

## Advanced Materials

# RP 1220

### MULTIPURPOSE EPOXY PASTE

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#### DESCRIPTION :

Ren<sup>®</sup> RP 1220 is a green, two-part epoxy system especially formulated for base splining of models and mock-ups in the aircraft/aerospace industry. However, its use in a variety of other applications has made it one of the most versatile general purpose epoxy pastes available. RP 1220 will not run or sag ; it cures with minimum shrinkage and sets extremely hard, making it easy machined.

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#### MIXING INSTRUCTIONS :

Reaction Ration            100R to 50H by weight  
                                     100R to 50H by volume

**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.

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#### APPLICATIONS :

- Base splining and fairing or original master models.
- Repair paste for room temperature and intermediate plastic and metal bonding tools.
- Potting bushings and inserts.
- Surface and repair paste for router fixtures.
- Metal tool assemblies.

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#### TYPICAL MIXED PROPERTIES :

Property	ASTM Test Method	Test Values <sup>(1)</sup>
Gel Time (4 fl oz.)	D-2471	30 – 45 min.
Color mixed	Visual	Green
Viscosity	D-2393	Paste

<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>
Specific Gravity	D-792	1.64
Cubic Inch per pound	D-792	16.9
Hardness (Shore D)	D-2240	81
Ultimate Compressive Strength (psi)	D-695	12,000
Ultimate Flexural Strength (psi)	D-790	6,500
Flexural Modulus	D-790	1.15 x 10 <sup>6</sup>
Ultimate Tensile Strength (psi)	D-638	3,750
Deflection Temperature (°F) @ 264 psi	D-648	135
Coefficient of Thermal Expansion (in/in/°F)	D-3386	2.20 x 10 <sup>-5</sup>
Shrinkage (in/in) Cast Mold#1	D-2566	.002

<sup>(1)</sup> Cure Schedule – 7 days at 77 °F (25 °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.

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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 post cure of 150 °F for a minimum of 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 to 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.

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**STORAGE / HANDLING INFORMATION :****RP 1220 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 ration. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65 °F (18 °C) when mixing.

**RP 1220 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 size(s) :

Pail Units = Pail Resin (20#) with appropriate Hardener (10#)

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

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**SAFETY / HANDLING PRECAUTIONS :**

Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

**RP 1220 Resin**

**WARNING.** COMBUSTIBLE. Causes skin and eye irritation. May cause allergic skin and respiratory reactions.

Keep away from heat and flame. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeating contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

**RP 1220 Hardener**

**DANGER** CORROSIVE. Causes eye burns and severe skin irritation. May cause allergic skin and respiratory reactions. May cause skin burns.

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.

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**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.

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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, generation heat sufficient to cause decomposition of the system with subsequent liberation of large volumes of acid 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.

**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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