

ARMORGARD 500

PIGMENTED FLOORING SYSTEM

**PRIMERLESS
USDA APPROVED
CHEMICALLY RESISTANT**

**100 % SOLIDS
ENVIRONMENTALLY FRIENDLY
BONDS TO DAMP CONCRETE**

GENERAL PRODUCT INFORMATION

Copps Armorgard 500 is a 100 % solids, self-leveling, primerless, odorless, pigmented epoxy flooring system designed to resurface concrete. Armorgard 500 has been formulated to reduce the "yellowing" that conventional epoxy systems develop. Armorgard 500 has excellent resistance to most harsh chemicals and can be applied as thin as 12 mil (0.3 mm). Armorgard 500 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 500 was designed to protect floors from 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.

Application thickness can be varied from 12 mil (0.3 mm) in a rolled coat (unfilled) to 1/4" (6.35 mm) in a broadcast (aggregate filled) topping.

PACKAGING CONVENIENCE

Armorgard 500 is conveniently packaged in a pre-measured 1.5 (5.7 l) or 4 (15 l) gallon kit containing a resin (Part A) and a hardener (Part B); larger bulk quantities are also available. Armorgard 500 comes in 4 standard colors: grey, light grey, buff, and tile red. Special colors are available, with minimum quantity requirements.

HANDLING PROPERTIES @ 72 °F (22 °C)

COMPONENTS	Resin and Hardener (Aggregate optional)	
COLOR	Grey, Light Grey, Buff, Tile Red (Custom colors are available)	
MIXED VISCOSITY, cP or mPa.s	1,000	ASTM D 2196
WORKING TIME, min	25	
GEL TIME, min	35	
TACK-FREE TIME, h	5-6	
INITIAL CURE or FOOT TRAFFIC, h	9-12	
COVERAGE* (@ 10 mil or 0.25 mm, unfilled), ft ² /gal (m ² /l)	160 (4.16)	
APPLICATION TEMPERATURE, °F (°C)		
Ideal	70-80 (21-27)	
Acceptable	55-90 (13-32)	

*Depends upon concrete porosity.

TYPICAL CHARACTERISTICS

HARDNESS, Shore D	85	ASTM D 2240
ADHESION TO CONCRETE, psi (MPa)	800 (5.5) (100 % failure in concrete)	ASTM D 4541
COMPRESSIVE STRENGTH, psi (MPa)	12,500 (86.2)	ASTM D 695
TENSILE STRENGTH, psi (MPa)	5,000 (34.5)	ASTM D 638
ELONGATION @ BREAK, %	6	ASTM D 638
FLEXURAL STRENGTH, psi (MPa)	12,000 (82.8)	ASTM D 790

HUMIDITY/DEW POINT

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 moisture begins to condense, in the form of water, on the substrate. Never apply a coating unless the concrete surface temperature is 5 °F (2 °C) 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.

CHEMICAL RESISTANCE

Excellent Resistance

Motor Oil	10 % Nitric Acid
Unleaded Gasoline	10 % Sulfuric Acid
Kerosene	50 % Sulfuric Acid
Diesel Fuel	50 % Sodium Hydroxide
Ethylene Glycol	10 % Hydrochloric Acid
Water	Skydrol
10 % Lactic Acid	Bleach
10-30 % Citric Acid	Cyclohexanol

Very Good

10 % Acetic Acid
Methyl Alcohol
1,1,1-Trichloroethane
Toluene
Xylene

Not Recommended

>50 % Acetic Acid
>50 % Nitric Acid
Methylene Chloride
Methyl Ethyl Ketone

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

SURFACE PREPARATION

Armorgard 500 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 either shot blasting or acid etching.

Before blasting or acid etching, any contaminants on/in the concrete must be identified. Oils, grease, fats, waxes or other contaminants must be removed prior to roughening the concrete. These can be removed with an application of warm (120-140 °F or 49-60 °C) 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 a highly recommended preparation method.

Acid etching can be performed using a solution of 50 % muriatic (Hydrochloric) acid and 50 % water. (Always add acid to water slowly when mixing). The acid solution should be carefully applied to all surfaces to be coated. The acid will effervesce (foam or bubble) on the concrete if it is free of a sealer or contaminate. If the acid does not effervesce, contact a Copps representative immediately. Do not apply the epoxy. Leave the acid on the concrete for 10-15 minutes then rinse the entire area well with cold water. We recommend a surface profile similar to 60-100 grit sandpaper. If the profile is not sufficient – repeat the procedure. When the profile is sufficient, vacuum up all standing water and allow the surface to dry. Muriatic acid can be dangerous to handle, so proper safety equipment/ventilation should be used. Do not allow the acid wash to enter any drains or sewers.

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

MIXING

To mix Armorgard 500 pour the contents of the pail marked Hardener (B-500) 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 850 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.

APPLICATION

PRIMER: Armorgard 500 can be applied to prepared concrete without a primer. The application of a primer is recommended to reduce concrete outgassing, in turn producing a smoother coating.

Apply with a squeegee and a medium (3/8" or 12.7 mm nap) roller.

CLEAN-UP

Armorgard 500, before it has hardened, can be removed from tools with Copps Enviro Kleen solvent.

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 polymer, 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 material safety data sheets before using this material.

WARRANTY AND DISCLAIMER

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