EPOXY CONCRETE SEALER

PRODUCT INFORMATION

The STEBBINS Engineering and Manufacturing Company
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http://www.StebbinsEng.com

DESCRIPTION

Although concrete structures are strong and practical, they are inherently porous and will allow the penetration of potentially destructive vapors and liquids. Concrete covers are often used for process vessels and storage tanks. Acid vapors can condense on the surface of the exposed concrete and quickly react with concrete components. Chloride ions can attack the underlying reinforcing bars eventually causing the concrete to spall. Concrete walls and floors must also be protected against such chemical attack.

STEBBINS' Epoxy Concrete Sealer (ECS) is a two-component, low viscosity product used to protect concrete from chemical splashes or harmful process vapors. Besides acting as a vapor barrier, the sealer provides very good resistance to splashes of mildly acidic and alkaline solutions. It also improves abrasion resistance. Its low viscosity and long working time allow the product to penetrate the surface of concrete eliminating porosity and filling hairline cracks. Once within the concrete, the epoxy forms strong chemical and mechanical bonds.

COMPONENT PACKAGING

Epoxy Concrete Sealer is supplied as two (2) separately packaged components:

Material	Container	Weight
Epoxy Concrete Sealer Resin:	1-gallon (3.78 liter) snap lid container	6.0 lb. (2.7 kg) Net
Epoxy Concrete Sealer Hardener:	1-quart (0.95 liter) Plastic container	1.5 lb. (0.68 kg) Net

The total net weight of one (1) unit is 7.5 pounds (3.4 kg).

TYPICAL PHYSICAL PROPERTIES

Physical State	Liquid
Composition	Epoxy Protectant Sealer
Appearance	Clear
Gardner Color	< 5
Solids by Weight	100%
pH	Neutral
Coverage	69.3 lb./ft^3 (1,106 kg/m^3)
Viscosity	< 75 cps @ 75˚F (23˚C)
Specific Gravity	0.64 oz./in^3 (1.11 g/cc)
Solubility	Insoluble in water

WORKING AND CURE TIMES (approximate)

TEMPERATURE	75°F (24°C)
Working Time	30-40 minutes
Cure Time	> 48 hours

The working time of the material will vary according to the ambient temperature and the amount of material mixed at one (1) time. As the components begin to react, the sealer will thicken dramatically until a gel is formed. The working time will decrease as the temperature rises and increase with colder temperatures. It is a good idea to periodically press your hand against the side of the container and determine if the contents are warming up. As the components begin to react, they produce heat. A large mass of ECS will act like a heat sink, driving the reaction and hastening the end of its working time.

The sealer must be cured for 48 hours at a minimum of 75°F (23°C) before it can be exposed to chemical vapors. It must be cured for four (4) days at a minimum temperature of 75°F (23°C) before it can be exposed to chemical splashes. Increasing the ambient temperature can decrease the cure time required before exposure.

SURFACE PREPARATION

If the wall or cover is in need of repair, ECS can be pumped into small structural cracks using a hydraulic, hand operated pump or a variety of high-pressure pumps. Although the sealer cures to a hard consistency, it has been modified to provide some flexibility to absorb any expansion or contraction of the concrete.

ECS must be applied to concrete that is free of grease, oil or other contaminants. Damp, moist concrete can be tolerated but free-standing water or wet concrete is not acceptable. All paint or other protective coatings must be completely removed from the concrete before application. Follow the instructions provided in STEBBINS' CS-76 - "Preparation of Concrete Surfaces for Resin Coatings."

APPLICATION

The sealer can be applied by using a brush or roller. Brush application is the preferred method, especially when the surface of the concrete is rough. A brush can reach into small cavities between the exposed aggregate. It is important to use some degree of force during application to ensure that the sealer is penetrating the surface of the concrete. If the concrete is very porous and it appears that the sealer is drawn deep into the concrete, then two (2) coats may be required.

If a second coat of sealer is necessary, it must be applied after the first coat has had an opportunity to set. The first coat must be cured to the point where it cannot be displaced by the application of the second coat. A good time to apply the second coat is when the sealer is still tacky to the touch, but it does not remain on the fingers once the fingers are pulled away. The second coat must be applied within 24 hours of the first coat. When ambient temperatures exceed 90°F (32°C), the time is less than 24 hours - at these high temperatures contact Technical Services for instructions.

STORAGE

Do not store the resin and hardener in direct sunlight. Store in a cool dry area.

Keep the containers dry and the lids closed tight.

SAFETY PRECAUTIONS/DISCLAIMER

Mixes and applications of this product present a number of hazards. The purchaser and user must read and follow the hazard information, precautions and first aid directions on the individual product labels and safety data sheets before using.

All data contained in this Product Information sheet are averaged results of ASTM tests on laboratory prepared samples. Reasonable variations can be expected. The data should not be used for specification purposes.

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