



Silin AZ



Mineral Coating for Masonry

Cathedral Stone Products® Inc. introduces Silin® AZ Coatings, for use on masonry, stucco, and plaster surfaces. These coatings have been in use in Europe for over 160 years and are now available for the first time in North America. Silin® AZ Coatings are mineral paints, made with liquid silicate, a mineral found in stone, brick, terra cotta, mortars and plaster. Unlike latex and acrylic paints, they form a molecular bond with the masonry substrate. **The coatings are 97% vapor permeable.** Silin AZ Coatings are a two-part system whereby Silin AZ Fixative is combined with Silin AZ Paint prior to application.

Features and Benefits

- ***Specially Formulated for Masonry Surfaces***
- ***97% Vapor Permeable***
- ***Color Fast***
- ***Retards Corrosion***
- ***Fire Retardant***
- ***Withstands Extreme Climate Conditions***

Application Procedures

Surface Preparation

Silin® AZ Coatings should only be used by experienced painters. Silin® AZ Coatings can be applied to any sound masonry or plaster surface. (Do not use on wood, plastic, PVC; or apply over latex, oil paint, varnish, or shellac coatings.) The surface must be clean and solid—free of all dust, dirt, grease, laitance, and any other coatings or foreign substances, which may prevent bonding. Silin AZ is designed for vertical surfaces only. Horizontal surfaces, especially where water can

pool, are not suitable for application. Old lime paints, as well as loose emulsions and latex paints should be scraped away and all dust removed by brushing and washing. The surface **must be completely dry** at the time of application. Cracks and spalls must be repaired and cured before painting. Cracks can be filled with Silin silicate caulk (Armierung) or Jahn M30, M40, and M125 mortars. To ensure even penetration of the paint, make sure repairs have been made with repair materials that are compatible to the substrate.

Temperature (ambient and substrate) must be at least 45° F (8° C) and below 90° F (32° C). Do not apply the Silin AZ when precipitation is expected within 48 hours of application. Do not install Silin AZ paint when the temperature is expected to reach the dew point within 24 hours. Protect adjoining surfaces from splashes. Silin® AZ Coatings can only be removed while wet.

When painting with dark colors, irregularly absorbing surfaces should first be treated with Cathedral Stone Stripper S-309 (see Cathedral Stone Stripper Section for more information). The difference in substrate absorption can cause small color variations, which are more noticeable on darker colors. The S-309 will etch masonry to create similarly absorbing surfaces.

The substrate must be porous to accept the coating. Freshly poured or finished concrete usually needs to be etched prior to coating so the coating can absorb into the masonry for proper bonding. Contact a Cathedral Stone technician for further questions on proper substrate preparation prior to coating.

PROTECT ALL AREAS THAT ARE NOT GETTING COATED, ESPECIALLY GLASS. Once the Silin AZ dries, it becomes part of the substrate and can't be removed.

Testing

It is recommended to apply samples of the undercoat at varying dilutions to determine the best mixing ratio. For normally absorptive substrates apply samples with a 15%, 20%, and 25% dilution of fixative. (For highly absorptive substrates read the section on priming and then

continue with testing.) Allow the samples to cure for one week. After curing, examine the samples for chalking and adhesion to determine the best dilution ratio for application.

Color samples - A sample should always be applied and evaluated for color before any large areas are coated. For a more accurate color representation, apply two successive coats and allow three days after applying the sample before determining if the color is acceptable.

Mixing

Do not thin Silin® AZ Coating (paint) with water – chalking can result. (Silin® AZ-Fixative can be thinned with water; see description of *Priming Coat* in subsection below on *Highly Absorptive Surfaces*.) When installing multiple units of paint, be sure to “box-mix”. (“Box-mixing” is the blending of paint by pouring alternately between two containers.) This will help alleviate minor color inconsistencies between batches. Before painting, Silin AZ Coatings and Silin® AZ-Fixative must be mixed according to the type of substrate absorption (see substrate absorption definition below). **Note*** - 5% dilution rate is equivalent to adding 1 liter of Silin AZ Fixative to the Silin AZ Paint. For example, a 20% dilution would be achieved by adding 4 liters of Silin AZ Fixative with 1 unit (20kg) of Silin AZ Paint. Silin AZ Fixative containers are graduated with hash marks, whereby each hash mark signifies liter.

