ALTA 4500
100% SOLIDS EPOXY

Product Series #4500

PRODUCTION DESCRIPTION

A two-component general purpose epoxy primer, coating and flooring mortar binder for broadcast and hand troweled or power troweled systems. It is a low viscosity, low odor, 100% solids thermosetting epoxy. It is a general-purpose epoxy that can be used as a primer, body coat, binder, or topcoat. It can be applied directly over many moisture mitigation primers. Consult with your Alta Paints & Coatings representative for specific recommendations.

ADVANTAGES

- Complies with USDA, FDA, Food Safety Modernization Act
- LEED® and Green Seal® requirements Odorless
- 100% Solids, Zero VOC, and EPA Compliant, and low odor during installation. Cures to an inert finish.
- Excellent Chemical and Abrasion Resistance
- Designed for new floors and for resurfacing old floors

TYPICAL USES

- Automotive Show Room and Repair Floors
- Commercial Bakery and Kitchen Floors
- Hospital and Health Care Facility Floors
- Laboratory and Research Floors
- Manufacturing and Warehouse Floors
- Pharmaceutical Floors

Note: Use appropriate primer and finish coat

COLOR

- Clear
- Midway Gray
- Sand Beige

PACKAGING

10-gallon kit	One 5 gallon (18.9 liters) pail of Side-A and One 5 gallon (18.9 liters) pail of Side-B
100-gallon kit	One 55 gallon drum (net 50 gallons, 189 liters) of Side-A and One 55 gallon drum (net 50 gallons, 189 liters) of Side-B

*Also available in a 22oz Dual Packs.

COVERAGE

Primer:	160 to 200 sq. ft. (14.9 to 18.9 sq. m.) WFT 8 to 10 mils (0.20 to 0.25 mm)
Coating:	100 to 160 sq. ft. (9.3 to 14.9 sq. m.) WFT 10 to 16 mils (0.25 to 0.41 mm)
Broadcast and Trowel:	Varies depending on thick- ness of system selected 1/16 to 1/4 inch (1.59 to 6.35 mm) and more

CHEMICAL RESISTANCE DATA

Guide available upon request.

CHECK CONCRETE MOISTURE

Concrete must be dry before application of this floor coatings material. Concrete moisture tests are required, either ASTM F1869 (calcium chloride) or ASTM F2170 (in situ RH probe).

CHECK TEMPERATURE AND HUMIDITY

Floor and material temperature must be at or above the published Technical Data Sheet requirements. Dew point must be 5°F (3°C) or more below the surface temperature. Do not apply if humidity is at or above 85%.

SURFACE PREPARATION

Surface preparation in accordance with: ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair. The pH of the concrete substrate should be at 9 or above. All bond-breaking material must be removed.

CONCRETE

Concrete must be structurally sound and free of curing agents, coatings, sealers, densifiers, and other bond breakers.

New Concrete:

• Place concrete per ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Floor Materials.

• Water Cement Ratio 0.4 to 0.5, and an approximate 4,000 psi (28 MPa) strength level.

• Requiring a positive side moisture barrier in direct contact with the concrete meeting ASTM E1745. Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.

• The moisture barrier needs to be placed per ASTM E1643 Standard Practice for Selection, Design, Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs, Class A 15 mils (0.38mm)

Existing Concrete:

• If field tests or laboratory analysis reveals interior concrete flooring slabs containing contaminants from previously applied unreacted silicate materials that will interfere with the bonding, the slab must be primed with an appropriate primer.

1. Contaminants include, but are not limited to organic hydrocarbon materials, calcium chlorides, and aluminum stearates.
2. Consult with your Alta Paints & Coatings representative for specific primer recommendations.

• Concrete flooring slabs can lose their structural strength over time, caused by conditions beyond the control of the flooring manufacturer or the installation contractor.

• If the concrete substrate deteriorates sufficiently, it will no longer support the bond of the remediation floor system.

Such conditions are detailed in ACI 201.2R “Guide to Durable Concrete” published by the American Concrete Institute.

APPLICATION EQUIPMENT

Depending on system applied: Disposable 3” brush for cutting in, variable low speed drill (450 rpm) with Jiffy® type impeller mixing paddle, 3/8-inch nap non-shed- ding phenolic core roller and V-notched rubber squeegee for spreading neat epoxy and gauge rake or trowels for thicker applications.

MIXING

For ease of mixing and placement, the temperature of the “A” and “B” components should be between 70°F to 80°F (20°C to 26°C). Pre-mix the “A” and “B” component to ensure all raw material and pigments are dispersed uniformly.

APPLICATION

After mixing all contents as instructed, immediately pour all liquid material on to the properly prepared concrete substrateor next epoxy lift in ribbons and squeegee the material out evenly. Back-roll and cross rolling of material is critical forreceiving coat, lock coat, grout coat, topcoat, and finish coat. Check for desired wet film thickness with a WFT Gauge. If broadcasting aggregate, broadcast into the wet material. Place trowel mortar mix within installation sequence.

