



Product Data

PROVISIONAL DATA SHEET

RenLam™ 177-114/Ren® 956 ROOM TEMPERATURE LAMINATING SYSTEM

DESCRIPTION: RenLam 177-114(Resin)/Ren 956(Hardener) is an unfilled, two-component general purpose laminating system that cures at room temperature. Very low viscosity, a 38-minute gel time, and excellent wet-out characteristics make this system easy to apply and work with. It was designed for hand lay-up applications and can be used for building tools, parts, and for repair work.

APPLICATIONS: RenLam177-114/Ren 956 is well suited for patterns, drill jigs, assembly fixtures, Keller models, body cubes, draw dies, master die models, spotting racks, etc. This system also can be used as a binder system for dry sand/epoxy backfill applications.

MIXING INSTRUCTIONS: Reaction Ratio 100R to 24H by weight

Mixing: Stir each component thoroughly before use. Weigh 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 ⁽¹⁾
Gel time (4 fl.oz.)	D-2471	38 mins.
Color Resin Hardener Mixed	Visual	Light amber Amber Light amber
Viscosity, mixed	D-2393	800 cP

⁽¹⁾Tested @ 77°F (25°C)

TYPICAL CURED PROPERTIES:

Property	ASTM Test Method	Test Values ⁽¹⁾
Ultimate Compressive Strength (psi)	D-695	26,000
Ultimate Flexural Strength (psi)	D-790	39,000
Ultimate Tensile Strength (psi)	D-638	36,000
Coefficient of Thermal Expansion by TMA (in/in/°F)	D-3386	0.93×10^{-5}

⁽¹⁾Cure Schedule – Contact laminate, 10 oz. glass cloth, 90° rotation, cured at 7 days at 77°F (25°C).

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 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. For best results, parts should be supported during postcure.

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.

STORAGE/HANDLING INFORMATION:

RenLam 177-114 / Ren 956

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 177-114

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.

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.

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

RenLam 177-114
2 gallon unit at 17#
Drum unit at 450#

Ren 956
1 gallon unit at 7.8#
5 gallon unit at 40#
Drum unit at 450#

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

SAFETY/HANDLING PRECAUTIONS: Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

RenLam 177-114

WARNING! Causes skin and eye irritation. May cause allergic skin reaction. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.

Ren 956

DANGER! CORROSIVE – causes eye burns and skin irritation. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Nuisance dust may be generated when sanding or sawing cured material.

FIRST AID: In case of contact with:

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Eyes: Immediately flush with water for at least 15 minutes. Call a physician.

Ingestion: If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.

Inhalation: Remove to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Other: Referral to physician is recommended if there is any question about the seriousness of any injury.

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 representative for instructions before you start your job.

IMPORTANT: The following supersedes Buyer's documents. SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTIES AND CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential, or indirect damages for alleged negligence, breach of warranty, strict liability, tort, or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled or lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

RenShape Solutions
4917 Dawn Avenue
East Lansing, MI 48823 USA

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800 321 8511
www.freemansupply.com