EpoxAcoat® RED and EpoxAcoat® GREY
Surface Coat Epoxy Resins

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PRODUCT OVERVIEW

EpoxAcoat® RED and EpoxAcoat® GREY are thixotropic epoxy gel coats which are widely used for hand laminating/ tooling applications. They tough and strong surface coat resins which cure at room temperature and offers exceptional abrasion resistance.

EpoxAcoat® RED and EpoxAcoat® GREY are easy to use, wet out well over a variety of surfaces and will coat vertical surfaces without sagging. After the epoxy becomes "tacky-hard" at room temperature, fiberglass cloth is laminated behind the surface coat using Free Form® AIR putty or EpoxAmite® Laminating Epoxy to produce strong, lightweight tools that have excellent dimensional stability and surface finish. Cured surface machines precisely without chipping. Applications include precision tooling, master and pattern making, core boxes and fixtures.

EpoxAcoat® Surface Coat Epoxies

Handling Properties - mixed with 101 Hardener	
Mix Ratio By Volume	5A : 1B
Mix Ratio By Weight	100A : 15B
Mixed Viscosity - CPS. (ASTM D2393)[T]	Light Paste
Specific Gravity - Mixed; g./c.c. (ASTM D1475)	1.49
Spec. Volume - Mixed; cu. in./lb. (ASTM D792)	18.5
Pot Life - Minutes (ASTM D2471)[T]	20
Thin Film Working Time - Minutes[1]	40
Thin Film Tacky Recoat Time - Minutes[1]	60
Thin Film Tack Free Time - Hours[1]	4
Cure Time - Hours[1]	16
Color - Mixed EpoxaAcoat® RED - Red / EpoxAcoat® GREY - Grey	
Physical Properties	
Shore D Hardness (ASTM D2240*)	85
Barcol Hardness (ASTM D2240*)	87
Ultimate Tensile (ASTM D638*)**	26,000
Flexural Strength - P.S.I. (ASTM D790*)**	30,000
Compressive Strength - P.S.I. (ASTM D695*)**	24,000
Heat Deflection Temp. (ASTM D648*)	133°F / 56°C
Shrinkage - in./in. (ASTM D-2566*)	0.00015

[T] 100 Gram Mass in Mixing Cup
[1] Thin Film
** Value measured after 7 days at 73°F / 23°C*
*** Denotes testing conducted on a 6 ply / 10 oz. laminate after 7 days at 73° F. / 23° C.*

PROCESSING RECOMMENDATIONS

Preparation – Avoid breathing fumes - use in a well ventilated area at minimum. NIOSH approved respirator is recommended. Wear safety glasses, long sleeves and rubber gloves to minimize skin contact. This material has a high exotherm (generates heat). Do not mix components in glass or foam containers.

Materials should be stored and used in a room temperature environment (73°F/23°C). Elevated temperatures will reduce Pot Life. EpoxAcoat® RED Resin and PART B Hardener must be properly measured and thoroughly mixed to achieve full, high-strength, solid-cure properties. ***Because no two applications are quite the same, a small test application to determine suitability for your project is recommended if performance of this material is in question.***

Applying A Release Agent – This product is adhesive and will bond to many surfaces. For epoxy to epoxy applications where adhesion is not desired, an application of paste wax followed by Ease Release® 2125 PVA available from Smooth-On may be used. For other surfaces such as metal or plastic, a spray release such as Ease Release® 200 also available from Smooth-On may be used to prevent adhesion.

Measuring / Dispensing – Accurate ratio measurements by volume or weight are required for the material to cure properly and develop full physical properties. Dispense Parts A and B proper proportions into clean plastic, metal or wax-free paper containers.

Adding Color - The EpoxAcoat® Epoxy Surface Coat System can be colored with SO Strong® color tints (from Smooth-On). Pre-mix tint with Part A thoroughly and then add Part B.

Mixing – Be sure mixing utensils are clean and free of any potential contaminants such as dirt, dust or grease. Mix Parts A and B thoroughly for at least 3 minutes with a square edged mixing stick. Be aggressive and scrape sides and bottom of mixing container several times.

Use the square edge of mixing stick to bring material off of the sides of container and blend. **If using a drill mixer,** follow with hand mixing as directed above to ensure thorough mixing. **NOTE:** Pot life can be extended by pouring mixture into a shallow pan, reducing its mass.

