**TECHNICAL DATA SHEET**

# KEIM LIMEWASH

## INTERIOR/EXTERIOR NATURAL LIMEWASH FROM EUROPE

### 1. PRODUCT DESCRIPTION

KEIM Limewash is a classic, old world paint finish with hydrated lime as the binder and uses only the finest, natural mineral pigments. Limewash is a concentrated lime paint made with pit lime that has matured for at least 3 years. This finish provides a soft patina and slightly mottled appearance, reminiscent of ancient Roman frescoes. It is extremely vapor permeable and allows masonry walls to breathe naturally. It is completely natural and has no allergy triggers or negative health implications. On the exterior, it must be routinely re-applied as the lime binder weathers away at a rate based on the severity of the climate. It is ideal for historic restoration of lime plasters and stucco. On the interior, these finishes are ideal for lower traffic areas where they will not be frequently washed.

- Ideal for historic restoration and preservation projects—reversible for up to 1 week
- Lime paint forms with less surface tension than ordinary paints which is important for delicate masonry surfaces
- No primer required—2 coat system on bare masonry
- Excellent moisture vapor diffusion provides an extremely breathable finish
- The lime binder continues to interact with the environment as the coating cures and ages resulting in a unique "patina" finish that cannot be replicated with latex or acrylic finishes
- Limewash uses only pure inorganic mineral fillers, and lightfast inorganic mineral pigments

### 2. FIELD OF APPLICATION

Expressly formulated for use on porous mineral surfaces, both interior and exterior where a breathable, authentic lime finish is desired. Limewash must penetrate the surface to adhere properly. Ideal absorbent surfaces include but are not limited to, brick, stucco, historic masonry, porous stone, lime plasters, mortars, CMU, mineral boards and renders and stucco. New drywall must be primed with a mineral based paint prior to application of Limewash (see Specifications below). Limewash may also be used to treat bare and raw wood to create a limed effect.

LIMITATIONS: Do not use Romanit on resin based existing coatings, elastomeric coatings, alkyd or oil-based paints, lacquers and varnishes. Do not apply to polished stone or concrete surfaces. Do not use on floors.

### 3. PRODUCT PROPERTIES

Limewash is a concentrated formula and should be thinned before use. It is a tension-free and non-yellowing lime paint or wash. It has excellent hiding power and contains only lightfast mineral pigments.

- Reversible for up to 1 week—ideal for use in preservation and historic restoration
- Lime surface is tension-free during dry and cure
- Non film forming—penetrates and forms chemical bonds with masonry—will not peel or lose adhesion
- Incombustible and safe to use—Class A Building Material
- Anti-static—dirt does not cling and washes off naturally with rainfall
- Lightfast pigments—colors will not fade
- Non-yellowing—lime paint/wash will not yellow with time
- Extremely vapor permeable—allows substrates to breathe naturally
- Extremely low VOC—environmentally friendly
- Non-flammable and extremely sustainable
- On exterior use, Limewash weathers naturally and develops a time-worn patina quickly. Durability is dependent upon local environment and exposure to elements.
- Easy to recoat with lime or mineral paints

Technical data

| | |
|---|---|
| Specific Weight | 1.44 g/cm3 |
| pH Value @ 20°C | 11 |
| Water Vapor Permeability ASTM E 96 | 75--85 Perms |
| Thermal Expansion | Comparable to the concrete substrate |
| Gloss at 85° | 2.0 Mineral Matte Flat |
| Flashpoint | Non-Flammable will not burn |
| Surface Burning Characteristics ASTM E 84-08 | Class A Building Material<br>Flame Spread Index = 0; Smoke Developed Index = 0 |
| Color Stability<br>Color code acc. To BFS Tech. No 26 | A1 Best in class rating<br>No color change after 4 years |
| VOC | < 1 g/liter |
| All test results performed on 2 coats Limewash applied at 275—325 SF/GAL and 14 day cure @ 77°F & 50% RH | |

Colors

Limewash is available in prepackaged and custom colors. It may also be custom matched to your color selection within the mineral color range.

NOTE: Limewash is typical of lime paints and washes and may be variable in color uniformity, from batch to batch and due to prevailing atmospheric conditions, especially humidity and porosity variations of the substrate. Both color and physical properties may be impacted by environmental factors. Always buy enough colored Limewash for your entire project to ensure color is as consistent as possible.

