## Product Information

***FLOORING EPOXY*** ***100% Epoxy Floor Coating***

***Description***

Flooring Epoxy is a two component, 100% solids, high-build, low viscosity, low odor, cyclo-aliphatic, chemical resistant epoxy. This highly versatile epoxy coating comes in clear and a variety of pigmented colors.

***Uses***

Flooring Epoxy is used to create industrial seamless floors in manufacturing plants, mechanical rooms, industrial warehouses, commercial kitchens, airplane hangars, and commercial garages. In combination with color quartz or paint chips it can be used to create a decorative floor coating. Flooring Epoxy (with aggregate) can also be used as a mortar for overlays or repairs for concrete. Flooring Epoxy clear is an excellent high build concrete sealer for interior over many other types of coatings such decorative concrete or over acid stained floors.

***Advantages***

- Low Viscosity
- Meets USDA criteria
- 100% Solids
- Chemical Resistant
- High Strength
- Water Clear or Pigmented
- Durable yet Flexible
- Low Odor
- High-Build
- Superior Adhesion

***Coverage***

Coverage will vary depending on condition of surface and desired thickness.

As a Primer:

250-300 ft²/gal. If cut with solvent, apply at a minimum of 300 ft²/gal to properly cure.

As a Coating:

200-300 ft²/gal

For Epoxy Mortar:

1 gallon of epoxy mixed with 4 gallons of silica sand will yield approximately 3 to 4 gallons of mortar.

***Packaging***

1 1/2 gallon kits
15 gallon kits

***Colors***

Clear, Travatan, Cape Cod Grey, Deep Tan, Pewter Grey, Stone Gray, White, Black, and more.

***Inspection***

Concrete must be clean, dry, and free of grease, paint, oil, dust, curing agents, or any foreign material that will prevent proper adhesion. The concrete should be at least 2500 psi and feel like 30-grit sandpaper. The concrete should be porous and be able to absorb water. A minimum of 28 days cured is required on all concrete. Relative humidity in the concrete floor slab should be below 80% (per ASTM F-2170).

Before starting flooring work, test existing concrete slab to make sure there is no efflorescence or high levels of alkalinity. Alkalinity refers to a high pH reading which means the floor is not neutral. A high alkaline environment can cause salts to creep up through the cement called efflorescence. These salts have a tendency to prevent or destroy the bonding of coatings to the concrete. The most common form of testing is the use of a wide-range pH paper or tape. Make sure the floors pH reading ranges between 5-9 to ensure adhesion. The testing of concrete for alkalinity can show the amount of alkalinity only at the time the test is ran, and cannot be used to predict long-term conditions.

Calcium chloride tests should be conducted to determine if the concrete is sufficiently dry for an epoxy flooring installation. The calcium chloride tests should be conducted in accordance with the latest edition of ASTM F 1869, *Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride*. When running a calcium chloride test, it is important to remove any grease, oil, curing agents, etc. so accurate readings can be obtained. A rate of 4.5lbs/1000 ft²/24hr period or less is an acceptable amount of vapor pressure for an epoxy flooring installation. If the reading ranges from 4.5lbs to 15lbs, a moisture barrier can be installed to reduce the emissions.

Failing to adhere to these strict guidelines can result in product delamination, discoloration, blistering, or all together failure of the coating system. Testing is the responsibility of the applicator. DIY Epoxy bears no responsibility for failures due to any of the above conditions.

***Surface Preparation***

Over Concrete Surfaces: Shotblasting or diamond grinding is the preferred method for preparing the concrete. Proper preparation should achieve a clean, porous, and uniform surface that feels like 50 grit sandpaper that will allow the product will soak in and properly bond.

Over existing DIY Epoxy: If prior coat has been cured for >24hrs, sand the surface with a floor buffer and 100 grit sandpaper. Remove debris and wipe with acetone just before new application. Always test a small area to ensure adhesion prior to application.

***Mixing***

As a Coating: Premix each component separately. Mix 2 parts A with 1 part B, by volume, into a clean container. Mix thoroughly with a low speed (400-600 rpm) drill motor for 3-4 minutes. Make sure to scrap the sides and bottom of the container during mixing. The product may be thinned with acetone in which case it must be applied thinly enough to allow solvent to escape (minimum 300 sf per gallon). After mixing is completed, remove from container within 5 minutes as epoxy will begin to generate heat. Spread immediately onto the floor, as product is spread out you will have longer working time (10-15 minutes at 70 degrees).

