# EpoxAcoat® HT
## High Temp Surface Coat Epoxy

www.smooth-on.com

## PRODUCT OVERVIEW

**EpoxAcoat® HT** is a slightly thixotropic epoxy gel coat that offers high heat resistance (post cure required). Cured epoxy is tough and offers exceptional abrasion resistance. This surface coat will wet out well over a variety of surfaces with good sag resistance. Applications include laminating, precision tooling, master and pattern making, core boxes and fixtures.

Use as a surface coat for **EpoxAmite® HT high temperature laminating epoxy**.

## TECHNICAL OVERVIEW

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| **Mix Ratio:** 100A:18B by weight |
| **Mixed Viscosity:** Light Paste |
| **Pot Life:** 40 minutes* |
| **Thin Film Working Time:** 75 minutes* |
| **Thin Film Tacky Recoat Time:** 4 hours* |
| **Cure Time:** 24 hours* |
| **Color:** Dark Red |
| **Shore D Hardness** (ASTM D2240): 85 |
| **Heat Deflection Temp. at 73°F/23°C:** 133°F / 56°C |
| **Heat Deflection Temperature With Post Cure** (ASTM D648)**:** 284°F / 140°C |

** Value measured 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® HT 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** – For releasing epoxy from nonporous surfaces such as resin, metal, glass etc., use Ease Release® 200 or 205 (available from Smooth-On) to prevent adhesion.

**Measuring / Dispensing** – Accurate ratio measurements by 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** - EpoxAcoat® HT can be colored with UVO® colorants (from Smooth-On). Pre-mix colorant 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® HT 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.

**Applying** – You will apply two thin layers of EpoxAcoat® HT 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 4 hours until "tacky hard". Apply a second thin layer and again partially cure for 4 hours until "tacky hard". Continue laminating process with EpoxAmite® HT laminating resin and appropriate reinforcing material.

**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.***

## 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® HT PART A:**
**WARNING: IRRITANT TO EYES, SKIN & MUCOUS MEMBRANES.**
EpoxAcoat® HT 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.**

**EpoxAcoat® HT PART B:**
**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.

**Post Curing** - *For Tools Made Using EpoxAcoat® HT and EpoxAmite® HT Epoxies*

- Allow epoxy to cure on the pattern at room temperature for a minimum of 24 hours.
- Place tool and pattern in a cold oven. Set temperature to 150°F / 65°C and hold for 4 hours. You may attach support stucture and demold tool after this step is completed, but for maximum stability, we recommend full post cure over pattern.
- After 4 hours, increase temperature to 200°F / 93°C and hold for 3 hours.
- After 3 hours at 200°F / 93°C, increase the temperature to 250°F / 121°C and hold for 3 hrs.
- After 3 hours at 250°F / 121°C, increase the temperature to 320°F / 160°C and hold for 3 hrs.
- After completion of the cure cycle, turn off the oven and allow the tool to cool to room temperature before removing part for clean-up and service.

**Painting** – Cured EpoxAcoat® HT 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.

SMOOTH-ON

***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.