Biocalce Pietra

Breathable mortar based on NHL 3.5 natural hydraulic lime for bedding and pointing of exposed masonry.

Biocalce Pietra is an M5 class mortar, suitable for pointing joints and for building exposed brick or natural stone walls. For internal and external applications.



1. **Cement-free, suitable for historical restorations**
2. **M5 class according to standard EN 998-2**
3. **Min3Ra Technology-controlled micro-pore levels**
4. **High levels of breathability and resistance to salts**
5. **Ideal for pointing joints of brick and stone walls**
6. **Reduces formaldehyde (standard ISO 16000-23)**
7. **Bacteriostatic and fungistatic product (standard ISO 846 A/B/C)**
8. **For internal and external use**

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Areas of application

→ Use
Pointing joints or breathable rough rendering for interior and exterior hollow clay block, brick, tuff, stone, and mixed-material load-bearing masonry structures and infill masonry.
Biocalce Pietra is particularly suitable for building exposed vertical walls and pointing brick or natural stone coverings in Building for Wellness, ensuring compliance with the key parameters of porosity, hygroscopicity and breathability – essential elements for creating a healthy environment.

Biocalce Pietra is suitable for grouting and exposed reconstruction in historical restoration projects where the choice of traditional materials such as natural lime guarantees conservative interventions in full respect of the existing structures and original materials.

Do not use on dirty, non-cohesive, powdery substrates.

Instructions for use

→ Preparation of substrates
The substrate must be clean and solid, free from loose debris, dust and mould. Old walls must be carefully cleaned and remaining traces of previous processes removed (lime putty coverings, old finishing coats, etc.) as well as any surface interstitial salt deposits which could impair adhesion. Remove inconsistent rendering mortars from between the stones. Before grouting, always wet substrates.

→ Preparation
To prepare Biocalce Pietra, mix one 25 kg bag with about 4.5 l of clean water in a standard concrete mixer or in the bucket. The mixture is obtained by pouring water into the container and then gradually adding the powder. The mixing process can be performed in a cement mixer, in a bucket (working manually or with a low-rev, mechanical stirring device) or using a continuous mixer until a smooth and lump-free mortar is obtained. Use all of prepared mixture; do not reuse it in subsequent mixings. store the product in places protected against the heat in summer months and against the cold during the winter.
Use running water not subject to the influence of outside temperatures.
Adding cement in any quantity would impair the quality of the mortar.

→ Application
Pointing joints of exposed walls: when pointing exposed walls, prepare and dampen the joints then apply a first coat of Biocalce Pietra using a trowel, spreader or machine. Press down hard to ensure adhesion. Excess mortar must be removed immediately, and the brickwork must also be cleaned straight away. Wall-level grouting may be sponged.
Construction of exposed vertical walls: when constructing exposed vertical walls, apply the mortar using a trowel to create the mortar bed then place the building block into it, pressing lightly with circular movements until it is correctly aligned and at the right depth; remove any excess mortar on the front of the masonry by cutting and smoothing with the trowel.

→ Cleaning
The tools can be cleaned with water before the product hardens.

Special notes

→ To obtain a mortar that mirrors specific local features, without changing its technical characteristics, add a maximum of 20% by weight of a local inert material with a grain size of 1 to 4 mm to the Biocalce Pietra mix.

→ Biocalce Pietra is a non-pigmented natural hydraulic lime product, hence the colour may vary from production batch to batch.
→ Furthermore, being a mineral product, the colour of the hardened, dried mortar will vary depending on substrate absorption and weather conditions during application.

Certificates and marks



* *Émission dans l'air intérieur Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions).*

