

FIELDS OF APPLICATION

Excellent primer and finish paint with made with a high quantity of lime putty, formulated for non-masonry or portland cement bases, for interior-exterior walls and surfaces, for sheetrock, wood, stone, brick, portland cement stucco, cementitious board, and NHL 3.5 and NHL 5.0 stucco mortars. BioCalce A is a lime wash paint that can be applied multiple surfaces to provide a classical chalk paint finish with the ancient capabilities to carbonize to masonry surfaces providing decades of durability, withstanding most climatic conditions and not capitulate to environmental stress. BioCalce A has been formulated to form a medium rapid set and permit high dilutions with water. This lime wash is ideal for interior sheetrock finishes, smooth and semi- smooth cement walls, exposed brick, and wood beams. This product is not ideal for antique patinas or wash-offs. This is a full-cover lime paint product to achieve maximum coverage and provide maximum durability. A non-acrylic paint product that provides superior adhesion than typical lime paints for non-mineral finishes.

BioCalce A can be applied to primed sheetrock walls and trim, sprayed or rolled, directly to all interior non-painted wood species with a primer. This product is not easily sanded and is not suggested for ceruse finishes.

This paint product is not oil proof, and can be damaged by foods, greases, body oils, color crayons or washable colored markers. Cleaning may damage or change the sheen of the paint.

BioCalce A can be used as a finish paint for brick, stone, stucco, lime plaster finishes and most wood products.

PRODUCT FEATURES

BioCalce A is a high quality lime paint ideal for painting sheetrock, wood trim, brick, stucco, and most masonry surfaces. For applying to non-masonry surfaces such as wood and sheetrock, applying BioGrip Primer permits lime wash to be used as an interior wall paint that will not leave chalk marks on clothes or furniture. BioGrip Primer can be applied on any painted surface to permit application of most lime paints.

BioCalce A acquires maximum durability when applied on exterior natural masonry surfaces (non-painted surfaces with acrylic paints), for durations of approximately 20 – 30 plus years. No guarantee can be provided for all previously painted surfaces that have been painted with an acrylic or oil based paint. This is a historical paint product and has been in use in the United States since the early Colonial period in the early 1700's.

A 92.5% natural mineral product, completely permeable, breathable, absorbs CO₂, provides good anchoring power with mineral surfaces by carbonization. Provides protection against the formation of bacteria that forms mold. Product is considered an organic product, ideal for use in homes, schools, and hospitals and work sensitive areas.

BioCalce A is specifically designed to be tinted with natural oxide earth tints and 0% VOC colorants to increase esthetic color values with minimal impact to the environment and to provide toxic free air quality for indoors. BioCalce A is an organic paint material as described in the Bio Category description.

Aesthetic features are extreme flatness, high mineral content, creating unique light refraction capabilities and uncommon luminosity.

TYPE OF PRODUCT

Slaked lime coating according to UNI 8681 with 7.5% organic stabilizer. No acrylic binders used.

SHEEN FINISH

Very Flat

COLOR

White Base. Color tint up to 8% max with approved tints. Custom color tint matching is available.



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TECHNICAL DATA

CRITERIA	INT. STANDARD	VALUE	UNIT
TVOC & VOC (including tint pigments)	2004/42/CE	5.63	g/l
Water Absorption Coefficient	EN 1062-3	0.12	kg/(m ² •√h)
Vapor Permeability	DIN 52615 – DIN 18550 EN ISO 7783-2	S _d 0.16	m
pH Value	DIN 19266	13	-
Natural Resistance to Mold	UNI 9805 – UNI 10795	OK	-
Specific Gravity (23°C)	EN ISO 2811-2	1.3	g/ml
Mineral Finish	DIN 55945	< 3.5%	Thickening Agent
Granulation	DIN 19643	0.01	mm
Gloss Level	UNI EN ISO 2813	< 5	-
Natural Paint Lime Base NHL 3.5	DIN 18363 – UNI EN 459	10	%
Reaction to Fire	EN 13501-1:2002	A 1	-
RA-226 Th-232 K-40	Politecnico di Milan High Resolution Gamma Spectroscopy Results	7.0 ± 1.1 1.0 < 5	Bq/kg Bq/kg Bq/kg
Radon I < 1	Politecnico di Milano – Radiation Protection 112 (UE, 1999)		-
Toxicity	CEE 88/379	Non-Toxic	-
Environmental Impact Certification	CEE 880/92 – CEE 1980/2000 C.C.A N° 201230/a-b		
APEO (Alkyl Phenol Ethoxylates)	-	0%	-
PEG (Polyethylene Glycol)	-	0%	-
PG (Propylene Glycol)	-	0%	-
Formaldehyde	-	0%	-
Biocides	-	0%	-

Does not contain chemicals that can aggravate or cause asthma, see NIH Asthma Report 2012.

