

PROCOR® CONCRETE SEALER

Water-based concrete sealer for use with Procor fluid applied membranes

Description

Procor® Concrete Sealer is a water-based surface conditioner designed to mitigate problems associated with the application of Procor to cast concrete and masonry substrates in conditions where an air or vapor drive is likely to cause blistering or pinholing of the Procor surface.

Whenever liquid applied coatings are used over cementitious or other porous substrates, the possibility of blisters and/or pinholes exists. This phenomenon is common to all liquid systems and is caused by the expansion of moisture vapor and air that is trapped in the substrate (out-gassing). Blisters and/or pinholes are most likely to be generated on hot, sunny days when the initial temperature of the substrate is relatively low, but increases rapidly due to heat generated from direct sunlight on the membrane.

The rapid increase in temperature converts the moisture in the substrate to the vapor phase and creates a vapor drive towards the source of the heat. Any air trapped in the substrate will also expand as it heats up.

Predicting whether or not blisters will form with complete accuracy is not possible due to job site variables that cannot be controlled. However, the guidelines below will help predict the probability that blisters may form on the job site and if Procor Concrete Sealer is likely to be required.

Advantages

- **Effective against blisters and pinholes**—seals concrete and masonry substrates and virtually eliminates vapor drive problems
- **Excellent adhesion**—bonds to substrate and binds dust
- **Fast and easy application**—by airless spray or roller
- **Damp surface tolerant**—can be applied to damp to touch substrates
- **Water-based**—non-hazardous product, safe in use
- **Low odor**—no noxious fumes

Availability

Procor Concrete Sealer is available in both 5 gallon plastic pails and 55 gallon plastic drums.

Safety, Storage and Handling

Procor Concrete Sealer is nonflammable. Read product label and Material Safety Data Sheet before use. Store above freezing 32°F (0°C).

The VOC (Volatile Organic Compound) content is 18 g/L and it meets the U.S. EPA Volatile Organic Compound Emission Standard for Architectural Coatings.

Architectural and Industrial Maintenance Regulations limit the VOC content in products classified as Architectural Coatings. Refer to Technical Letters at graceconstruction.com for most current list of allowable limits.

Application

Surface Preparation

All cementitious surfaces must be free from frost, dirt, grease, oil or other contaminants. All substrates must be wire-brushed, swept with a stiff broom, or blown off with compressed air to remove dirt, dust and loose stones. Poor quality surfaces with excessive dust and laitance should be pressure washed to provide a dense, smooth surface free from contaminants. This is especially likely on old concrete surfaces (greater than 3 months) that may have carbonated. Failure to remove excessive dust may result in compromised adhesion of the Procor.

Prediction Matrix for Outgassing Conditions

Expected air temperature change within 4 hours after Procor is applied

| | 30°F+ (17°C+) | 20°F+ (11°C+) | 10°F+ (6°C+) | 0+ | 10°F- (6°C-) | 20°F- (11°C-) | 30°F- (17°C-) |
|----------------------------|------------------|------------------|-----------------|----------|-----------------|------------------|------------------|
| 100°F+ (38°C+) | Unlikely | Possible | Probable | Probable | Probable | Probable | Probable |
| 90°F+ (32°C+) | Unlikely | Possible | Probable | Probable | Probable | Probable | Probable |
| 80°F+ (27°C+) | Unlikely | Possible | Probable | Probable | Probable | Probable | Probable |
| 70°F+ (21°C+) | Unlikely | Possible | Probable | Probable | Probable | Probable | Probable |
| 60°F+ (16°C+) | Unlikely | Possible | Probable | Probable | Probable | Probable | Probable |
| 50°F+ (10°C+) | Unlikely | Possible | Probable | Probable | Probable | Probable | Probable |
| Below 50°F (Below 10°C) | Unlikely | Possible | Probable | Probable | Probable | Probable | Probable |

Blister/Pinhole Formation Index



Likelihood of Blisters & Pinholes

- Probable
- Possible
- Unlikely

If in doubt about the suitability of the surface or method of surface preparation, a test patch should be prepared and adhesion assessed. Contact Grace Construction Products Technical Services for advice on surface preparation and assessment.

