



# REPRO<sup>®</sup> LAMINATING RESIN

## Description

A Freeman exclusive! The Repro Surface Coat and Laminating System is a low-cost, fast, and very accurate alternative to traditional epoxy fiberglass tooling. Although this tooling urethane is not designed to be used in high-temperature or high-wear applications, Repro Surface Coat and Laminating Resin is the ideal material choice for many moldmaking applications. Both materials are white in color.

### Additional Advantages:

- Low exotherm system provides for very low-shrinkage tools. System will not get hot even in thick applications.
- Quick three hour demold time versus 24 hour cure time for epoxy systems.
- Very easy system to use for first time toolmakers.
- Both the surface coat and laminating resin are rebondable. This means that they will adhere very well to cured material.

Repro Laminating Resin is designed to work with Fiberglass Strand. Fiberglass Strands, when mixed with any Laminating Resin, will produce an ideal back-up material for surface coats in less time.

## Physical Properties

Color (when mixed)	White
Mix Ratio (by weight or volume)	1:1
Mixed Viscosity (cps)	3,500
Gel Time (min. @ 72°F.)	15
Hardness (Shore D)	83-85
Specific Gravity	1.9
Vol. Wt. Ratio (cu. in./ lb.)	14.5
Demold Time (hours)	3-4

\* - Actual shrinkage is dependent upon mass

## Ordering Information

Item Number	Description	Net Wt.
053193	Repro Laminating Resin Quart Kit	5 lbs
053194	Repro Laminating Resin Gallon Kit	20 lbs
053195	Repro Laminating Resin 5 Gallon Kit	100 lbs
054071	Fiberglass Strand 1/4" 50 Lb Box	50 lbs
054073	Fiberglass Strand 1/4" 5 Lb Box	5 lbs

Physical and mechanical properties of tooling plastics herein reported are typical after a full cure of seven (7) days at room temperature or equivalent. Designated mix ratios must be adhered to for desired results.

**READ SAFETY DATA SHEETS AND PRODUCT LABELS BEFORE USING PRODUCT**

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# REPRO Surface Coat and Laminating Resin USER INFORMATION

Repro Surface Coat and Laminating Resin System is a Freeman exclusive which can be used to quickly produce close tolerance, lightweight tools and molds.

## Instructions For Use

### Preparation

- If Repro is to be parted from a surface that it is poured against, follow proper sealing and release procedures to prevent bonding.
- Procedures for parting Repro from metal, wood, plastic, wax, and plaster are available from **Customer Service 800-321-8511** or our website **www.freemansupply.com**.

### Mixing and Pouring

Plastic or rubber gloves **MUST** be worn when working with Repro (read Warning Information)

- Using an appropriate mixer, **THOROUGHLY** mix Parts A and B of both the Repro Surface Coat and the Repro Laminating Resin in their original containers. Use separate mixing heads if using a drill-driven mixer for Parts A and B. A single mixing head may be used but it essential to completely clean the mixing head with solvent before mixing the other component to avoid contamination.

- By weight or volume, mix equal amounts of Part A and Part B of the Repro Surface Coat to cover the desired tool surface.

- Apply the mixed Repro Surface Coat to the mold surface using a throwaway brush. Be sure to brush the material into sharp corners and areas of detail first, because the material will gradually thicken during the gel time.

- Allow the Repro Surface Coat to reach a "tack-free" state, approximately 20-25 minutes. Upon reaching a tack-free state apply a second coat of Repro Surface Coat.

- After the second coat has reached a tack-free state mix an appropriate amount of Repro Laminating Resin using a 1:1 mix ratio by weight or volume. You will need approximately four times the volume of Laminating Resin than the amount of Surface Coat that was used for the first two layers.

- Apply a thin layer of the mixed Repro Laminating Resin over the tack-free second layer of Surface Coat Using a throwaway brush.

- Quickly mix the 1/4" fiberglass strand into the remaining Repro Laminating Resin until you achieve a paste-like consistency. A good starting point is 100 parts mixed resin to 15-20 parts fiberglass strand by weight.

- Apply this paste mixture with a spatula or gloved-hand directly over the **wet** layer of Repro Laminating Resin. Attempt to create a consistent thickness of 1/8" to 1/4". Moderate pressure should be used to prevent air voids between the fiberglass paste mixture and the surface coat. Insure that the paste mixture conforms well to corners to increase tool strength.

### Materials Needed

- Repro Surface Coat
- Repro Laminating Resin
- 1/4" Fiberglass Strand
- Plastic or Lined Paper Mixing Containers
- Mixer - Jiffy, Plunge Mixer, Hula Girl, or Red Devil
- Release Agents - Freeman Wax Release, RP 76, PVA
- Plastic or Rubber Gloves
- Solvent - Acetone or Alcohol
- Clean Cloth
- Disposable Pure Bristle Brushes
- Mixing Paddles

### Gel Times:

**Repro Surface Coat - 13 minutes**

**Repro Laminating Resin - 15 minutes**

**Demold Time Completed Tool - 3 to 4 hours**

## **FOR INDUSTRIAL USE ONLY** **KEEP OUT OF REACH OF CHILDREN**

**A-Side contains POLYOL**

**B-Side contains ISOCYANATE**

### **WARNING**

**Direct contact may cause eye or skin irritation.**

**Exposure to vapor or liquid might cause respiratory and skin sensitization as well as eye irritation.**

Avoid contact with eyes, skin, and clothing. **DO NOT TAKE INTERNALLY.** Avoid breathing of vapors. Use only with adequate ventilation. Wash thoroughly after handling.

**FIRST AID** - If inhaled, move person(s) to fresh air. If contact with eyes or skin, flush immediately with cold water for at least 15 minutes and get medical attention. Wash skin with soap and water. If swallowed, seek medical attention immediately.

**IN CASE OF FIRE:** Extinguish fire with dry chemicals, carbon dioxide, Halon 1211, or foam.

### **Moisture Sensitivity**

**IMPORTANT** - Because all urethanes are hygroscopic (sensitive to moisture) the user must keep Repro container lids closed when not in use. Repeated opening and closing of the container may introduce moisture into the Repro and negatively affect performance of the product. We recommend that a quick spray (1-2 seconds) of Magic Blanket be sprayed into the opened A and B container before resealing the unused material.

### **IMPORTANT NOTICE TO PURCHASER**

Manufacturer/seller shall NOT be liable for any injury, loss, damage arising directly, consequentially from the proper/improper use of product, but shall be obligated to replace quantity of product proved defective for intended application. User shall determine suitability of the product for intended use and assumes all risk and liability whatsoever in connection therewith. The foregoing may not be altered except by express written consent by an officer of manufacturer/seller.

**Freeman Manufacturing & Supply Company**

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