

# Free Form™ AIR FAST

Mix & Apply-By-Hand Epoxy Dough



www.smooth-on.com

## PRODUCT OVERVIEW

**Free Form™ AIR FAST** is an easy to use epoxy putty that cures in minutes to a hard, strong and extremely lightweight plastic. Parts A and B are dispensed in equal amounts and mixed by hand. Used at room temperature, working time is 6 minutes in a 60 gram mass (2 oz) and handling time is 30 minutes (tack-free, hard surface). Epoxy putty is easy to color with **UVO™ color pigments**. You can smooth, texture, sculpt, or stamp while epoxy putty is in its “green” state. Cured epoxy is lightweight enough to float in water and can be easily carved, sanded, tooled and painted for finishing. It is compatible with original Free Form™ AIR, Free Form™ AIR HT and Free Form™ AIR Fire Safe.

**Applications:** Free Form™ AIR FAST is used for fast “rough shaping” projects, filling in voids and repair applications. Epoxy will bond to a variety of plastics (urethane, PVC, etc.) metals, wood, EPS foam, paper, ceramics, plaster, etc. It can be used for a variety of fast repair applications including marine repairs; it will cure under water. **Epoxy Tooling** - use as a filleting material or for jig/fixture construction. **Laminating** - Free Form™ AIR FAST putty in between layers of EpoxAmite™ Laminating Epoxy and fiberglass cloth, carbon or other fiber for making lightweight composite parts.

- **Thickness; 1/2" (1.27 cm)** – pot life is 6 minutes, handling time is 30 minutes, full cure in 24 hours.
- **Thickness; 3/8" (0.95 cm)** – pot life is 8 minutes, handling time is 45 minutes, full cure in 24 hours.
- **Thickness; 1/8" (0.32 cm)** - pot life is 10 minutes; handling time is 2 hours, full cure in 24 hours.

## TECHNICAL OVERVIEW

**Mix Ratio:** 1A:1B by volume

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

**Specific Gravity, g/cc:** .45 (ASTM D-1475)

**Specific Volume, cu. in. /lb.:** 61.6 (ASTM D-1475)

**Color:** Grey

**Shore D Hardness:** 60 (ASTM D-2240)

**Heat Deflection Temp:** 145°F/63°C (ASTM D-648)

**Buoyant Force:** 10.4 lbs /ft<sup>3</sup> (166.5 kg /m<sup>3</sup>.)

\* All values measured after 7 days at 73°F/23°C

\*\* Depending on mass

## PROCESSING RECOMMENDATIONS

**Safety** – Use in a well-ventilated area (“room size” ventilation). Generally, if you use any epoxy system on a regular basis, wearing a NIOSH approved respirator is advised. Wear safety glasses, long sleeves and rubber gloves to minimize skin contact. Wear nitrile or vinyl gloves only.

**This Product Should Be Mixed and Applied in Small Increments** – material is mass sensitive. The more material you mix at one time, the hotter it gets and the less time you have to work with it. **Free Form™ AIR FAST** generates a significant exotherm (heat) when mixed. Mix and apply only in small amounts (ping-pong ball size) at a time. You can always mix and apply more as you go along. Mixing and applying anything over a “tennis ball” size amount at one time may be too hot to handle and cause burns. If you sense that the material is too hot to handle, stop using immediately.

**Preparation** – Materials should be stored and used 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. 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** – For releasing epoxy from non-porous surfaces such as resin, metal, glass etc., use Sonite Wax™ (available from Smooth-On) to prevent adhesion.

This product is mixed by hand. **You must wear gloves when mixing this material**, wearing vinyl gloves reduces inhibition risk.

## Safety First!

The Material Safety Data Sheet (MSDS) for this or any Smooth-On product should be read prior to use and is available upon request from Smooth-On. All Smooth-On products are safe to use if directions are read and followed carefully.

### Keep Out of Reach of Children

**Be careful.** Use only with adequate ventilation. Contact with skin and eyes may cause irritation. Flush eyes with water for 15 minutes and seek immediate medical attention. Remove from skin with waterless hand cleaner followed by soap and water.

**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.

## MIXING & MEASURING

**Measuring** - Free Form™ AIR FAST putty comes as two parts. Dispense equal amounts (ping-pong ball size, for example) of Part A and Part B. These products have a limited shelf life and should be used as soon as possible.

**Mixing** - Knead parts together aggressively to a uniform color. **Mix for no more than 60 seconds** and apply quickly to surface.

## APPLYING & LAMINATING

**Using Water as a Bonding Primer** – Before applying Free Form™ AIR FAST, spray a light mist of water over all surfaces. Do not allow water to pool.

**Applying** – Mixed Free Form™ AIR FAST is a dough that can be applied up to 1/2" (1.27 cm) thickness. Mix only enough Free Form™ to be used at one time. Free Form™ AIR FAST will bond to itself.

**Laminating** - Free Form™ AIR FAST can be used in conjunction with EpoxAcoat™ surface coat and EpoxAmite™ laminating resin to create a strong and lightweight composite tool or mold.

## SMOOTHING SURFACE & PAINTING

**Smoothing Surface** – Epoxy surface can be smoothed with isopropyl alcohol.

**Painting** – Cured Free Form™ AIR FAST can be painted and / or primed and then painted with acrylic enamel paints. Let paint fully dry before putting part into service.

## CURING & HEAT RESISTANCE

**Cure Time** - Refer to specified Cure Times in the Product Overview section at room temperature depending on mass. Cured material will be hard and unable to penetrate with a fingernail. Cured epoxy can now be dry sanded. *If machining or sanding, wear NIOSH approved mask to prevent inhalation of particles. Pot Life and Cure Time values are dependent on mass and mold configuration, as epoxies are mass-sensitive.*

**Heat Resistance** – Fully cured putty with a minimum thickness of 1/2" (1.27 cm) will resist temperatures up to 145°F/63°C.

**Removing Uncured Free Form™ AIR FAST Epoxy Putty** - Remove as much uncured material from the surface as possible. Clean any residue with soap and water. **Optional** - Use E-POX-EE KLEENER™ available from 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](http://www.smooth-on.com) is loaded with information about mold making, casting and more.