



TECHNICAL DATA SHEET

METALLIC MINERAL STAIN

SOL-SILICATE METALLIC PIGMENTED MINERAL STAIN

PRODUCT DESCRIPTION

Sol-silicate based, Metallic Mineral Stain provides either a translucent or opaque, thin-layer decorative finish. For maximum weathering and performance, couple Metallic Mineral Finish with a base coat of Concretal or Soldalit paints in a complimentary color. The unique luster and metallic appearance is due to the use of mica pigment which will not tarnish or change color with age. Various metallic effects are possible with Metallic Mineral Stain for many design options. Consult your Keim sales rep for further information about various design options.

FIELD OF APPLICATION

Metallic Mineral Stain is uniquely formulated for use on new or bare, aged concrete surfaces, brick, stone or stucco. It provides a translucent metallic finish on fair-faced or raw interior and exterior concrete surfaces and retains the natural appearance and texture of the surface. It may also be used to provide various decorative metallic finishes. Metallic Mineral Stain offers broad design flexibility and can be installed as fully opaque or any level of transparency desired.

Waterproofing may be further enhanced by a pretreatment with SILAN--100 Silane Penetrating Water Repellent. The application of Metallic Mineral Stain together with SILAN—100 complies with water protection requirements as per DIN EN 1504-2/2.2.

Metallic Mineral Stain is less weather resistant on horizontal and slightly inclined surfaces. Do not use on floors or traffic surfaces.

PRODUCT PROPERTIES

Metallic Mineral Stain in combination with mineral silicate paint base coats protects the concrete and masonry surface from the action of weather and prevents the penetration of atmospheric pollutants. Surface textures of the concrete, such as board-formed textures, are fully retained and never "filled-in". The surface is natural mineral matte in appearance. At various dilutions with Dilution (Fixativ), different low-pigment finishes may be achieved from solid metallic colors to very light metallic pigmented washes.

- Sol-silicate penetrates and forms permanent chemical bonds—will not peel or lose adhesion
- Light fast, color will not fade, and metallic luster will not tarnish
- Extremely vapor permeable finish will never blister due to moisture transfer
- Weather and water resistant
- Not affected by pollution or acid rain
- Mineral matte metallic finish
- Increases light reflectivity—surfaces appear brighter, even in low light

Technical data

| | |
|--|--|
| Density | 1.1—1.3 g/cm ³ |
| Weight | 10.1 lbs/gal |
| VOC by ASTM D6886 | < 1 g/liter |
| Vapor Diffusion | sd (H ₂ O) = <0.02 m |
| Water Absorption Coefficient (DIN EN 1504) | W=0.20 kg/m ² h 0.5 |
| Lightfastness of color pigment (Fb-Code acc. to BFS technical bulletin No. 26) | A1 Best in class rating, No color change after 4 years |
| Vapor Permeability (ASTM E96) | 75—85 Perms |

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| | |
|--|---|
| Flashpoint | Non-Flammable |
| Alkali Resistance ASTM D1308 | Passes |
| Mildew Resistance ASTM D3273/D3274 | Passes |
| Thermal Expansion | Comparable to the concrete substrate |
| Gloss at 85° | 2.0 Matte Flat |
| All test results performed on 2 coats Metallic Mineral Stain applied at 425—475 sf/gallon | |

Environmental Compliance

| | |
|--------|-----|
| EPA | YES |
| LEED | YES |
| CARB | YES |
| SCAQMD | YES |

SPECIFICATIONS/SYSTEMS

For proper waterproofing and weather resistant performance, 2 coats of Metallic Mineral Stain must be applied at recommended coverage rates. Surface should be fully coated, with no pinholes, runs or holidays.

Concrete, masonry or stucco—Translucent Finish*

- 1 coat Sol Silicate Dilution/Thinner (optional)
- 1 coat Metallic Mineral Stain (diluted as desired)
- 1 coat Metallic Mineral Stain (diluted as desired)

Concrete, masonry or stucco—Solid Color Finish*

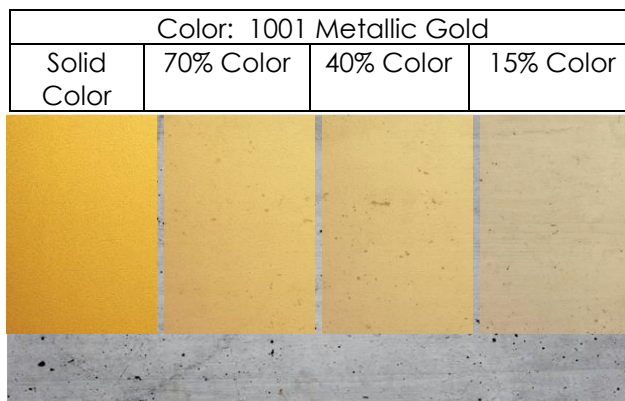
- 1 coat Soldalit in complimentary color
- 1 coat Soldalit in complimentary color
- 1 or 2 coats Metallic Mineral Stain (no dilution)

*For added water repellency, Silan 100 Water Repellent may be added to system either as a pretreatment or final coat. See Silan 100 technical data.

