**PRODUCT OVERVIEW**

Plasti-Paste™ EPOXY is an epoxy-based version of Smooth-On’s popular urethane Plasti-Paste™ products. It is a two-component, fiber-filled epoxy designed for vertical surface application. Part A is a paste and Part B is a liquid. Mix ratio is 2A: 1B by volume or weight. Pot life is 40 minutes and cure time is 16 hours at room temperature depending on mass. Applying heat can reduce cure time. Mixed material holds a vertical surface without sagging and cures very rigid and strong.

Plasti-Paste™ EPOXY offers some advantages over urethane Plasti-Paste™ products: 1. Material is not affected by moisture. 2. Material has a longer working time for applying over large areas. 3. Cured material is more rigid with less being required for making support shells/mother molds and 4. Higher heat resistance up (160°F / 71°C).

Liquid material can be colored with UVO™ colorants and cured epoxy can be sanded, machined and painted with acrylic enamel paints. This plastic can used as a support shell or mother mold material to reinforce rubber molds during casting. It can also be used for creating themed environments, creating art or special effects. This epoxy is also a powerful adhesive and can be used as a repair material for a variety of industrial applications.

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**TECHNICAL OVERVIEW**

**Mix Ratio:** 2A:1B by volume or weight

**Mixed Viscosity:** Paste (ASTM D-2393)

**Specific Gravity, g/cc:** 1.0 (ASTM D-1475)

**Specific Volume, cu. in. /lb.:** 27.73 (ASTM D-1475)

**Pot Life:** 40 minutes @ 73°F/23°C (ASTM D-2471)

**Recoat Time:** 60 minutes @ 73°F/23°C

**Demold Time:** 16 hours @ 73°F/23°C **

**Color:** Off White

**Shore D Hardness:** 80D (ASTM D-2240)

**Ultimate Tensile, psi:** 3320 (ASTM D-638)

**Tensile Modulus, psi:** 470,000 (ASTM D-638)

**Elongation @ Break:** 0.83% (ASTM D-638)

**Flexural Strength, psi:** 9,186 (ASTM D-790)

**Flexural Modulus, psi:** 2,273,000 (ASTM D-790)

**Compressive Strength, psi:** 7,700 (ASTM D-695)

**Heat Deflection Temp:** 160°F / 71°C (ASTM D-648)

**Compressive Modulus, psi:** 138,000 (ASTM D-695)

**Shrinkage, in./in.:** <0.001 (ASTM D-2566)

* All values measured after 7 days at 73°F/23°C
** Depending on mass

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**PROCESSING RECOMMENDATIONS**

**Preparation** – Materials should be stored and used in at room temperature (73°F / 23°C). This product has a limited shelf life and should be used as soon as possible. Mixing should be done in a well-ventilated area. Wearing a NIOSH approved respirator is recommended. Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. If making a 2 or more piece mother mold, apply appropriate shim apparatus to rubber mold exterior. 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. A sealer followed by a release agent is necessary to facilitate demolding when applying as a mother mold over a cured mold rubber. Use Sonite™ Wax followed by a coating of Ease Release™ 200 release agent. A liberal coat of release agent should be applied onto all surfaces that will contact the plastic. You can also apply aluminum foil as a barrier over the surface followed by an application of release agent.

**PRE-MIX Part A Before You Start** – Part A is a thick paste containing oil that needs to be pre-mixed before being dispensed into measuring container. Dig deep to re-disperse oil & paste components that may have separated.

**Measuring** – The components of Plasti-Paste™ EPOXY require two different sized containers. The first will be used for measuring out amounts of Part A and Part B. The second should be large enough to contain both components and allow thorough mixing.

**Mixing** – Mix Ratio is 2A:1B by weight or volume. (Step 1) Fill measuring container to the top with Part A paste, making sure to eliminate any air voids. Level off the top of the container and remove any excess material. The paste should then be thoroughly emptied into a larger container that will act as your mixing container. Repeat as necessary. (Step 2) Fill the measuring container to the top with Part B liquid and empty into mixing container. Mix thoroughly for 2-3 minutes making sure that you scrape the sides and bottom of the mixing container several times. Eliminate color streaks. If adding colorants, pre-mix color with the Part A before adding Part B.
Mixing Large Batches - A ‘Turbine’ mechanical mixer attached to a power drill will make mixing large batches of material much easier. Visit smooth-on.com to learn more about these inexpensive mixers.

If mixing large amounts at a time, you can extend pot life by transferring mixed material into a flat container and spreading it out to reduce concentrated mass.

APPLYING, CURING & HEAT RESISTANCE

Applying – Apply uniformly with spatula over mold surface. Material will adhere to itself if additional layers are needed. Apply at least 1/4” (0.64 cm) thickness, making sure rubber mold is thoroughly covered. For maximum strength and heat resistance, 3/8” (1 cm) thickness is recommended. Large molds may require added thickness for support shell stability. Supports (wood or metal) may be embedded for added stability and handling.

Prevent a jagged surface; Final layer of Plasti-Paste™ EPOXY can be smoothed by wiping solvent (denatured alcohol or acetone) onto surface with a gloved hand.

Making A Two Piece Shell – Plasti-Paste™ EPOXY will bond to most surfaces and itself tenaciously. A barrier coat of paste wax followed by Ease Release™ 200 Mold Release applied to all surfaces is necessary to prevent adhesion. Applying aluminum foil to the contours of all surfaces followed by Ease Release™ 200 Mold Release will also prevent adhesion.

Curing – Material will develop handling strength and can be handled in about 16 hours depending on mass. At this point, it is stable enough to demold, re-assemble over rubber mold and make a casting (hold 2 or more piece assemblies together with elastic bands, mold straps or bolts). Large sections should be bolted together to minimize distortion. Full strength develops in 24 hours.

Heat Resistance – Fully cured Plasti-Paste™ EPOXY with a minimum thickness of 3/8” (1 cm) will resist temperatures up to 170°F / 76°C

If machining or sanding cured epoxy, wear NIOSH approved mask to prevent inhalation of residual particles.

PAINTING & STORAGE

Painting – Make sure surface is clean and free of release agents or other contaminants. Cured plastic can be painted and/or primed and then painted with acrylic enamel paints. Let paint fully dry before putting part into service.

Storage – For best storage results, cast into rubber mold with a gypsum plaster or other dimensionally stable material, assemble mold inside the Plasti-Paste™ EPOXY support shell and store assembled molds on a level surface indoors at room temperature in a dry place.

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 moldmaking, casting and more.