Biocalce Muratura

Breathable mortar based on NHL 3.5 natural hydraulic lime for bedding and dubbing out of masonry.

Biocalce Muratura is an M5 class mortar for the building, recovery, and fragment-filling of clay, brick, tuff, stone, and mixed-material load-bearing masonry structures and infill masonry. For internal and external applications.



1. **Cement-free, suitable for historical restorations**
2. **Advanced pozzolanic behaviour with Min3Ra Technology**
3. **M5 class according to standard EN 998-2**
4. **Long workability and adjustment times when laying blocks**
5. **Reduces formaldehyde (standard ISO 16000-23)**
6. **Bacteriostatic and fungistatic product (standard ISO 846 A/B/C)**
7. **For internal and external use**

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Areas of application

→ Use
Breathable building, recovery and fragment-filling of interior and exterior hollow clay block, brick, tufa, stone, and mixed-material load-bearing masonry structures and infill masonry. Biocalce Muratura is particularly suitable as a construction, renovation and restoration mortar in Building for Wellness, ensuring compliance with the key parameters of porosity, hygroscopicity and breathability – essential elements for creating a healthy environment.

Biocalce Muratura is suitable for reconstruction work 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, and on substrates with interstitial salt deposits.

Instructions for use

→ Preparation of substrates
Masonry structures 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 interstitial salt deposits which could impair adhesion. Remove inconsistent rendering mortars from between the stones. Use Biocalce Muratura and the fragment-filling and/or break-fill techniques to rebuild missing sections of the wall and restore an even surface. Always wet substrates before reconstruction work with Biocalce Muratura.

→ Preparation
To prepare Biocalce Muratura, mix one 25 kg bag with about 4.4 l of clean water. 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
Biocalce Muratura is easy to apply using a trowel, as with traditional mortars, or with a plaster sprayer connected to a mortar pump. Always wet substrates before reconstruction work with Biocalce Muratura.
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 using the trowel.

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

Special notes

→ Allow the mortar to dry fully before placing loads on load-bearing masonry structures. dampen bricks before placing. Always lay a full mortar bed, allowing the mortar to flow through joints during adjustment. Use a trowel to remove the excess mortar and leave the remaining level flush with the wall.

→ Biocalce Muratura 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

CE EN 998-2 NATURAL MORTAR | NHL 3.5 EN 459-1 NATURAL HYDRAULIC LIME | ISO 16000-23 FORMALDEHYDE REDUCTION TESTED | ISO 846:2019 METHOD A/B/C NATURAL BACTERIOSTATIC AND FUNGISTATIC | GEV-EMICODE EC1 PLUS VERY LOW EMISSION | eco Base | EPD-IES-0016712 environdec.com | ÉMISSIONS DANS L'AIR INTÉRIEUR* A+ A+ A B C

** 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

Breathable building and fragment-filling of interior and exterior hollow clay block, brick, tuff and natural stone masonry will be carried out using a breathable mortar based on NHL 3.5 natural hydraulic lime, such as Biocalce Muratura 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 < 0.7 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 Muratura: ≈ 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 – 2.5 mm	EN 1015-1
Apparent density of powder	≈ 1.46 kg/dm³	UEAtc
Shelf life	≈ 12 months from production in the original sealed packaging, protect from humidity	
Pack	25 kg bags	
Mixing water	≈ 4.4 l / 1 x 25 kg bag	
Consistency of wet mortar	≈ 178 mm	EN 1015-3
Apparent density of wet mortar	≈ 2.02 kg/dm³	EN 1015-6
Apparent density of dry, hardened mortar	≈ 1.82 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 2750/11.01.02
Formaldehyde reduction – standard ISO 16000-23			
The product helps to reduce formaldehyde levels			
Dilution of indoor pollutants *			
	Flow	Dilution	
Toluene	148 µg m²/h	+54%	JRC method
Pinene	221 µg m²/h	+36%	JRC method
Formaldehyde	5015 µg m²/h	na	JRC method
Carbon dioxide (CO_2)	30 mg m²/h	+40%	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	< 0,7 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		1.72 (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
→ moisten bricks and substrates before application
→ 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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