

EPOXY 450

PRODUCT DESCRIPTION AND USE

Epoxy 450 is a medium viscosity, 100% solids resin system used in a variety of flooring applications including high build coatings, aggregate-filled flooring and decorative epoxy pebble applications. This material cures blush-free and provides an outstanding balance of physical strength, flexibility and chemical resistance. Epoxy 450 has excellent clarity for use over color quartz aggregate and decorative architectural concrete.

Epoxy 450 has slightly lower viscosity than most competitive products providing improved handling at cooler temperatures and exceptional troweling characteristics. The lower viscosity allows for the addition of fine silica fillers for easy application of “slurry” type floors. A fast cure hardener is available when cold weather cure down to 40°F or accelerated room temperature cure is required. A special hardener is available when adhesion to damp concrete is needed.

The versatility of Epoxy 450 makes it ideal as a primer, finish coat or aggregate binder in a wide variety of flooring applications including manufacturing facilities, warehouses, correctional facilities, loading docks and other areas requiring high performance flooring. Epoxy 450 is not recommended for food processing areas, commercial kitchens, wineries or other areas that receive constant corrosive exposure. Epoxy 600 or 900 should be selected for these applications.

Chemical Composition

Modified Bisphenol A epoxy resin crosslinked with aliphatic and cycloaliphatic polyamines.

Colors

Clear. Colorpacks are available for pigmenting the material.

Limitations

- Must be applied to a clean, dry surface.
- Exterior pigmented applications will show chalking.
- Should be applied with aggregate fillers in flooring applications where impact or mechanical abuse is anticipated.

WARRANTY INFORMATION

Arizona Polymer Flooring 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. ARIZONA POLYMER FLOORING MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. Arizona Polymer Flooring shall not be liable for damages caused by application of its products over concrete with excessive moisture vapor transmission or alkalinity. Arizona Polymer Flooring shall not be liable for any injury incurred in a slip and fall accident. Manufacturer or seller shall not be liable for prospective profits or consequential damages resulting from the use of this product.

SPECIALIZED FLOOR COATINGS & DECORATIVE CONCRETE SYSTEMS

TECHNICAL DATA

Physical Properties

Mixing Ratio, by Volume	2-1
Solids Content, %	100
V.O.C.	none
Viscosity, cps (Clear Material, 77 degrees)	900
Pot Life, Regular Cure (77 degrees, 1 quart mass).....	30 minutes
Pot Life, Fast Cure (77 degrees)	15 minutes

Pot Life is reduced by increasing mass and/or temperature.

Cure Times (77 degrees)

<u>Regular Cure</u>	<u>Fast Cure</u>
Dry to Touch.....6 hours	Dry to Touch.....3 hours
Light Traffic.....16 hours	Light Traffic.....7 hours
Full Cure.....7 days	Full Cure.....5 days

Cure Times (50 degrees)

<u>Fast Cure</u>
Dry to Touch.....18 hours
Light Traffic.....30 hours
Full Cure.....14 days

Cure times are influenced by both the ambient air temperature and the temperature of the concrete.

Performance Properties

Tensile Strength, psi (ASTM D-638).....	6,230
Ultimate Elongation, % (ASTM D-638)	11
Compressive Yield Strength, psi (ASTM D-695)	9,850
Ultimate Compressive Strength, psi (ASTM D-695).....	19,501
Ultimate Flexural Strength, psi (ASTM D-790)	9,680
Hardness, Shore D (ASTM D-2240).....	78
Bond Strength to Concrete (ASTM D-4541).....	concrete fails before loss of bond

CHEMICAL AND STAIN RESISTANCE (ASTM D-1308 24 HOUR IMMERSION)

Vegetable Oil	no effect
Mustard.....	no effect
Urine	no effect
Gasoline.....	no effect
Motor Oil	no effect
Transmission Fluid.....	no effect
Brake Fluid.....	slight softening, film recovers
Mineral Spirits	no effect
10% Sulphuric Acid	no effect
10% Hydrochloric Acid	no effect
10% Acetic Acid.....	no effect
Xylene	slight softening, film recovers
MEK	film destroyed

GENERAL INFORMATION

Moisture Vapor Emissions Precautions

All interior concrete floors not poured over an effective moisture vapor retarder are subject to possible moisture vapor transmission that may lead to blistering and failure of the coating system. It is the coating applicator's responsibility to conduct calcium chloride and relative humidity probe testing to determine if excessive levels of vapor emissions are present before applying any coatings. APF can supply moisture remediation products. Consult our technical service department. Arizona Polymer Flooring and its sales agents will not be responsible for coating failures due to undetected moisture vapor emissions.

Surface Preparation

Concrete must be cured 30 days and be clean, dry, and structurally sound. If using damp surface hardener, surface may be damp but with no visible water. Surface must be shot blasted, diamond ground or acid etched to achieve an ICRI profile of CSP3 or greater. A properly prepared surface will have the texture of 80-100 grit sandpaper. If the surface is diamond ground, use 20-30 grit diamonds and vacuum the floor twice to remove concrete dust. Excessive dust in the pores of the concrete can compromise adhesion. **If acid etched, machine scrubbing is required.** Adhere strictly to guidelines listed in the Arizona Polymer Flooring Surface Preparation Manual. Previously coated surfaces must be mechanically cleaned and abraded with 80-100 mesh sandpaper prior to application.

Mixing Instructions

If using regular cure material, pot life is 35 minutes at 77 degrees. Pot life of fast cure material is 15 minutes. Work times are shortened by higher temperatures. Pouring material on floor immediately after mixing will extend work time. Combining ratio is 2 parts A to 1 part B. If using pigmented material, stir Part A well, bringing settled pigments up from bottom of container before adding Part B. **Proportion the amounts carefully and mix for 2 full minutes using a low speed drill, scraping the bottom and sides of the mixing vessel.**

Application Recommendations

Epoxy 400 may be applied by roller, trowel or squeegee. For use in aggregate filled flooring, see Arizona Polymer Flooring Application Manual. When applied as an unfilled system, Epoxy 450 may be thinned with up to 15% Acetone, MEK or Glycol Ether EP. Product must be thinned 10-15% when using as a reglaze material for epoxy pebble system. If using thinned product, keep application rate above 200 sq. ft. per gallon. The addition of solvent may slow the cure somewhat. **If using in aggregate filled flooring, do not add solvent.**

Handling Precautions

Do not breathe vapors. Use appropriate respirator with green band cartridge to protect against methyl amine vapors. Avoid contact with skin; wear protective gloves. Read Material Safety Data Sheet before using.

Slip and Fall Precautions

OSHA and the American Disabilities Act (ADA) have now set enforceable standards for slip-resistance on pedestrian surfaces. The current coefficient of friction required by ADA is .6 on level surfaces and .8 on ramps. Arizona Polymer Flooring 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. Arizona Polymer Flooring or its sales agents will not be responsible for injury incurred in a slip and fall accident.