APPLICATION CYCLE INSTRUCTIONS

BRUSH APPLICATIONS

1ST COAT: Dilute BioCalce A with 50% water, 7.5 liters of water per one (1) 15-liter bucket to 100% dilution, 15 liters of water per one (1) 15-liter bucket. For brick or stucco it is suggested to dampen previously all masonry surfaces with water thoroughly, so as to assist lime wash paints to absorb deeper into the masonry surface. Do not apply paint to overly wet surfaces. Allow 1st coat to dry for at least 2 – 8 hours before applying 2nd coat. Brush, roll or spray the first coat. Using a large brush and painting by hand will create the best results. BioCalce A can be applied to non-acrylic painted natural mineral surfaces such as stone, brick, stucco, lime plasters and lime paints, without the use of a primer. For interior or

exterior applications where the base to be painted is a non-mineral surface (i.e., acrylic paint, sheetrock), apply 1 coat of BioGrip Micro or Medium, and allow to dry for 8 – 12 hours prior to application of 1st coat BioCalce A. Interior applications can be performed on virgin wood.

2ND COAT: Apply BioCalce A diluted with 50% water, 7.5 liters of water per one (1) 15-liter bucket to 100% dilution, 15 liters of water per one (1) 15-liter bucket. Apply with brush when possible. Painting with a brush in a crisscross pattern will create a very slight natural chromatic finish. Allow 2nd coat to dry for at least 1 – 4 hours before applying a 3rd coat.

3RD COAT: For wash or glaze effects BioCalce A can be diluted from 150% – 200% with water. Extreme dilutions for the exterior should be applied on 1st or 2nd coats only.

ROLLER APPLICATIONS

1ST COAT: Dilute BioCalce A with 50% water, 7.5 liters of water per one (1) 15-liter bucket to 100% dilution, 15 liters of water per one (1) 15-liter bucket. For brick or stucco it is suggested to dampen previously all masonry surfaces with water thoroughly, so as to assist lime wash paints to absorb deeper into the masonry surface. Do not apply paint to overly wet surfaces. Allow 1st coat to dry for at least 2 – 8 hours before applying 2nd coat. Brush, roll or spray the first coat. Using a large brush and painting by hand will create the best results. BioCalce A can be applied to non-acrylic painted natural mineral surfaces such as stone, brick, stucco, lime plasters and lime paints, without the use of a primer. For interior or exterior applications where the base to be painted is a non-mineral surface (i.e., acrylic paint, sheetrock), apply 1 coat of BioGrip Micro or Medium, and allow to dry for 8 – 12 hours prior to application of 1st coat BioCalce A. Interior applications can be performed on virgin wood.

2ND COAT: Apply BioCalce A diluted with 50% water, 7.5 liters of water per one (1) 15-liter bucket to 100% dilution, 15 liters of water per one (1) 15-liter bucket. Apply with brush when possible. Painting with a brush in a crisscross pattern will create a very slight natural chromatic finish. Allow 2nd coat to dry for at least 1 – 4 hours before applying a 3rd coat.

PAINT SPRAYERS

1ST COAT: BioCalce A is a non-aggregate paint and can be used in most airless sprayers. Dilute BioCalce A with 50% water, 7.5 liters of water per one (1) 15-liter bucket to 100% dilution, 15 liters of water per one (1) 15-liter bucket when applying paint to achieve a full coverage finish. For brick or stucco it is suggested to dampen previously all masonry surfaces with water thoroughly, so as to assist the potassium silicate paints to absorb deeper into the masonry surface. Do not apply paint to overly wet surfaces. Allow 1st coat to dry for at least 2 – 8 hours before applying 2nd coat. For interior or exterior applications where the base to be painted is not a mineral surface, apply 1 coat of BioGrip Primer, Micro or Medium, and allow to dry for 12 hours prior to application of 1st coat BioCalce A. Particular care must be taken when using a sprayer on brick or stucco to apply product abundantly, without causing paint runs, so as to permit proper millage thickness for longer durability.

2ND COAT: Dilute BioCalce A with 50% – 100% water, and apply as instructed above for 1st coat.

SPRAY TIP USAGE: BioCalce A may be applied using an airless sprayer. Apply paint product with a # 0.019 – 0.021 mm size spray tip. Always use new spray tips for starting a paint job for best results. This will also conserve the amount of paint necessary to complete the job.