Substrate absorption definition: The absorption must not be too high or too low for the coating to be applied correctly. Absorption can be tested by applying small amounts of water (drops) on the vertical surface to be coated. Normal absorption can be defined as the water absorbing into the substrate without beading on the surface and leaving the surface damp. High absorption can be defined as water being absorbed so quickly that all traces of water seem to disappear rapidly. Low or no absorption can be defined as water laying or beading on the surface of the substrate (masonry must be etched in cases of low absorption).

Types of Surfaces:

- **Normally absorptive surfaces**

Undercoat: Add 15% to 25% Fixative to Silin® AZ Coating. Allow drying time of 12 hours (minimum) before applying finish coat.

Finish coat: Add 10% Fixative to Silin® AZ Coating.

- **Highly absorptive, sandy surfaces**
A priming coat **may** be necessary (Contact a Cathedral Stone representative for more clarification and see the *italicized* paragraph below)

Priming is only necessary when the coating is absorbed too quickly into the substrate. This results in excessive chalking of the coating. If a priming coat is applied when it is not necessary, the coating will not fully absorb into the substrate, causing drying and cracking of the coating on the surface of the substrate. To determine whether to prime and the proper priming dilution, perform test panels in an inconspicuous area of the substrate to be coated. Start by testing dilutions of Silin Fixative 1:1, 1:2, and 1:3 on three separate panels. Apply test applications of the Silin paint intermediate coat and look for signs of adequate absorption to determine the priming dilution.

Priming coat: Prime with Silin® AZ-Fixative diluted with water.

Ratio of Fixative to water: 1:1 to a maximum of 1:3. Apply liberally with a brush. Allow drying time of 12 hours (minimum) before applying subsequent coats.

Intermediate coat: Add 20% Fixative to Silin® AZ Coating.

Finish coat: Add 10% Fixative to Silin® AZ Coating.

Application

Protect all areas not to be coated prior to application. Substrate must be completely dry before coating. Do not work when precipitation is expected within 48 hours of installation. The coating needs adequate time to bond to the substrate and moisture disrupts this curing process. Apply liberally and spread well, filling all pores and cracks. Work wet into wet. Silin® AZ

Coating should be applied with a short bristle brush. Brushing increases the absorption of the coating into the masonry, resulting in a longer lasting, more durable coating. Allow a 12-hour drying period between coats (unless otherwise indicated).

Clean Up

Place tools immediately in clean water when pausing work (15-30 minutes or more). Clean tools with clean water immediately after finishing work. Dried Silin® AZ Coating is insoluble in water. Silin® AZ Coating can be removed from non-porous surfaces with clean water while still wet.

Important Points

- ***Make sure the substrate is completely dry and that there is no expected dew***
- ***Protect coatings from all forms of moisture: rain, dew, snow, etc. for 48 hours.***
- ***Temperature must be at least 45°F (8°C)***
- ***Protect any surfaces not to be coated***
- ***Mix Silin with AZ Fixative according to 'Mixing' and 'Types of Surfaces' instructions***
- ***Always work wet into wet***

Packaging

Standard Kit: Consists of 20 kg of Silin® AZ Coating in a 5-gallon plastic pail and a 5-liter jug of Silin® AZ-Fixative.

Silin Paint: 20 kg pail = about 4 gallons

Fixative: 5 liters = 1.5 gallons

When combined the yield is about 5 gallons depending on mix formulation.

Coverage

Coverage depends on the absorption and structure of the substrate. Normally absorptive and/or smooth surfaces require **two coats**. Determine coverage with a trial application.

- ***Normally absorptive, smooth surfaces with two coats:***

1 unit of Silin AZ Coating (approx. 5 gallons) will cover about 540 square feet. 1 unit of Silin paint is 20 kg of paint and 2-5 liters of Silin Fixative.

Safety Information

Eye protection should be worn during mixing to protect eyes from splashing. Avoid contact with skin and mucous membranes. Work in well ventilated areas.

Permeability Data

Independent testing confirms the permeability of Silin AZ Paint at:

WVT – Water Vapor Transmission Rate (grains/ft ² /hr)	40.0
WVP - Water Vapor Permeance (perms)	83.0

Storage and Shelf Life

Store in a dry area, away from direct sunlight. Storage conditions should be in the range of 40° – 80° F with low to average humidity. Average shelf life is six months in original, unopened packaging.

Warning

Not for internal consumption. Keep out of the reach of children and animals.

Notice: The information contained herein is based on our own research and the research of others, and it is provided solely as a service to help users. It is believed to be accurate to the best of our knowledge. However, no guarantee of its accuracy can be made, and it is not intended to serve as the basis for determining this product's suitability in any particular situation. For this reason, purchasers are responsible to make their own tests and assume all risks associated with using this product.

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