



TECHNICAL DATA SHEET

DESIGN METALLIC MINERAL FINISH

SOL-SILICATE METALLIC PIGMENTED MINERAL FINISH FOR CONCRETE AND MASONRY

PRODUCT DESCRIPTION

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

FIELD OF APPLICATION

Metallic Mineral Finish is uniquely formulated for use on new or bare, aged concrete surfaces, brick, stone, or stucco, both indoors and out. It provides a translucent metallic finish on fair-faced or raw concrete surfaces while retaining the natural appearance and texture of the surface. It may also be used to provide various decorative metallic finishes. Metallic Mineral Finish offers broad design flexibility and can be installed as fully opaque or with 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 Finish together with SILAN—100 complies with water protection requirements as per DIN EN 1504-2/2.2.

Metallic Mineral Finish is less weather resistant on horizontal and slightly inclined surfaces. Do not use on floors or traffic surfaces without consulting a Keim technical rep.

PRODUCT PROPERTIES

Metallic Mineral Finish 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 lose metallic luster and will not tarnish
- Extremely vapor permeable—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
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 Finish applied at 425—475 sf/gallon	

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Environmental Compliance

EPA	YES
LEED	YES
CARB	YES
SCAQMD	YES
Greenguard Gold	YES
EPD	YES
SUSTAINABILITY DATA	YES
CRADLE TO CRADLE Certification	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 Finish (diluted as desired)
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Concrete, masonry, or stucco—Solid Color Finish

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

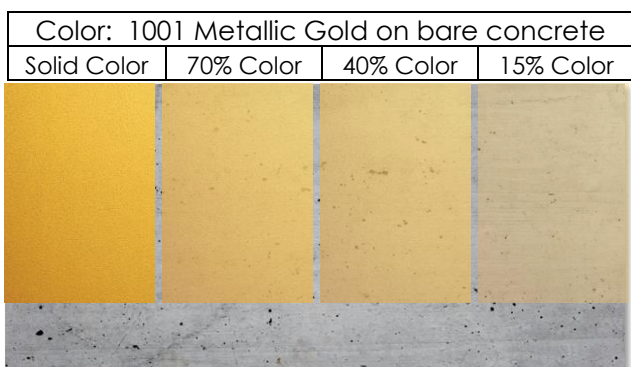
Note: Additional layers of finish create a more pronounced metallic effect.

Interior walls/ceilings (Solid Color Finish)

- 1 coat Innostar Mineral Wall paint
- 1 or 2 coats Metallic Mineral Finish (no dilution)

COLOR

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 varies and surfaces that are “sanding” may be treated with a mixture of 1 part Keim Fixative and 3 parts water to consolidate the surface. Consult Fixative technical data for details. Allow surface to dry 12 hours before proceeding.

Provide appropriate protection and masking for surfaces which are not to be coated (e.g., glass, natural stone, ceramics, metal, etc.).

APPLICATION

Translucent Metallic Applications

Metallic Mineral Finish may be diluted in any ratio with Design Dilution/Thinner depending on the desired translucency. It is recommended to coat trial areas to determine the desired dilution ratio and opacity. Keep diluted Metallic Mineral Finish well stirred before and during use as metallic pigment will settle quickly. 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 and should be tested before starting.

Opaque coating

Two coats of Metallic Mineral Finish 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 Design Dilution and the second coat applied undiluted by brush, roll or spray, keeping a wet edge. It is important to

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work swiftly wet-on-wet and to maintain a wet edge to a corner or architectural feature. For economy, a first coat of Soldalit All Surface Paint or Innostar Mineral Wall Paint, in a complimentary color, can be used to create a uniform surface for application of the metallic finish.

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, dew, or other water sources.

Apply only to dry surfaces and in dry weather where rain is not forecast for 24 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 24 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. Remove mesh filters from pump manifold and spray gun handle to avoid clogging.

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	275—325 SF/GAL**
Brick	200—225 SF/GAL
CMU	50—100 SF/GAL
Precast or natural stone	200—250 SF/GAL

Portland Stucco	100—175 SF/GAL
Drywall	275—325 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. Any splashes on surrounding surfaces or traffic areas must be rinsed off immediately with plenty of water. Dried finish is very difficult to remove.

Mixing with other products

Mix only with Design Fixative/Dilution. DO NOT THIN WITH WATER.

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.

HAZARDOUS SUBSTANCE CLASS

n/a

TRANSPORT HAZARD CLASS

n/a

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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

CAUTION! SKIN OR EYE CONTACT MAY CAUSE TEMPORARY IRRITATION

Use proper protective equipment and clothing. Avoid breathing spray mist. Wash hands and skin after handling. Keep container closed when not in use. FIRST AID: If swallowed, give two glasses of water. Do not induce vomiting. Call for medical help immediately. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes, and skin with plenty of water; get medical help if needed.

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