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Technical Bulletin

Armorgard 506 – K-506

Description:

Copps Armorgard 506 is a 100% solids, self-leveling, primerless, no odor, clear epoxy flooring system designed to resurface concrete. Armorgard 506 has been specifically formulated to resist the organic acids found in the food and beverage industry. Armorgard 506 has excellent resistance to most harsh chemicals and can be applied as thin as 10 mil. Armorgard 506 is USDA approved for application to structural surfaces or surfaces that will receive incidental food contact. Adhesion to wood, concrete and most metals is excellent. Armorgard 506 can be used as a clear coating or filled with a colored aggregate to produce a colored/clear topping. Armorgard 506 has a very fast tack-free time while providing a useful working time.

Armorgard 506 was designed to protect floors from the light to medium traffic found in power plants, chemical processing, pulp and paper mills, the food and beverage industry, and anywhere a clean, attractive appearance is desired.

Product Advantages:

- LOW TEMP CURE (40 °F)
- PRIMERLESS
- EXCELLENT CHEMICAL RESISTANCE
- FAST WALK-ON TIME (TACK-FREE IN 3 HOURS)
- 100 % SOLIDS
- BONDS TO DAMP CONCRETE

Application Guidelines:

Application thickness can be varied from 10 mil in a rolled coat (unfilled) to a 1/8" broadcast/slurry (filled).

Handling Properties:

COMPONENTS	Resin/Hardener/Colored Aggregate (optional)	
COLOR	Clear with colored aggregates	
MIXED VISCOSITY, cP	1,400	ASTM D 2196
WORKING TIME, min	25	
GEL TIME, min	35	
TACK-FREE TIME, h	3-4	
INITIAL CURE or FOOT TRAFFIC TIME, h	8	
COVERAGE* @ 10 mil (unfilled), ft^2/gal	160	
APPLICATION TEMPERATURE, °F		
Ideal	70-80	
Acceptable	55-90	
MIXING RATIO	1.5 parts resin to 1 part hardener by volume	

*Varies with porosity of concrete.

Physical Properties:

HARDNESS, Shore D	82	ASTM D 2240
ADHESION TO CONCRETE, psi	> 800 (100 % failure in concrete)	
COMPRESSIVE STRENGTH, psi	9,500	ASTM D 695
TENSILE STRENGTH, psi	7,000	ASTM D 638
ELONGATION @ BREAK, %	6	ASTM D 638
FLEXURAL STRENGTH, psi	11,500	ASTM D 790

Chemical Resistance:

Excellent Resistance		Very Good	Not Recommended
Motor Oil	10 % Nitric Acid	Methanol	50 % Acetic Acid
Unleaded Gasoline	10 % Acetic Acid	20 % Acetic Acid	50 % Nitric Acid
Kerosene	10 % Sulfuric Acid	20 % Oleic Acid	Methylene Chloride
Diesel Fuel	50 % Sulfuric Acid	Ethyl Alcohol	Methyl Ethyl Ketone
Mineral Spirits	70 % Sulfuric Acid	Toluene	
Ethylene Glycol	50 % Sodium Hydroxide	Acetone	
Water	Skydrol		
10 % Oleic Acid	Bleach		
10 % Hydrochloric Acid	Xylene		
10 % Lactic Acid	1,1,1,-Trichloroethane		
10-30 % Citric Acid	Cyclohexanol		

The above recommendations are based on a 28 day immersion @72°F (22°C).

Surface Preparation:

Armorgard 506 is used to strengthen and seal a porous concrete substrate, therefore, adhesion is paramount. To achieve excellent adhesion, the substrate should be free of all loose and foreign material and should be roughened slightly to provide a coarse profile by shot blasting.

Before blasting, any contaminates on/in the concrete must be identified. Oils, grease, fats, waxes or other contaminates must be removed prior to roughening the concrete. These can be removed with an application of warm (120-140 °F) caustic detergent, steam cleaning or pressure washing. De-grease the floor, follow with a hot water rinse. Repeat this procedure until the water does not "bead up" on the concrete.

Shot blasting using self-propelled, self-contained equipment is the recommended preparation method.

NEW CONCRETE MUST CURE A MINIMUM 28 DAYS PRIOR TO THE APPLICATION OF ANY EPOXY. CONCRETE MUST BE TESTED FOR MOISTURE AND VAPOR TRANSMISSION BEFORE APPLICATION.

Mixing:

To mix Armorgard 506 pour the contents of the pail marked Hardener into the larger Resin pail. Immediately mix for 3 minutes using a Jiffy Mixer and a slow speed drill. Mix at slow speed (less than 500 rpm) to avoid air entrainment. DO NOT mix more material than can be used within the stated working time.

REMEMBER - you will have less working time at higher temperatures.

Armorgard 506, before it has hardened, can be removed from tools with Copps Enviro Kleen solvent or warm soapy water.

Application:

Relative humidity and dew point must be determined before application to avoid adhesion failures. The dew point is used to predict the substrate temperature at which air begins to condense, in the form of water, on the substrate. Never apply a coating unless the concrete surface temperature is 5 °F above the dew point. This temperature difference must be observed until the epoxy coating is cured to a tack-free state. A dew point calculation chart is available from a Copps Technical Representative.

PRIMER: 1) The application of a primer is recommended to reduce concrete outgassing, in turn producing a smoother coating.

2) Armorgard 506 can be applied to prepared concrete without a primer.

LIGHT "ROLLED" COAT FOR LIGHT DUTY - 10-30 mil liquids only: Applied with a squeegee and a medium (1/2" nap) roller.

MEDIUM DUTY "BROADCAST" COATING - 30-60 mil: Apply liquid 15-30 mil thick then evenly broadcast colored aggregate into the wet coating until it is saturated. Let cure (dry), then brush off the excess aggregate and apply a 5-10 mil liquids only topcoat to lock down the exposed aggregate. Repeat as needed to achieve your desired texture.

Packaging:

Armorgard 506 is conveniently packaged in pre-measured 1.5 or 3 gallon kits containing a resin (Part A) and a hardener (Part B). Larger bulk quantities are also available.

SAFETY PRECAUTIONS

Avoid breathing of vapors. Forced local exhaust is recommended to effectively minimize exposure. NIOSH approved, organic vapor respirators and forced exhaust are recommended in confined areas, or when conditions (such as heated polymers, sanding) may cause high vapor concentrations. Do not weld on, burn or torch any epoxy material. Hazardous vapor is released when an epoxy is burned. Avoid skin or eye contact. Wash skin with soap and water if contact occurs. If eye contact occurs flush with water for 15 minutes and obtain medical attention. Read and understand all cautions on can labels and safety data sheets before using this material

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