



Potassium Silicate Paint for Masonry

Technical Data Sheet

Interior & Exterior Silicate Dispersion
Paints & Stains for Concrete, Stone, Bricks, Concrete Block,
Lime and Cement Mortar, Plaster, and Drywall

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Last Modified: Jul 21, 2015

Properties

Ecologic™ Potassium Silicate Paint is a highly durable interior & exterior silicate dispersion paint due to its vapor-permeability and chemical bonding with the substrate. It is non-combustible, fire retardant, washable, and bonds & cures after penetrating the substrate and petrification of the quartz binder.

Ecologic™ Potassium Silicate Paint is 96% mineral-sourced in a water base, a property which makes it odorless within hours (zero VOCs) and gives it microcrystalline properties of natural stone. It doesn't blister or peel, is water-repellent and dries to a matte finish with a life expectancy of 20 years.

Not suitable for:

Wood (not stable), plastic, metal (non-absorbent), floors (mechanical abrasion) and gypsum plaster (not chemically neutral).

Where to use it

Ecologic™ Potassium Silicate Dispersion Paint can be used on most rigid and absorbent exterior and interior wall surfaces. Ideal are mineral-based surfaces such as concrete, lime & cement plaster (stucco), brick, stone, or old powdery stucco, if it has been solidified by a mineralizing coat of Ecologic™ Waterglass Primer & Consolidant.

Color

White and 12 standard full-tone colors, white is tintable with Ecologic™ Potassium Silicate Paint full-tone colors, custom tinting is available with a minimum volume requirement per color.

Coverage

Approx. 300 – 320 sq ft. per gallon (varies with surface material, texture, and pre-treatment).

Drying Time

Depending on the temperature and the relative humidity, dry to touch after 2 hrs, but allow min 12 hrs before applying 2nd coat.

Application

Stir well before using. Do not apply @ working temperatures (surface + air) below 41°F (5°C) or above 113°F (45°C). Apply 2 coats by brush, roller, or airless sprayer after proper surface preparation. Final coat to be applied continuously wet-in-wet especially when using stronger tinted colors. Ideally to be sprayed.

Disclaimer:

This technical sheet is given in good faith to help you to achieve the desired results. However, the user is responsible for testing the product on the intended surface to ensure that it is suitable for the specific requirement, therefore NO LEGAL LIABILITY can be based on this sheet's content. The manufacturer's liability is limited to the replacement of faulty product.



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Cleaning	Wash tools with warm water and soap immediately after use.
Storage	Keep containers tightly sealed in a cool, dry, and frost free-place. Shelf life is min. 2 years in unopened containers @ temperatures between 41°F (5°C) and 113°F (45°C).
Safety	Keep containers sealed and out of the reach of children. DO NOT empty into drains or water sources, but let dry and discard solid leftover with regular garbage. Use goggles & protective gear when working overhead.
Ingredients	Water, potassium silicate, mineral fillers & extenders, earthen & mineral pigments, < 5% acrylic stabilizer, ammonia solution, polysaccharide, cellulose, sodium phosphonate, fatty acid defoamer, hydrophobing agent.

General Preparation

Surfaces must be rigid & absorbent, dry, clean, and free of dust, oily residues and chemically neutral or alkaline. Old coats of latex or alkyd paints must be removed, since they inhibit penetration of the silicate binder into the substrate and vapor-permeability. Flaking or peeling paints must be removed completely.

Carefully protect all adjacent glass, metal, ceramic, etc against splatters. Remove unavoidable splatters immediately with water.

Note:

Silicate Paint products are slightly alkaline. (pH = 8.5 – 9.5)

Old Exterior Lime & Cement, Stucco, and highly absorbent Mineral Surfaces

Remove loose particles, solidify remaining semi-loose mineral particles from mortar plaster, adobe, concrete, or unglazed bricks with 1 – 2 coats (as needed) of Ecologic™ Waterglass straight or with a 1st coat prepared out of Ecologic™ Potassium Silicate Paint and up to 20% Ecologic™ Waterglass.

New Exterior Concrete, Mortar, Stucco, etc.

Make sure surfaces are fully cured, i.e. min. 30 days old at time of painting. Remove or neutralize any oily residues such as forms, release agents, etc.

Apply 1 Primer coat of Ecologic™ Potassium Silicate Paint diluted with 10% Ecologic™ Waterglass plus two coats of Ecologic™ Potassium Silicate Paint.

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Breathability

Technically breathability is measured as **Water Vapor Permeance and it can be expressed in US-perms or in Metric perms.**

Comparative Data:

1 coat of latex paint = 1.2 US-perms.

2 coats of latex paint = 0.7 US-perms.

2 coats of Ecologic™ Potassium Silicate Paint = 77.5 US-perms.

This means a standard 2 coat application of our Interior & Exterior Silicate Dispersion Paint has approximately 100X the Water Vapor Transmission rate of a 2 coat Latex Paint and is in the same range as house wraps, which are especially designed for optimal water vapor permeance.

RESISTANCE AGAINST PENETRATING RAIN IS EQUALLY IMPORTANT, WHEN PAINTING EXTERIOR SURFACES.

An independent US – Test laboratory from Brooklynn, NY has tested the “Resistance against Wind-driven Rain” in accordance with ASTM D 6940 on Ecologic™ Potassium Silicate Paint.

Test Results:

Ecologic™ Potassium Silicate Paint complies with the qualitative requirements stated in US Federal TT-C-555B “Coating, Textured for interior and exterior masonry surfaces.” -3.3.3 Resistance against wind-driven rain, from which ASTM D 6940 has been derived.

Proper surface preparation is important for proper product performance:

- The substrate must be chemically neutral or alkaline, free of dust and fatty or other separating substances. If necessary or as a precaution, power-wash with TSP solution.
- Loose or powdery particles from weathered mineral surfaces must be removed or stabilized with 1 coat of Ecologic™ Waterglass Primer & Consolidant or a 1st coat made of Ecologic™ Potassium Silicate Paint diluted with up to 10% of Ecologic™ Waterglass Primer & Consolidant.
- Old paint coats that restrict the surface absorbency must be removed, i.e. old glossy latex and alkyd paints have to go ideally @ 80-100%. Old Lime paints can be compatible but should be checked for adherence. Very absorbent surfaces must be primed & saturated with 1 coat of Ecologic™ Waterglass.

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