Free Form® EARTH

High Density Epoxy Dough-Crystalline Silica Free

www.smooth-on.com

PRODUCT OVERVIEW

Free Form® EARTH is a sculpt-able, clay-like putty suitable for sculpting fine detail using tools or shaping by hand. This is a low-odor, low shrink epoxy that is inexpensive, easy to use for a variety of art related and industrial applications.

Maximum Usability - Just Add Water; you can change the consistency and workability of **Free Form® EARTH** by adding water when mixing A+B components. Putty surface can be smoothed with water while sculpting.

Parts A & B are mixed in equal amounts by hand. Working time is a long 2.5 hours and **Free Form® EARTH** cures overnight to a hard, rigid epoxy that is very strong and waterproof. Cured putty is easily painted with acrylic paints.

Free Form® EARTH does not contain crystalline silica (which is a known carcinogen). It can be safely sanded, shaped, and painted.

Used as a repair adhesive, **Free Form® EARTH** will bond to itself and a variety of surfaces including wood, metal, glass, stone, and concrete. **Free Form® EARTH** will even cure under water.

TECHNICAL OVERVIEW

Mix Ratio: 1A:1B by volume	
Pot Life: 2.5 Hours @ 1 lb./0.5 kg. mass	
Mixed Viscosity: Putty	(ASTM D-2393)
Specific Gravity, g/cc: 1.85	(ASTM D-1475)
Specific Volume, cu. in. /lb.: 15	(ASTM D-1475)
Color: Grey	
Shore D Hardness: 75	(ASTM D-2240)
Heat Deflection Temp: 150°F/65°C	(ASTM D-648)
Shrinkage, in./in.: <.001 in/in	(ASTM D-2566)

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

PROCESSING RECOMMENDATIONS

Safety – Use in a properly ventilated area ("room size" ventilation). Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. Wear disposeable gloves. Use of a NIOSH approved respirator is recommended.

Preparation – Materials should be stored and used in at room temperature (73° F / 23° C). Mixing should be done in a well-ventilated area. Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. **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 – Epoxy putty 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.

This product is mixed by hand. **You must wear disposable gloves when mixing this material**.

MEASURING & MIXING

Measuring **- Free Form® EARTH** putty comes as two parts. Dispense equal amounts (golf ball size, for example) of Part A and Part B.

Immerse In Water - Once you have equal amounts of A+B measured out, bring together and immerse in water for about 5 seconds. This will make mixing easier.

Mixing - Knead parts together aggressively to a uniform color and apply to surface. Immersing in water periodically will make **Free Form® Earth** more workable.

Pot Life/Working Time - this material is mass sensitive. The more material you mix at one time, the less time you have to work with it. Working tip; If mixing a large quantity, flatten putty with a rolling pin to reduce mass concentration and extend pot life.

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.

APPLYING

Applying – Mixed **Free Form® EARTH** is a dough that can be applied up to 2.5" (6.35 cm) thickness. **Pot Life and Cure Time values are dependent on mass and ambient temperature. The greater the mass, the shorter the working time. Shrinkage will also be higher.**

Free Form® EARTH will gradually stiffen during its working life, changing its pliability. Add water periodically using a spray bottle to improve workability. It will be most adhesive within the first 30 minutes.

USE AS A SCULPTING MATERIAL

Use as a Sculpting Medium- **Free Form® EARTH** can be applied to wire mesh armatures to create rigid forms for sculpting. Wire mesh for sculpting is available at most art supply stores.

If making a large sculpture, work in small sections and apply in layers to build up a suitable thickness. Putty can be rolled out between two sheets of wax-paper using a rolling pin.

Knead new sections with your fingers to bond the edges. **Smooth surface of putty with water.** Use water to keep sculpting tools from sticking to putty.

While Sculpting - Using a water misting spray bottle, mist water onto putty surface to maintain workability.

To Sculpt Fine Detail and Add Texture – allow water to evaporate slightly. Putty will stiffen and allow sculpting of fine detail.

CURING, PAINTING & HEAT RESISTANCE

Curing **- Free Form® EARTH** will reach full properties after 24 hours at room temperature. Cured epoxy is waterproof and can be sanded or machined. If machining or sanding, wear NIOSH approved particulate mask to prevent inhalation of particles.

Painting – Cured **Free Form® EARTH** can be primed and painted with acrylic enamel paints. Let paint fully dry before handling.

Heat Resistance – Fully cured putty with a minimum thickness of ½" (1.27 cm) will resist temperatures up to 150°F/65°C.

CLEAN UP & SHELF LIFE

Removing Uncured Free Form® EARTH - 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.

Shelf Life - In an unopened container, at 73°F/23°, shelf life is 2 years. Use entire contents as soon as possible after opening.

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.