For an Epoxy Mortar: Mix 2 to 5 parts of a washed and kiln dried aggregate, by volume, to 1 part of mixed Flooring Epoxy and mix until uniform in consistency.

***Application***

Primer: Prime the surface using DIY EPOXY Primer Cover Pro. Read individual product information sheets. Primer

**coat should be applied thinly and worked into the surface to help avoid pinholes.**

**Over Cementitious Overlay: First coat should always be pulled as tight as possible using a flat edge trowel and backrolled. Apply at a minimum of 300 ft²/gal to minimize material outgassing. A higher build can be achieved with subsequent coats.**

**As a Coating: Apply Flooring Epoxy within 24 hours after the primer coat. Immediately after mixing, spread a strip of the batch onto the surface along the edges where it will be "cut in", using a brush or weenie roller. Pour the remaining material near the "cut in" area and spread evenly using a trowel or squeegee and back roll using a 1/4" or 3/8" non-shedding nap or mohair roller cover. A notched trowel or squeegee will help regulate the thickness and a porcupine roller will help to release trapped air and minimize bubbles. Depending on the look, thickness, chemical and abrasion resistance desired, 1 to 2 coats may be applied. A non-skid surface can be achieved by broadcasting and/or back rolling a washed and kiln dried aggregate into the coating.**

**For an epoxy mortar: Prime the area with a DIY EPOXY Fast Set Seal Coat Epoxy (medium grit sand may be broadcast into this coat to promote adhesion). Within 24 hours, clean excess sand and apply the prepared mortar using a trowel.**

***Drying Time***

**You may re-coat as soon as the surface is completely dry to touch or in about 6 hours (but not later than 24 hours). If recoat time has been exceeded, lightly sand the surface and wipe clean with acetone before next application. Light foot traffic may be permitted in 24 hours, light vehicle traffic in 72 hours, and heavy traffic in 7 days. All times are based on average temperature of 70 degrees and 50% humidity. Cooler temperatures will increase drying time.**

***Limitations***

- **Do not apply at temperatures below 50˚F or above 95˚F.**
- **Do not let mixed product sit in bucket for prolonged period of time or it will become very hot and unusable.**
- **Do not apply over concrete with Moisture Vapor Emissions above 4.5lbs/1000 ft²/24hr.**
- **For interior use only unless protected by a pigmented UV resistant coating.**
- **Do not apply if humidity exceed 85%, temperature is less than 5° above the dew point, or if rain is expected within 24 hours.**
- **Concrete must be cured for a minimum of 28 days.**
- **Solvents added to thin such as acetone will make product combustible or flammable in which case be aware of sparks or open flame.**
- **If solvent is added, the product must be applied thinly (300+ ft²/gal to allow the solvent to escape and proper curing to occur.**
- **Shelf Life of this material is 1 year from the date of manufacture. (See batch number for manufactured date)**
- **DIY Epoxy recommends the use of angular slip resistant aggregate in all coatings or flooring systems that may be exposed to wet, oily or greasy conditions. It is the contractor and end users' responsibility to provide a flooring system that meets current safety standards.**

***Clean Up***

**Uncured material can be removed with a solvent. Cured material can only be removed mechanically. All empty containers must be disposed of according to local, state, and federal regulations.**

***Warranty***

**DIY EPOXY guarantees that this product is free from manufacturing defects and complies with our published specifications. In the event that the buyer proves that the goods received do not conform to these specifications or were defectively manufactured, the buyer's remedies shall be limited to either the return of the goods and repayment of the purchase price or replacement of the defective material at the option of the seller. DIY EPOXY makes no other warranty, expressed or implied, and all warranties of merchantability and fitness for a particular purpose are hereby disclaimed. Manufacturer or seller shall not be liable for prospective profits or consequential damages resulting from the use of this product. Manufacturer shall not be liable for material used outside of its shelf life. For product dating, please refer to the batch number on the product or contact DIY EPOXY.**

