100R to 26H by weight  
                              100R to 28H by volume

**Mixing :** Stir each component thoroughly before use. Weight each component accurately ( $\pm 5\%$ ) 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 <sup>(1)</sup>
Gel time (4 fl. Oz.)	D-2471	20 minutes
Color, mixed	Visual	Light yellow
Viscosity, mixed	D-2393	2000 cP

<sup>(1)</sup> Tested @ 77 °F (25 °C)

**TYPICAL CURED PROPERTIES :**

Property	ASTM Test Method	Test Values <sup>(1)</sup>
Specific Gravity	D-792	1.13
Cubic inch per pound	D-792	18.5
Hardness (Shore D)	D-2240	90
Ultimate Compressive Strength (psi)	D-695	28,000
Ultimate Flexural Strength (psi)	D-790	37,000
Flexural Modulus* (psi)	D-790	$1.55 \times 10^6$
Ultimate Tensile Strength (psi)	D-638	26,000
Deflection Temperature (264 psi) (°F)	D-648	128
Coefficient of Thermal Expansion (in/in/°F)	D-3386	$1 \times 10^{-5}$

<sup>(1)</sup> Cure Schedule – 7 days @ 77 °F (25 °C), tested @ 77 °F  
\* Properties determined for a 10 oz. Glass cloth laminate.

**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.

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**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 postcure of 150 °F for a minimum of six 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 slightly increase the shrinkage compared to a room temperature cure.

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**STORAGE/HANDLING INFORMATION :****RenLam®/Ren® 1700-1 Resin and Hardener**

Store at 60-100 °F in a dry place. After use 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.

**RenLam®/Ren® 1700-1 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.

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**SHELF LIFE :**

Provided materials are stored under the recommended storage conditions in their original containers, they will remain in useable condition for at least one year from date of shipping.

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**PACKAGING :**

This product is available in the following package sizes:

Small Preweighed Units :       6-qt. 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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**SAFETY/HANDLING PRECAUTIONS :**

Avoid any contact with the uncured materials, people with particularly sensitive skin may be affected. Wear eye protection and impervious gloves when handling. Wash thoroughly after handling. Adequate ventilation in the working area is recommended.

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**FIRE PRECAUTIONS :**

In case of fire, use carbon dioxide, foam, dry chemical or water spray. Decomposition and combustion products may be toxic. Use self-contained breathing apparatus.

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**FIRST AID :**

**Ingestion:** Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

**Skin:** Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes. Seek immediate medical attention.

**Inhalation:** Remove to fresh air. Seek immediate medical attention.

**Eyes:** Immediately flush eyes with water for at least 15 minutes. Seek immediate medical attention.

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**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<sup>®</sup> representative for instructions before you start your job.

**Caution**

To protect against any potential health risks presented by our products, the use of proper personal protective equipment (PPE) is recommended. Eye and skin protection is normally advised. Respiratory protection may be needed if mechanical ventilation is not available or is insufficient to remove vapors. For detailed PPE recommendations and exposure control options consult the product MSDS or a Huntsman EHS representative.

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