GRAIN SIZE: 0.01 mm

MIXING PAINT & WATER

Most of our paint formulas are concentrated and require water to be added to them for proper use. This process means we can sell more coverage in an economical package that decreases the cost for transport, reduces the carbon footprint, helping the your pocket book and the environment.

Mix paint and water with an electric drill and paint paddle, or mix well by hand! If water is sitting on the top of your mixture, the paint is not properly mixed!



TOOLS

Apply with brush, roller or with an appropriate sprayer and sprayer tip.

DRYING TIME

Allow a drying time between coats of at least 2 – 8 hours for the 1st coat, and with successive coats allow at least 1 – 4 hours between coats. With lower temperature and humidity more time may be needed.

Do not apply BioCalce A on the exterior if there is a risk of thunderstorms or showers during the 12 hour drying time needed for product to dry and carbonize correctly.

CONSUMPTION/COVERAGE

Approximately 1,000 ft² / 93 mt² – 2,000 ft² / 130mt² depending on absorption and type of base. Determine exact consumption by performing a test on the surface to be treated.

PACKAGING

Plastic buckets of 1, 5 and 15 liters.

APPLICATION CYCLES ON DIFFERENT TYPES OF BASES

Make sure base is solid, dry and well cleaned, prepared with skill. It is recommended to observe the rule VOB DIN 18 363, Part C, paragraph 3.

NEW SHEETROCK

Apply 1 coat of BioDomus SuperFlat and allow to dry for 8 – 12 hours. Apply 1 coat of BioGrip Micro or Medium with brush or roller and allow to dry for 8 – 12 hours. Apply BioCalce A according to instructions. For walls that have been over-sprayed with Semi-gloss or Gloss paints, oil or latex, BioGrip Micro should be applied as first coat to overspray areas prior to application of BioDomus SuperFlat or BioCalce A. With oil paint over-sprays on new sheetrock, attention must be made to verify that oil products do not bleed through mineral paint primers or paints. Tests should be done on over-sprays prior to wall application system to verify stable coverage.

PAINTED SHEETROCK

Apply 1 coat of BioGrip Micro or Medium and allow to dry for 8 – 12 hours. Apply BioGrip Micro diluted 40% with water, 6 liters water to one (1) 15-liter bucket. BioGrip Primer may be tinted for light and medium colors. Apply final paint finish with BioCalce A according to instructions.

UNPAINTED WOOD

BioCalce A can be used as a historical and decorative finish on new or reclaimed wooden beams, wood trim, wood ceilings, and even wood floors. Application of BioCalce A on wood should not be used on exterior surfaces that are exposed to rain or water, as this may result in the removal of the lime wash or cause the tannins or resins in many woods to discolor the patina.

INTERIOR WOOD & BEAMS

Dilute BioCalce A lime wash at 100% and apply with a brush. Test product before application to verify finish and technique to create the desired result. For oak or pine species of wood, careful attention must be given to assure that moisture from the lime wash will not release undesirable discoloration from tannins or resins. To create greater density of lime, apply a 2nd coat of lime wash, or reduce the dilution with water to 50% for the 1st coat.

STAIN BLOCKING PRIMERS

If problems arise from discoloration due to resins or tannins, it is suggested to seal the beams with LowCer Varnish Matte diluted at 100% to reduce this affect, or apply an alcohol based shellac or approved white base primer with stain blocking capabilities.

SEALER

To fix the lime wash permanently to reduce powdering or permit handling after application of lime wash apply TerraMare Velatura, diluted at 300% - 500% with water and apply with brush on wood surface, then removing quickly, lightly but deliberately, all excess diluted material with a soft damp rag. TerraMare Velatura is an absolute requirement for lime wash finishes if varnish is desired to be applied as a final finish coat on lime wash finishes.

VARNISH

A varnish can be applied on properly prepared lime wash, but only when the lime wash has been thinly applied. Thickly applied lime wash cannot be treated with varnish as a final coat. Dilute LowCer Varnish Matte or Satin for 1st coat, 40% with water, 4 liters of water to one (1) 10-liter bucket of product. Apply to finished surface by brush and allow to dry for 4 - 8 hours. Dilute the 2nd coat of EcoCer Varnish, 20% with water, 2 liters of water to one (1) 10-liter bucket of product. Apply to finished surface by brush and allow to dry for 8 hours before handling.

There are many ways to create lime wash patinas and finishes, and it is advised to test product use and finishes prior to commencement of application of any wood product.

CEMENTITIOUS BOARD

Apply 1 coat BioGrip Micro diluted 40%, tinted if desired and allow to dry for 8 - 12 hours. Apply 1 coat BioCalce A, with brush, roller or sprayer. For best results and longevity, apply a 2nd coat of BioCalce A.