Horizontal Applications

Roller and spray techniques are both suitable for the application of Procor Concrete Sealer to horizontal surfaces.

Roller Technique

Synthetic, ½ in. nap rollers have been found to be very successful for the application of Procor Concrete Sealer. A moderately thick coating should be applied and rolled out evenly (see coverage below). When rolling out, use a random pattern. A properly applied coating will have uniform coverage and leave a slight sheen to the concrete surface when dry. When rolling out the primer, avoid puddling and “work” the material into the surface of the concrete. Puddling will require longer drying time. There may be slight foaming when the material is “worked” into the surface with the roller. This is expected, but excessive foam needs to be rolled out.

If a second coat is needed, it is recommended that the time between the first and second coat is at least one half-hour. This allows the first coat to dry enough to allow it to be walked on without damaging.

Airless Spray Technique

It is critical that the spray applied coating be applied heavily enough (see coverage table). When applying by spray, it is also critical to insure an even coat. Too heavy a coating is preferred over too light. A properly applied coating will make the concrete look wet as it is applied and will impart a slight sheen to the concrete surface when it dries.

Standard airless spray equipment is suitable. Use enough pressure to yield uniform spray, usually around 1000 psi (17 bar). Too much pressure will give a dry coating with excessive overspray. Tip sizes of 0.020 in. to 0.030 in. (0.51 mm to 0.76 mm) are preferred.

For maximum performance, it is **HIGHLY RECOMMENDED** that if spray application is used, another worker follow with a roller to “work” the material into the surface. Working the material with a roller accomplishes several things:

1. Yields consistent, uniform coverage
2. Aids in drying of material by eliminating “puddling”
3. Insures that all of the concrete surface irregularities are sealed with the primer

A spray applied coating that is not back rolled will not be as effective in preventing blisters or pinholes.

Vertical Applications

Roller Technique

The same technique as for the horizontal orientation should be followed for the vertical orientation. It is recommended that the roller be “reloaded” with material more frequently for the vertical orientation and “worked” into the surface to fill in surface imperfections. Whereas the Procor Concrete Sealer will flow into the imperfections easily in the horizontal orientation, gravity works against it in the vertical orientation.

Spray Technique

When spraying the primer onto a vertical surface, the best results will be achieved when the above guidelines are followed. In addition, it is **HIGHLY RECOMMENDED** that a final quick spray be completed from **BOTTOM to TOP**, with the spray nozzle angled upward during spraying. This will force Procor Concrete Sealer into all exposed surface imperfections. Failure to do this may result in a poor coating and ultimately blisters or pinholes in the applied Procor. As with spraying on horizontal deck, it is highly recommended to work the material in with a roller.

Highly Porous Block

For highly porous block, spray techniques are not recommended for applying the Procor Concrete Sealer. The recommended technique is to use a synthetic roller with a ½ in. nap.

Drying Time

To be effective, Procor Concrete Sealer needs to fully dry. Drying time of the material is dependent on many factors including temperature, humidity, wind, sunlight and coverage rate. Ideally, Procor Concrete Sealer would be put down and allowed to dry overnight before Procor is sprayed on top of it. However, the following are guidelines for dry time at various temperatures if this can not be achieved:

- 90°F (32°C) or greater: 1 hour
- 80°F (27°C) to 90°F (32°C): 2 hours
- 70°F (21°C) to 80°F (27°C): 3 hours
- Less than 70°F (21°C): 6 hours +

Coverage

Coverage will vary with surface roughness. The following guidelines should be followed to achieve the best “sealing” performance of the material:

| | |
|---|------------------------------------|
| Smooth Deck Concrete Surfaces: | 220 to 250 ft ² /gallon |
| Rough Deck Concrete Surfaces: | 150 to 220 ft ² /gallon |
| Vertical Masonry Block (Medium or Heavy Weight): | 100 to 150 ft ² /gallon |

www.graceconstruction.com

For technical assistance call toll free at 866-333-3SBM (3726)

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