

Armorgard 600SF – K-600SF

Description:

Copps Armorgard 600SF is a 100% solids, chemically resistant, no odor, slurry and broadcast epoxy flooring system. 600SF was designed to provide outstanding protection, for new or old damaged concrete, against a wide range of moderate mechanical abuses found in today's industrial environments. Armorgard 600SF 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 600SF was designed to protect floors from moderate industrial traffic (specifically, steel-wheeled carts and forklift trucks) making it ideally suited for chemical processing, power plants, pulp and paper mills, food and beverage plants, utilities and anywhere a clean, tough floor is needed.

Product

- 100 % SOLIDS

Advantages:

- EXCELLENT IMPACT RESISTANCE
- EXCELLENT WEAR RESISTANCE
- SHORT WALK-ON TIME

Application Guidelines:

Application thickness can be varied from 1/16" to 1/8" topping. Copps K-049 Primer is recommended for maximum service, but not required for all applications. Consult your Copps Representative.

Handling

Properties:

| | | | |
|--|----------------------|-------|---------|
| COLOR | Gray, Red, Natural | | |
| CONSISTENCY | Self-Leveling Mortar | | |
| WORKING TIME, h | 1 | | |
| GEL TIME, h | 2 | | |
| TACK-FREE TIME @ 1/8 in., h | 3.5 | | |
| INITIAL CURE OR FOOT TRAFFIC TIME, h | 4-5 | | |
| FULL CURE, h | 48-72 | | |
| APPLICATION TEMPERATURE, °F (°C) | | | |
| | Ideal | 70-80 | (21-27) |
| | Acceptable | 55-90 | (13-32) |
| COVERAGE per 42 pound kit @ 1/8", ft. ² | 25 | | |

Physical

Properties:

| | | | |
|---------------------------------|--------|----------------------------------|-------------|
| HARDNESS, Shore D | 86 | | ASTM D 2240 |
| ADHESION TO CONCRETE, psi (MPa) | > 500 | (3.4) (100% failure in concrete) | |
| COMPRESSIVE STRENGTH, psi (MPa) | 12,500 | (86.2) | ASTM D 695 |
| TENSILE STRENGTH, psi (MPa) | 1,700 | (11.7) | ASTM D 638 |
| FLEXURAL STRENGTH, psi (MPa) | 4,100 | (28.3) | ASTM D 790 |

Chemical

Resistance:

| | Excellent Resistance | Very Good | Not Recommended |
|-------------------|------------------------|------------------------|---------------------|
| Motor Oil | 10 % Sulfuric Acid | 1,1,1-Trichloroethane | Methyl Ethyl Ketone |
| Unleaded Gasoline | 50 % Sulfuric Acid | Toluene | 50 % Acetic Acid |
| Gasohol | 80 % Sulfuric Acid | 36 % Hydrochloric Acid | 50 % Nitric Acid |
| Kerosene | 10 % Hydrochloric Acid | 30 % Nitric Acid | Methylene Chloride |
| Diesel Fuel | 10 % Phosphoric Acid | | |
| Ethylene Glycol | 50 % Phosphoric Acid | | |
| Water | 75 % Phosphoric Acid | | |
| 10 % Lactic Acid | 50 % Sodium Hydroxide | | |
| Methanol | Bleach | | |
| 10 % Nitric Acid | Xylene | | |
| 10 % Citric Acid | Ethyl Alcohol | | |
| 30 % Citric Acid | 10 % Acetic Acid | | |
| Cyclohexanol | 50 % Gluconic Acid | | |
| 37 % Formaldehyde | | | |

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

**Surface
Preparation:**

Armorgard 600SF 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 shot 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 or 49-60 °C) caustic detergent, steam cleaning or pressure washing. Degrease the floor; follow with a hot water rinse. Repeat this process 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/
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 (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 your Copps representative.

PRIMER MIXING (If required): To mix Copps K-049 concrete primer pour the contents of the can marked Hardener into the large pail (resin). 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.

PRIMER APPLICATION (If required): Apply 5 mil of Copps K-049 Concrete Primer to the prepared concrete with a short nap (1/4") roller. This insures adhesion to the concrete substrate.

DO NOT apply K-049 over standing water. Damp or dry concrete is acceptable.

MIXING 600SF: To mix Armorgard 600SF pour the contents of the can marked Hardener into the larger resin can. Immediately mix for 2-3 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. Add this liquid to a rotating pail mixer and add all of the slurry aggregate (Part C), let mix for 1-2 minutes. Do not add broadcast aggregate Part D to the mortar.

600SF APPLICATION: Immediately pour out the mixed kit onto the floor in 7-10" wide strips. Spread evenly with a clean trowel (steel finishing trowel, 3 x 14). Finish each kit before mixing another to insure proper working times and surface textures. As the material begins to set up the trowel will pull on the surface creating a porous surface; this can be corrected by cleaning the trowel with isopropyl alcohol or acetone.

Once the slurry is applied, broadcast the pre-measured Part D broadcast aggregate (separate box) into the wet slurry at a rate of 3/4 of a pound per square foot.

600SF LOCKDOWN: A liquids only squeegee coat of 600SF liquids only may be applied to the broadcasted 600SF. An application rate of 90 ft.²/gal will produce a moderate non-skid. A lockdown is recommended to ensure a completely sealed surface. The lockdown thickness can be varied to produce the desired non-skid texture.

The 600SF can be applied to the K-049 immediately or up to 24 hours later @ 72 °F (22 °C). If more than 24 hours have passed it is necessary to scuff the primer surface if it is not tacky.

Do not rapidly raise the air or substrate temperature, this can cause outgassing of the concrete and joint shrinkage. This can lead to product cracking or failure.

600SF will leave a moderate textured surface.

Armorgard 600SF, before it has hardened, can be removed from tools with Copps Enviro Kleen solvent or warm soapy water.

Packaging:

Armorgard 600SF is conveniently packaged in pre-measured (25 ft.² @ 1/8") 4 component kits, containing a resin (Part A), hardener (Part B), a slurry aggregate (Part C) and a broadcast aggregate (Part D). 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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