STONE & BRICK WASHES

WASHES

When applied to natural mineral surfaces such as stone, brick, or NHL 3.5 cements BioCalce A can be applied as a wash, diluting with water 150% - 200%, applying on a wetted surface, applying in a crisscross pattern with a large lime brush. Dilutions over 150% may require adding Masonry Binder to bond properly to non-painted surfaces. For applications on portland cement stuccos apply one (1) coat of BioGrip Micro diluted with water 30%, and allow to dry for 8 - 12 hours before application of BioCalce A as a wash.

WASHES ON PAINT

Dilute BioCalce A with 50% - 100% with water, applying diluted paint over painted or masonry base to acquire a first coat base. Always wet masonry walls abundantly with water making sure that virgin masonry base has absorbed sufficient water so that lime paint application is not performed on a totally dry base. Apply base coat of lime paint and allow to dry for at least 4 - 8 hours. Follow instructions for washes above to apply diluted lime wash onto lime base. To facilitate ease of application of washes on lime paint base, pre-wet liberally all sections of wall to be painted with water, applying diluted BioCalce A as per instructions on damp wall. Re-wet areas of lime wash again as needed, when moving across the surface with diluted lime wash applications. For wash applications on lime wash base, it is advised to slightly alter color tones or hues to achieve more visible tonalities and effects using diluted lime paints. When applying multiple coats allow time between coats to be visually dry before applying a successive coat of wash or paint.

BRICK

Always wet exterior masonry walls abundantly with water making sure that virgin masonry base has absorbed sufficient water so that lime paint is not applied on a totally dry base. Dilute BioCalce A with 100% water, maximum 15 liters of water per one (1) 15-liter bucket of BioCalce A, when applying paint to achieve a full coverage finish. Apply a 2nd coat of BioCalce A, diluted 50% - 100% with water, depending on the density of lime paint desired for the surface. Always pre-wet 1st coat surface with water abundantly before applying BioCalce A on a damp surface to enhance absorption and durability, as well to ease application of lime paint. For wash or glaze effects see directions as indicated in stone and brick washes.

BioCalce A cannot be applied to most large flat areas, such as exterior brick floors, without the risk of product deterioration due to freeze-thaw conditions. Brick walls not covered by a roof may create poor conditions for BioCalce A to remain integrated with brick because of freeze-thaw conditions that can cause brick to deteriorate rapidly on the surface, pulverizing as a result, thus

causing lime paint to disappear. This situation can occur on chimneys, thresholds, and brick areas in contact with earth, particularly on the north face, where freezing conditions intensify on wet brick, causing brick to deteriorate rapidly. Brick in constant contact with damp soil may absorb salt nitrates from the earth and this too will cause brick to deteriorate rapidly. Application by a large masonry brush is recommended.

CONCRETE FLOORS, SIDEWALKS OR DRIVEWAY

BioCalce A cannot be used on Portland Cement based floors, sidewalk or driveways.

NEW CEMENT STUCCO

PORTLAND CEMENTS

New portland cement should not be painted for about 28 days to ensure proper anchoring and drying. Apply 1 coat of BioGrip Micro or Medium diluted 30% with water, 4.5 liters water to one (1) bucket 15 liters of product; allow to dry for at least 12 hours. BioGrip Primer may be tinted with tint for light and medium colors. Apply BioCalce A according to instructions. Application by a large masonry brush is recommended.

NHL 3.5 & 5.0 CEMENTS

BioCalce A can be applied to wet or damp stucco for maximum effect to intensify durability and create blushing effects. For ease of application apply BioCalce A by sprayer covering completely moist stucco cement and allow to dry. A 2nd coat is not required for use in such instances. Apply BioCalce A according to instructions.

If applying lime wash on completely dried NHL 3.5 and 5.0 Cements, review instructions in brick section above and follow Application Cycle Instructions above. Most mineral paints and lime paints can be applied directly to Natural Hydraulic Cements without the need to prime with BioGrip Primer. Application by a large masonry brush is recommended.

DECAYING OR CRUMBLING STUCCO OR POWDERY SURFACES

Chalking surfaces, which could prevent proper anchoring of the base coating must be removed and pressure washed. Apply Potassium Silicate Concentrate, diluted 100% with water (1:1) on all damaged surfaces, applying 2 - 3 coats in rapid succession and allow to dry for at least 12 hours. Allow to dry for at least 12 hours. Apply 1 coat of BioGrip Micro or Medium diluted 30% with water, 4.5 liters water to one (1) bucket 15 liters of product; allow to dry for at least 12 hours. Apply final paint finish with BioCalce A according to instructions.