***Technical Data for Clear***

| | |
|---|---|
| **Viscosity (ASTM-D-445-83, Brookfield, RVTD, Sprindle 4)** | **1030 cps** |
| **Gel time (Techne GT-4 Gelation Timer)** | **55 (150 mass/min)** |
| **Tensile Strength (ASTM-D-638-86)** | **7,250 psi** |
| **Tensile Modulus** | **385,000 psi** |
| **Tensile Elongation (ASTM-D-638-86)** | **5.5 %** |
| **Heat Deflection at 264 psi (ASTM-D-648) *** | **47 C** |
| **Shore D Hardness (ASTM-D-2240-86) *** | **81** |
| **Abrasion Resistance @ 1000 cycles Wt. Loss (gms)** | **0.0041** |
| **Mar Resistance (ASTM-D-5178-91)** | **1.30 kg** |
| **Pencil Hardness** | **2H** |
| **Impact, inches-lbs Direct/Reverse** | **14/1** |
| **Glass Transition Temperature (ASTM-D-3418-82)** | **124 F** |
| **Color (ASTM-D-1544-80)** | **>1 Gardner** |
| **Thin Film Set Times at 70 F (BK Drying Recorder)** | **6 hrs.** |
| **Flexural Strength (ASTM-D-790-88)** | **12,185psi** |
| **Flexural Modulus** | **445,00 psi** |
| **Cross Hatch Adhesion (0-Worst, 5-Best)** | **4** |
| **Compressive Strength @ yield (ASTM 695-85)** | **11,550psi** |
| **Compressive Modulus (ASTM 695-85)** | **370,000 psi** |
| **Glass Transition** | **46C** |
| **Chemical Composition** | **Modified Bisphenol A epoxy resin crosslinked with aliphatic and cycloaliphatic polyamines** |
| **VOC** | **0 g/l** |

***Properties determined after 7 days cure at 25 C°**

| REAGENT | Initial Hard. | After 3 hrs | | After 24 hrs | | After 3 days | | After 7 days | | After 28 days | | After90 days | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % wt. | Hard | % wt. | Hard | % wt. | Hard | % wt. | hard | % wt. | hard | % wt. | Hard |
| 10% Acetic Acid | 82 | 0.7 | 80 | 2.1 | 72 | 4.01 | 69 | 6.13 | 62 | 10.15 | 63 | 15.4 | 46 |
| 10% Lactic Acid | 82 | 0.38 | 80 | 1.19 | 79 | 2.31 | 78 | 3.48 | 77 | 5.71 | 74 | 8.78 | 59 |
| Toluene | 82 | 0.06 | 80 | 0.81 | 75 | 3.07 | 65 | 6.89 | 52 | 20.3 | 46 | 18.32 | 52 |
| Xylene | 82 | 0.01 | 78 | 0.04 | 77 | 0.36 | 75 | 1.29 | 70 | 4.65 | 72 | 15.39 | 57 |
| Trichlorothane | 82 | 0.05 | 77 | 0.4 | 77 | 2.31 | 74 | 3.54 | 68 | 13.74 | 65 | - | - |
| Methanol | 82 | 3.13 | 66 | 8.37 | 38 | 12.83 | 25 | 6.23 | 30 | 5.71 | 35 | - | - |
| Ethanol | 82 | 0.99 | 75 | 2.89 | 63 | 5.55 | 46 | 8.55 | 45 | 9.34 | 43 | 6.81 | 52 |
| Butyl Cellosoive | 82 | 0.37 | 76 | 1.47 | 73 | 3.83 | 66 | 6.34 | 63 | 12.42 | 53 | - | - |
| Methyl Ethyl Ketone | 82 | 6.41 | 63 | | | | | DESTROYED | | | | | |
| Skydrol | 82 | 0.11 | 77 | 0.46 | 77 | 1.26 | 74 | 2.18 | 74 | 3.67 | 75 | 6.03 | 56 |
| 70% Sulfuric Acid | 82 | 0.22 | 83 | 0.11 | 82 | 0.15 | 81 | 0.21 | 81 | 0.16 | 81 | -0.16 | 81 |
| 98% Sulfuric Acid | 82 | -15.6 | 80 | | | | | DESTROYED | | | | | |
| Deionized Water | 82 | 0.07 | 82 | 0.31 | 81 | 0.54 | 82 | 93 | 82 | 1.65 | 80 | 2.14 | 80 |
| 50% Sodium Hydroxide | 82 | 0.06 | 82 | -0.05 | 82 | -0.04 | 82 | -0.03 | 83 | -0.06 | 83 | -0.1 | 63 |
| Bleach | 82 | 0.09 | 83 | 0.28 | 83 | 0.52 | 83 | 0.83 | 82 | 1.28 | 81 | 1.67 | 72 |