Environmental Compliance

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

## 4. SPECIFICATIONS/SYSTEMS

For improved weather resistance Limewash must be applied in two coats and at recommended coverage rates. Surface should be fully coated, with no pinholes, runs or holidays.

Stucco, Render, Plaster and Masonry (brick or stone)
Pretreat: KEIM Heavy Duty or Bio Cleaner (as needed)
2--3 coats of Limewash (thin with water)
CMU Block
For new, extremely porous block:
1 coat CONTACT-PLUS Block Filler (if desired)
2--3 coats Limewash (thin with water)
Fiber Cement Board/Siding (bare)
2--3 coats Limewash (thin with water)
Previously Acrylic Painted Surfaces
1 coat CONTACT—PLUS Bonding Primer
2—3 coats Limewash (thin with water)
New Drywall Surfaces
1 coat INNOTOP Interior Mineral Paint
2 coats Limewash (thin with water)
New Interior Wood
1—2 coats Limewash (thin with water)
Finish with KEIM Clear Matte Flat Finish for added durability

Do not apply to pre-existing elastomeric finishes, oil base paints, epoxy, urethane, lacquer or varnish coatings. Old latex or acrylic paint finishes should be primed with Contact Plus Bonding Primer.

## 5. SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800- 424-LEAD (in US) or contact your local health authority.

The substrate must be sound, dry, absorbent, clean and free from dust and grease. Loose areas, dirt, oily substances, moss and algae must be completely removed.

Existing acrylic paints, which are not soundly adhered but may impair the vapor diffusion, must be removed with paint stripper or by mechanical means if a breathable finish is required.

Highly absorbent, sanding surfaces:
Pretreat by saturating surface with KEIM Fixativ, diluted in a ratio of 1:3 with clean water, then allow to dry for 12 hours.

New Render, Plaster and Stucco:
New render, plaster or stucco may require treatment after they are fully cured with KEIM Lime Remover to etch and remove sinter layers before painting. Test surface to ensure porosity of water before proceeding with Limewash.

## 6. APPLICATION

Mixing
Stir Limewash before use with an electric drill and paddle attachment to ensure a homogenous mixture and color or by hand with paint paddle. Dilute Limewash with 50%--100% clean water for most applications. Stir well after each addition of water. Limewash can be further diluted to create a "wash" or stain effect.

Limewash may be applied by brush, roller or airless spray.

- Brush - Use a nylon/polyester brush—this application method will produce the most mottled or tone-on-tone appearance
- Roller - Use a ½" to ¾" nap synthetic roller cover
- Airless Spray—this application gives the most uniform finish
  - Pressure: 3000 psi, minimum
  - Tip: .031 in, minimum

Dampen Exterior Masonry
All exterior masonry should be dampened with a garden hose before painting with Limewash. Surface should have no puddled or standing water but be uniformly damp—not soaked or saturated.

Opaque Paint Finish
Limewash is typically applied in multiple coats which are needed to develop the unique patina. Application techniques will also impact the final appearance of the finish. It is not typically desired to apply Limewash in a smooth and uniform manner, but rather, using random painting technique that results in an imperfect finish. This will add to the "patina" that is often desired from lime finishes.

Apply the first coat by spray, brush or roller can ensure faster and full coverage. Be sure to work the first coat of Limewash into the surface to ensure proper penetration of rough and textured surfaces. For best results outdoors, dilute Limewash with water up to 50%. More dilution, up to 100% of additional coats, will add to patina effect.

Subsequent coats can be applied using any application equipment or methods and should be matched to the aesthetic outcome desired. Limewash is an "artistic" type of finish with end results dramatically affected by the equipment and methods employed.

For the finish coat it is important to maintain a wet edge working swiftly across the façade and avoiding lap marks. Do not stop mid-wall and always paint to a natural stopping point at panel edges, corners or other architectural features that break up the façade.

A drying time of 12 hours between coats is recommended.

Limewash Translucent Finish
To achieve a more uniform washed effect, Limewash may be further diluted with water, up to create a more transparent stain-like finish. Field trials will determine the ultimate dilution ratio, number of layers needed and application equipment and techniques to impart the desired washed effect. Multiple colors of Limewash may also be blended together, wet-on-wet on the surface in a color washing technique as desired.