Note: Additional layers of stain create a more metallic effect.

COLOR AND OPACITY

Metallic Mineral Finish is available in four package colors and can be blended to achieve a wide variety of colors. Consult with Keim for a fan deck of metallic colors.



SURFACE PREPARATION

The concrete or masonry substrate must be sound, solid, dry, clean and free of dust, grease, oils, salts, moss, algae and other substances that would prevent bonding. Old resin coatings, loose substrate layers and organically bound coats must be removed for translucent finishes. Repair damaged areas and allow patching materials to cure properly.

Aged, weathered or “friable” surfaces, where porosity is variable, and surface is “sanding” may be treated with a mixture of 1 part Keim Fixtave and 3 parts water. Consult Fixtave technical data for details. Allow surface to dry 12 hours before proceeding.

APPLICATION

Translucent Metallic Applications

Metallic Mineral Stain may be diluted in any ratio with Sol Silicate Dilution/Thinner depending on the desired translucency of the finish. It is recommended to coat trial areas in order to

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determine the dilution ratio. Keep diluted Metallic Mineral Stain well stirred before and during work as metallic pigment will settle out quickly in the low viscosity stain. Do not add water. It is important to work swiftly using wet-on-wet application to maintain a wet edge to a corner or architectural feature. Never stop applications in the middle of a wall. Various metallic techniques can be achieved, but should be tested before starting.

Opaque coating

Two coats of Metallic Mineral Stain can be applied as an opaque metallic finish while retaining the texture of the surface. In this application the first coat should be diluted 10 - 25% with Sol Silicate Dilution and the second coat applied undiluted by brush, roller or spray, keeping a wet edge. It is important to work swiftly wet-on-wet and to maintain a wet edge to a corner or architectural feature.

CONDITIONS

Air and surface temperature: >41°F and rising to a maximum 86°F (5°C –30°C) with relative humidity below 80%. Extremely humid or damp conditions will retard the drying times substantially and can lead to problems with early exposure to rain or water.

Apply only to dry surfaces and in dry weather where rain is not forecast for 48 hours. Do not apply in direct sun or to sun-heated substrates or in strong wind. Surfaces must be protected after application from rain, wind and direct sun until they are completely cured or a minimum of 48 hours.

Brush: Use a nylon/polyester brush

Roller: Use a 3/8" to 1/2" nap synthetic roller cover

Airless spray: 3000 psi suggested with a tip size of 0.25 in, minimum

Drying times

At least 12 - 24 hours between coats with regular drying conditions. Lower temperatures and high humidity can extend dry times.

Coverage

| Substrate | Coverage* |
|--------------------------|------------------|
| Cast or Precast Concrete | 425—575 SF/GAL** |
| Brick | 250—300 SF/GAL |
| CMU | 50—100 SF/GAL |
| Precast or natural stone | 200—300 SF/GAL |
| Portland Stucco | 100—175 SF/GAL |

*Stated values are based on experience on smooth surfaces. Surface texture, density, porosity, application conditions and type of equipment used will all vary consumption. Only a test application, using desired mixing ratio and under production conditions will forecast consumption of the stain accurately.
**Coverage increases for low pigment volume stain applications.

Cleaning of tools

Clean immediately after use with water. Tools should be kept in the paint material or in water during work breaks.

Mixing with other products

Do not mix with water or any other product.

PACKAGING

Quart, Gallon and 4 Gallon

STORAGE

Approx. 12 months in tightly closed container under cool, frost-free conditions. Protect from heat and direct sunlight.

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HAZARDOUS SUBSTANCE CLASS

n/a

TRANSPORT HAZARD CLASS

n/a

DISPOSAL

Any residues must be emptied out of containers before recycling. Dispose of completely emptied containers in accordance with local, state and federal waste regulations.

SAFETY INSTRUCTIONS

Provide appropriate protection for surfaces which are not to be coated (e.g. glass, natural stone, ceramics etc.). Any splashes on surrounding surfaces or traffic areas must be rinsed off immediately with plenty of water. Protect the eyes and skin from splashes. Wear appropriate personal protective equipment.

Keep out of reach of children.

The stated values and properties are the result of extensive development work and practical experience. Our recommendations for application, whether given verbally or in writing, are intended to provide assistance in the selection of our products and do not establish a contractual relationship. In particular, they do not release those purchasing and applying our products from the duty of establishing for themselves, with due care, the suitability of our products for the intended application. Standard building industry practices must be complied with. We retain the right to make modifications to improve the products or their application. This edition supersedes all earlier editions.

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