Adding Fillers - A variety of dry fillers can be added. Pre-mix dry filler with Part A before adding Part B.

Important - Mixed EpoxAcoat® Resin with EpoxAcoat® PART B Hardener is exothermic, meaning it generates heat. A concentrated mass of mixed epoxy in a confined area such as a mixing container can generate enough heat to melt a plastic cup, burn skin or ignite combustible materials if left to stand for its full Pot Life. Do not use foam or glass mixing containers or apply sections thicker than 1/8" (0.32 cm). If a batch of mixed epoxy begins to exotherm, move it to an open air environment.

Safety First!

The material safety data sheet (MSDS) for this or any Smooth-On product should be read before using and is available on request. All Smooth-On products are safe to use if directions are read and followed carefully.

EpoxAcoat® Resin PART A:

WARNING: IRRITANT TO EYES, SKIN & MUCOUS MEMBRANES.
EpoxAcoat® RED Resin is irritating to the eyes and skin. Avoid prolonged or repeated skin contact to prevent possible sensitization. Avoid breathing vapors and use only with adequate ventilation. Wear personal protective equipment.
First Aid: In case of eye contact, flush thoroughly with water for 15 minutes and get immediate medical attention. In case of skin contact, wipe clean with white vinegar and wash thoroughly with soap and water. If irritation persists, get medical attention. If swallowed, do not induce vomiting. Drink 1 - 2 glasses of water and get immediate medical attention.If vapors are inhaled or if breathing becomes difficult, remove person to fresh air. If symptoms persist, get medical attention.
Keep Out Of Reach Of Children.

EpoxAmite® PART B Hardener:

WARNING: IRRITANT TO EYES, SKIN & MUCOUS MEMBRANES.
EpoxAcoat® Hardeners are corrosive materials and can cause severe eye and skin burns. They are sensitizers that may cause dermatitis from skin contact or vapor inhalation. Use these products only with adequate ventilation. Remove contaminated clothing and wash from skin with soap and water.
First Aid: In case of eye contact, flush thoroughly with water for 15 minutes and get immediate medical attention.
Keep Out Of Reach Of Children.

IMPORTANT: The information contained in this bulletin is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained from the use thereof, or that any such use will not infringe upon a patent. User shall determine the suitability of the product for the intended application and assume all risk and liability whatsoever in connection therewith.

Applying – You will apply two thin layers of EpoxAcoat® using a disposable chip brush. After epoxy is mixed, you must work quickly so that the mass in your mixing container does not set up prematurely. **NOTE:** Pot life can be extended by pouring mixture into a shallow pan, reducing its mass.

After applying 1 thin layer of epoxy, let partially cure for 1 hour until "tacky hard". Apply a second thin layer and again partially cure for 1 hour until "tacky hard".

Next, Free Form® AIR Epoxy Putty or EpoxAmite® 100 Laminating Resin and reinforcement cloth may be laminated over the surface coat. See EpoxAmite® 100 Laminating Resin Technical Bulletin for details.

Cure Time: Refer to specified Cure Times in Handling Properties at 73°F / 23°C depending on mass. Cured material will be hard and unable to penetrate with a finger nail. Cured epoxy can now be dry sanded. ***If machining or sanding, wear NIOSH approved mask to prevent inhalation of particles.***

Heat Curing - This product will cure at room temperature and does not require heat. Cure time can be reduced by applying mild heat. The higher the curing temperature is, the higher the resulting Heat Deflection Temperature. With a higher temperature cure, a service temperature of 138°F / 59°C can be attained. Allow epoxy to cure for 30 minutes and then cure for 1 hour at 200°F / 93°C. Allow casting to cool to room temperature before handling.

Painting – Cured EpoxAcoat® can be painted and / or primed and then painted with acrylic enamel paints. Let paint fully dry before putting part into service.

Removing Epoxy – **Uncured / Non-curing epoxy:** Scrape as much material as possible from the surface using a scraper. Clean the residue with E-POX-EE KLEENER® available from Smooth-On, lacquer thinner, acetone or alcohol. Follow safety warnings pertaining to solvents and provide adequate ventilation.

Call Us Anytime With Questions About Your Application

Toll-free: **(800) 381-1733** Fax: **(610) 252-6200**

The new **www.smooth-on.com** is loaded with information about mold making, casting and more.