Abstract

Pointing and breathable rough rendering of exposed masonry joints will be carried out using a breathable mortar based on NHL 3.5 natural hydraulic lime, such as Biocalce Pietra by Kerakoll.
Certified characteristics of the mortar: the mortar is CE-marked according to standard EN 998/2 – G/M5, initial shear strength ≥ 0.15 N/mm² according to standard EN 1052-3, capillary water absorption < 0.5 kg/(m² · min$^{0.5}$) according to standard 1015-18, reaction to fire class A1, volatile organic compound emissions EC1 Plus GEV-Emicode-certified, bacteriostatic and fungistatic according to standard ISO 846 A/B/C, helps to reduce formaldehyde according to standard ISO 16000-23, compliant with the CAM - (Minimum Environmental Criteria) requirements of paragraphs 1.3.2, 2.6.3, 3.2.4, 2.1.2, 2.6.6, 2.3.17, 2.5.4, 2.4, 2.4.1, 3.2.6 and 3.2.2 of the Italian Ministerial Decree 24/11/2025, with EPD environmental certification according to standards ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021. Application can be done by hand or by machine.
Coverage Biocalce Pietra: ≈ 1.7 kg/dm³.

Technical Data compliant with Kerakoll Quality Standard		
Type of mortar	performance-guaranteed masonry mortar for general purpose use (G) in external applications subject to structural requirements	EN 998-2
Chemical nature of binder	natural hydraulic lime NHL 3.5	EN 459-1
Grading	0 – 1,4 mm	EN 1015-1
Apparent density of powder	≈ 1.57 kg/dm³	UEAtc
Shelf life	≈ 12 months from production in the original sealed packaging, protect from humidity	
Pack	25 kg bags	
Mixing water	≈ 4.5 l / 1 x 25 kg bag	
Consistency of wet mortar	≈ 165 mm	EN 1015-3
Apparent density of wet mortar	≈ 2.02 kg/dm³	EN 1015-6
Apparent density of dry, hardened mortar	≈ 1.81 kg/dm³	EN 1015-10
pH of the mixture	≥ 12	
Temperature range for application	from +5 °C to +35 °C	
Coverage	≈ 1.7 kg/dm³	

Values taken at +20 ± 2 °C, 65 ± 5% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.

Performance relating to indoor environmental quality			
VOC – Volatile organic compound emissions			
Conformity	EC 1 plus GEV-Emicode		GEV certified 2748/11.01.02
Formaldehyde reduction – standard ISO 16000-23			
The product helps to reduce formaldehyde levels			
Dilution of indoor pollutants *			
	Flow	Dilution	
Toluene	152 µg m²/h	+59%	JRC method
Pinene	213 µg m²/h	+31%	JRC method
Formaldehyde	5012 µg m²/h	na	JRC method
Carbon dioxide (CO_2)	30 mg m²/h	+38%	JRC method
Humidity (Humid Air)	16 mg m²/h	+14%	JRC method

*Tests carried out in-house in accordance with a test method developed in collaboration with the JRC: Joint Research Centre – European Commission, Ispra (Varese, Italy) – to measure the reduction of polluting substances in indoor environments (Indoortron Project). Flow and speed in proportion to a standard cement-based finishing product (3 mm).

HIGH-TECH

Performance characteristic	Test methods	Requirements of EN 998-2	Performance
Compressive strength after 28 days	EN 1015-11	Reference class	M5
Initial shear strength	EN 1052-3	table value	≥ 0.15 N/mm²
Water absorption through capillary action	EN 1015-18	categories	< 0.5 kg/(m² · $min^{0,5}$)
Water vapour permeability coefficient (µ)	EN 1015-19	Declared value	15 ≤ µ ≤ 35
Chloride content	EN 1015-17		≤ 0,05% Cl
Thermal conductivity ($\lambda_{10, dry}$)	EN 12667	table value	0.82 W/mK
Specific heat capacity (Cp)	measured with heat exchange analyser		1.70 (10^6 J/m³K)
Durability (freeze-thaw)	998-2		evaluation based on regulations applicable to mortar in the country of use
Reaction to fire	EN 13501-1	Euroclass	A1

Values taken at +20 ± 2 °C, 65 ± 5% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.

Warning

→ Abide by any standards and national regulations
→ protect surfaces from direct sunlight and wind
→ allow the hardened product to cure and keep it moistened during the first 24 hours
→ if necessary, ask for the safety data sheet
→ for any other issues, contact the Kerakoll Worldwide Global Service +39 0536 811 516 - globalservice@kerakoll.com

Kerakoll Quality System ISO 9001 CERTIFIED IT10/0327

Kerakoll Quality System ISO 45001 CERTIFIED 18586-I

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