SKID-RESISTANCE

Skid-Resistance – Field (in situ) Wet Dynamic Coefficient of Friction (DCOF), ANSI A326.3.

PHYSICAL PROPERTIES AT 77°F (25°C)			
VOC (Volatile Organic Compounds), (VOC Calculated Per ASTM D3960)	0 gr./lt.		
Viscosity, Mixed Epoxy and Hardener	550 to 750 cps		
Primer Alta 4500 GP Epoxy (Clear Only) Optional - Dilute with 10% Acetone will lower viscosity	50°F (10°C) 300 cps	77°F (25°C) 120 cps	90°F (32˚C) 60 cps
Mix Density, Mixed Epoxy and Hardener	9.2 lb./gal		
Pot Life, 1 gallon (3.79 liters) Mass, Pot Life is Reduced by Increases in Mass & Temperature	20 Minutes		
Mix Ratio, by Volume	2:1		
Minimum Application Surface Temperature	50°F		
Dry to Touch 50°F to 90°F (10°C to 32°C)	5 to 12 Hours		
Recoat Time 50°F to 90°F (10°C to 32°C)	12 to 24 Hours		
Light Traffic 50°F to 90°F (10°C to 32°C)	44 Hour Minimum		
Full Cure 50°F to 90°F (10°C to 32°C)	7 to 14 Days		
Shelf Life (shipped and stored) at 40°F to 100°F (4.4°C to 38°C)	1.5 Years		
Packaging 3 and 15 gal. (11.4 and 56.8 liters)			

MECHANICAL PROPERTIES AT 77°F (25°C) 7 DAY CURE (UNLESS STATED OTHERWISE)			
Surface Preparation ICRI Guideline No. 310.2R Concrete Surface Profile (CSP 2 and above) Depending on System to be Installed and Condition of Concrete.			
Substrate Temperate	50°F (10°C)	77°F (25°C)	90°F (32°C)
Compressive Strength, ASTM D695, 8 Hours	3,700 psi	6,300 psi	9,800 psi
Compressive Strength, ASTM D695, 1 Day	9,000 psi	9,000 psi	9,800 psi
Compressive Strength, ASTM D695, 7 Days	10,000 psi	10,000 psi	10,000 psi
Compressive Strength, ASTM C579, with aggregate	11,750 psi	11,000 psi	10,500 psi
Tensile Strength, ASTM D638	8,000 psi	7,500 psi	7,000 psi
Tensile Elongation, ASTM D638	2%	5%	6%
Flexural Strength, ASTM D790	10,500 psi	10,000 psi	9,500 psi
Slant Shear, ASTM C882	4,200 psi	4,000 psi	4,000 psi
Adhesion, ASTM D7234, Concrete Failure	>400 psi	>400 psi	>400 psi
Hardness (Shore D) ASTM D2240	80 - 85	75 – 85	70 – 80
Water Absorption, ASTM D570 Resin & Hardener	0.15%		
Flame Test, ASTM E648	Class 1		
Flammability, ASTM D635	Self-Extinguishing Bonded to Concrete		
Abrasion Resistance, ASTM D4060 Resin & Hardener 1,000 cycles, Wheel No. CS17, 1000 gr. Load	0.051 gr.		
Coefficient of Thermal Expansion (-22°F to 86°F)	1.8 X 10-5 in./in. °F		
Microbial (fungi) Resistance ASTM G21 (Without the Anti-Microbial Agent)	Pass #1		
Indentation (Load MIL-D-3134, Para. 4.7.4.2.1), EPC, 7 Day Cure, Method: 1 in. diameter steel ram steadily applies a load of 2,000 lbs. for 30 min. on the test specimen that isplaced on concrete.	0.004 in. indentation		
Indentation (Impact MIL-D-3134, Para. 4.7.3 EPC, 7 Day Cure, Method 2 lb. steel ball is dropped twice from a 8 ft. height.	0.012 in. indentation		
Dynamic Coefficient of Friction, ASNI 326.3 Depends on texture of system selected, ranging from smooth to aggressive. BOT 3000E	>0.45(inclines) >0.42(level)		
Moisture Vapor Emission Rate, ASTM F1869*	3 lbs.		
Moisture Relative Humidity, ASTM F2170*	80% RH		
***If moisture or relative humidity exceeds the limits consult with your Alta Paints & Coatings Representative for recommendations specific to your project.**			
Note: Although testing is critical, it is not a guarantee against future problems. This is especially true if there is not a positive side vapor barrier or it is not functioning properly and/or concrete has contamination from oils, chemical spills, densifiers, excessive salts or other bond breakers.			