

TYPICAL CHARACTERISTICS

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|---------------------------------|---|-------------|
| HARDNESS, Shore D | 85 | ASTM D 2240 |
| ADHESION TO CONCRETE, psi (MPa) | > 800 (5.5) (100 % failure in concrete) | |
| COMPRESSIVE STRENGTH, psi (MPa) | 12,000 (82.8) | 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 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 a Copps Technical Representative.

CHEMICAL RESISTANCE

| Excellent Resistance | | Very Good | Not Recommended |
|-----------------------------|-----------------------|----------------------|------------------------|
| Motor Oil | 10 % Nitric Acid | Methanol | 50 % Acetic Acid |
| Unleaded Gasoline | 10 % Sulfuric Acid | 20 % Acetic Acid | 50 % Nitric Acid |
| Kerosene | 50 % Sulfuric Acid | 20 % Oleic Acid | Methylene Chloride |
| Diesel Fuel | 70 % Sulfuric Acid | Ethyl Alcohol | Methyl Ethyl Ketone |
| Mineral Spirits | 50 % Sodium Hydroxide | Toluene | |
| Ethylene Glycol | Skydrol | Acetone | |
| Water | Bleach | 75 % Phosphoric Acid | |
| 10 % Oleic Acid | Xylene | | |
| 10 % Hydrochloric Acid | 1,1,1-Trichloroethane | | |
| 10 % Lactic Acid | 10 % Acetic Acid | | |
| 10-30 % Citric Acid | Cyclohexanol | | |

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

SURFACE PREPARATION

Armorgard 501 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 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. 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. If the profile is not sufficient - repeat the procedure. We recommend a surface profile similar to 60-100 grit sandpaper. 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 AND SHOULD BE TESTED FOR MOISTURE CONTENT PRIOR TO THE APPLICATION OF ANY EPOXY.

MIXING

To mix Armorgard 501 pour the contents of the pail marked Hardener (B-501) 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:

- 1) The application of a primer is recommended to reduce concrete outgassing, in turn producing a smoother coating.
- 2) Armorgard 501 can be applied to prepared concrete without a primer. A tinted primer is recommended with light colors.

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 aggregate (Copps C-005) 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.

CLEAN-UP

Armorgard 501, before it has hardened, can be removed from tools with Copps Enviro Kleen solvent or warm, soapy water.

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.

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