COATINGS WITH EFFLORESCENCE

Cement surfaces showing efflorescence should be removed with acid and thoroughly rinsed with water. Apply Potassium Silicate Concentrate, diluted 100% with water (1:1) on all damaged surfaces, applying 2 - 3 coats in rapid succession and allow to dry for at least 12 hours. Apply 1 coat of BioGrip Micro or Medium diluted 30% with water, 4.5 liters water to one (1) bucket 15-liters of product; allow to dry for at least 12 hours. For coatings on surfaces damaged by the saltpeter or efflorescence no guarantees can be provided. Apply final paint finish with BioCalce A according to instructions.

AGED CEMENT STUCCO

When new stucco repairs are performed on older cement stuccos, apply EcoForte Consolidator diluted 50% with water (2:1), to older surfaces prior to applying new cement stucco. Dirty and/ or contaminated surfaces should be cleaned and any attached algae removed manually or by mechanical means, i.e., with a high-pressure washer. Stucco damaged by algae or mold should be treated with EcoDis. Apply EcoForte Consolidator to any new stucco repairs with the same dilution. Apply 1 coat of BioGrip Micro or Medium diluted 30% with water, 4.5 liters water to one (1) bucket 15-liters of product; allow to dry for at least 12 hours. Apply final paint finish with BioCalce A according to instructions.

STUCCO REPAIRS

See Aged Cement Stuccos above.

STORAGE

Store in a cool, dry and protected from frost. Close the open containers with care. Store liquids only in plastic buckets.

WARNING!

Do not apply any products in direct exposure to strong/hot sunlight, rain, mist, high humidity (> 80%), at dew-point formation, or in the presence of strong wind. Beware of the danger of frost overnight. If applied by roller or sprayer, protect surrounding surfaces as necessary. Protect eyes and skin from splashes of paint. Cover glass, ceramic, natural stone, brick, metal, wood, painted surfaces and glazed tiles. Clean affected areas immediately with water. Prominent elements of the building (cornices, parapets, etc.) should be treated with skill, covering flashings, gutters, copper coatings, etc. ...

Do not work in air temperature lower than 13°C / 55°F and not above 31°C / 88°F. Clean work tools with water immediately after use. Keep out of reach of children. In case of contact with eyes and skin, wash immediately with plenty of water. In cases of consumption, consult a Doctor or call the CDC Poison Center (see Safety Data Sheet).

In case of contact with eyes and skin, wash immediately with plenty of water and/or a saline solution. Always keep a good supply of saline solution for eyes and use abundant amounts to wash eyes. Do not rub eye lids or physically touch your cornea or surrounding area prior to and during washing. Consult a Doctor immediately in cases of irritation or severe burning sensation. In cases of consumption, consult a Doctor or call the CDC Poison Center (see Safety Data Sheet). Keep out of reach of children.

WATER CONTAMINATION HAZARD

CLASS 1

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of information required by the CPR, and it is classified as a non-hazardous material.

PRODUCT CONTAMINATION HAZARD

CODE CER / NORMATIVE EAC / Decision commuted by the Commission n. 2000/532/CE

NOT DANGEROUS

The directive 75/442/CEE, 08 01 production, disposal, formulation, supply, use, and removal of paints and varnishes: 10 13 04 for removal of paints and varnishes; 10 13 04 disposal of lime and hydrated lime products.

DISPOSAL

Do not enter product in its original concentration into drains or open waters. Do not store at public waste disposal sites. In case of conduction into adapted biological purification plants no disturbances need be expected. The preparation has been estimated by conventional method (calculated-procedure) of EG directive 1999/45/EG) and is classified as non-hazardous for the environment.

Dispose according to local regulations. Empty cans should be disposed of according to local regulations; plastic buckets are 100% PBS, NO. 5, approved for food storage; 100% recyclable if cleaned thoroughly prior to recycling.

ADDITIONAL INFORMATION

This Technical Sheet lists data collected on the basis of technique and experience. Given the multiplicity of use of the product they cannot be binding and the user cannot refrain from using common sense and experience for the individual case. This information shall not constitute any legal obligation and no obligation from the seller or point of purchase, or any agreements inferred by employees who sale this product. Insurance or guarantees issued by our employees or employees should always be confirmed separately in writing. Any information about product

adaptability and use of the product, must be verified by user prior to purchase. Check the exact consumption of product for the surface where product may be applied to determine amount of products needed. The user must verify the color matching before starting work.

MANUFACTURER

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