Distressed or Wash Away Finish
Apply a first coat of Limewash as prescribed in the Opaque Finish previously. Once the first coat is dry to touch, or after about 1 hour under normal drying conditions, apply a second layer of Romanit. At this point the surface will be completely covered. Allow the second coat to begin drying and immediately distress or wash-away the finish as desired. You may use a garden hose with sprayer nozzle, power washer with low pressure and wide fan nozzle, wet towels, rags, or wet plastic bristle brush to distress the finish. Remove as much, or as little, of the Limewash as desired. Plan the distressed areas to follow natural water flow on the façade to emulate a natural "aged and weathered" appearance (i.e. distress more around downspouts, corners, at windowsills, etc.). If more Limewash is removed than desired, allow surface to dry and reapply Romanit as desired. be applied to emulate the antiqued or distressed lime finishes of old

KEIM Mineral Coatings, Inc.
10615 Texland Boulevard, #600
Charlotte, NC 28273
Tel: 704-588-4811
Toll Free: 866-906-5346
www.KEIM.com

Europe on new or renovation projects, especially on brick and stone masonry.

Limewashed Interior Wood
Diluted Limewash may be used on bare, untreated wood like typical wood stains. Thin Limewash to desired opacity with water and apply to sanded wood surfaces that are bare and porous. Open grained woods are best for this type of application. Allow Limewash to begin drying, then wipe back excess with clean or damp cloth. This wiping process highlights the natural wood grain. Allow to dry overnight. Lightly sand and proceed with finish of water base poly or Keim Clear Matte Flat finish for a dead-flat finish.

Application conditions
Ambient and substrate temperature: 41°F and rising and below 86°F. Do not apply in direct sunlight or onto sun-heated substrates. Protect coated surfaces from direct sunlight, and wind during and after application for a minimum of 12 hours and protect from rain for 36—48 hours.

Drying times
Drying times are temperature, humidity and coverage dependent.

| | @ 40-50°F | @ 50°F + |
|---|---|---|
| Touch: | 4--6 hour | 2--4 hours |
| Recoat: | 24--48 hours | 12--24 hours |

Coverage*

| Substrate | Coverage* |
|---|---|
| Brick or Stone Masonry | 150—200 SF/GAL |
| Fiber Cement Siding | 250—300 SF/GAL |
| Portland Stucco | 125—175 SF/GAL |
| CMU Block (smooth) | 75—100 SF/GAL |
| CMU Block (split faced or fluted) | 25—75 SF/GAL |
| Primed Drywall | 250—300 SF/GAL |
| Bare Wood | 300—400 SF/FAL |
| *Stated values are based on our experience and will vary in field applications. Coverage is based on texture and porosity of substrate, application methods, equipment and conditions. Field trials are recommended for large projects to determine actual coverage. | |

Cleaning
Clean spills, spatters, hands and tools immediately after use with soap and warm water. After cleaning, flush spray equipment with a compliant cleanup solvent to prevent rusting of the equipment. Tools should be kept in the paint material or in water during work breaks. Do not allow Limewash to dry onto glass, ceramic, stone or other mineral surfaces as it will be difficult to clean once dry.

Mixing with other products
Do not mix Limewash with foreign products, only clean water.

## 7. PACKAGING
Quart, Gallon and 5 Gallon pail

## 8. STORAGE
Approximately 12 months in tightly closed container under cool, frost-free conditions. Protect from heat and direct sunlight and freezing.

## 9. DISPOSAL
Dispose of completely emptied containers in accordance with local, state and federal waste regulations.

HAZARDOUS SUBSTANCE CLASS
n/a

## 10. SAFETY INSTRUCTIONS

Limewash is alkaline. Cover all areas which are not to be coated, especially glass, ceramics and natural stone. Any splashes on surrounding surfaces or traffic areas must be rinsed off immediately with plenty of water. Protect eyes and skin from splashes. Do not swallow.

Keep out of reach of children.

Refer to the relevant safety data sheets.

The information and recommendations set forth in this Technical Data Sheet are based upon tests conducted by or on behalf of KEIM Mineral Coatings. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult http://www.keim-usa.com/Technical-Data-Sheets for the latest in product technical information.

KEIM Mineral Coatings, Inc.
10615 Texland Boulevard, #600
Charlotte, NC 28273
Tel: 704-588-4811
Toll Free: 866-906-5346
www.KEIM.com

Stand
01/17 USA