FIBRE NET
composite engineering

EPOCA
CALCE - NHL 105

STRUCTURAL, ECO-COMPATIBLE, SYNTHETIC-FIBER-REINFORCED MORTAR, BASED ON NHL LIME AND HYDRAULIC BINDERS, FOR CONSOLIDATING AND REGULARIZATION OF STONE AND BRICK MASONRY.

CODE CNHL105-25
25 kg bag

EPOCA CALCE - NHL 105 is a high workability, adherence and breathability mortar designed for application to new facades and historic masonry.

Thanks to its porosity, compatibility and breathability, it ensures to maintain the thermo-hygrometric balance of masonry, in accordance with green building standards.

Its compressive strength, low elastic modulus and compatibility with different substrates make it particularly suitable for the rehabilitation of masonry with low mechanical properties.

In addition, it can be used for localized repair operations (restoration, masonry patching).

Application may be carried out by hand or by suitable plastering machine after mixing.

It can be used in:

- RI-STRUTTURA system from Fibre Net;
- C-MATRIX system from Fibre Net;
- RETICOLA system from Fibre Net.

CONSTRUCTION GREEN MATERIAL · CE · AVCP 4 EN 998-1 MALTA DA INTONACO · AVCP 2+ EN 998-2 MALTA DA MURATURA

EPOCA CALCE - NHL 105

INFORMATION FOR USE

Average consumption	14 kg/m² for each centimeter of applied tickness
Mixing water	18 % (4,5 liters per 25 kg bag)
Granulometry	≤ 1,5 mm
Minimum layer thickness	10 mm
Maximum layer thickness	30 mm
Application temperature	+ 5 °C / + 35 °C
Packaging	25 kg bag
Storage	12 months in original, intact packaging, and protected from moisture

PERFORMANCE CHARACTERISTICS

EPOCA CALCE - NHL 105 t meets the performance requirements specified by the European standard **EN 998-1** for Internal and External Plaster for **General Purposes (GP**) and those required by **EN 998-2** for Masonry Mortars.

Properties	**Values**	**Testing method**
Class and type	CS III - GP	EN 998-1
	M5	EN 998-2
Appearance	Powder	Internal method
Color	Whitish	
Bulk density (loose-dry material)	1,40 ± 0,1 kg/L	
Bulk density of the mix	1,80 ± 0,1 kg/L	EN 1015-6
Operating temperature	-30 °C / +90 °C	
Application	Mechanical/ Manual	
Water absorption by capillarity	W_c1 (≤ 0,4) Kg/m²·$h^{0,5}$	EN 1015-18
Water vapor permeability	15 / 35	EN 1015-19
Compressive strength – 28 days	≥ 5 MPa	EN 1015-11
Flexural strength – 28 days	≥ 1,0 MPa	EN 1015-11
Adhesion to brick substrate	≥ 0,5 MPa (FP: A)	EN 1015-12
Adhesion to reinforced concrete substrate	≥ 0,5 MPa (FP: A)	EN 1015-12
Compressive elastic modulus	≤ 7GPa	EN 13412
Chloride content	≤ 0,05 %	EN 1015-17
Thermal conductivity λ_{10dry} (P = 50 %)	0,67 W/m · K	EN 1745
Euroclass fire reaction	A1	EN 13501-1

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METHOD OF USE

USE AS MASONRY MORTAR

PREPARATION OF THE SUBSTRATE

Evaluate the absorption of the bricks and/or blocks being used and, if necessary, wet them before use. Also, check the compatibility of the elements to be used in conjunction with the mortar.

PREPARATION OF THE BATCH

The preparation can be done using a mixer, drill, or manual horizontal mixer, adding 18% clean water (4.5 liters per 25 kg bag). Alternatively, an automatic dosing system can be used when using rendering machines for premixed materials.

USE OF THE PRODUCT

For use as a bedding mortar, the application thickness should be between 5 mm and 10 mm.

USE AS PLASTERING MORTAR

PREPARATION OF THE SUBSTRATE

The substrate must be solid, clean, and free from friable parts, dust, and salt efflorescence. Otherwise, proceed to remove all substances that may affect the product's adhesion. Any cracks and cavities in the substrate should be filled and repaired before application. Prior to application, especially in the presence of high ambient or masonry temperatures, wet the substrate until saturated, removing excess water afterward. If necessary, apply a non-covering coat at least 24 hours before applying the mortar.

PREPARATION OF THE BATCH

The preparation can be done using a mixer, drill, or manual horizontal mixer, adding 18% clean water (4.5 liters per 25 kg bag). Alternatively, an automatic dosing system can be used when using rendering machines for premixed materials.

USE OF THE PRODUCT

The mortar can be applied with a suitable pump for traditional mortars or using a trowel, following the normal rules and precautions required for plastering and masonry mortars.If Fibre Net FRP reinforcement systems are to be used, follow the manufacturer's system instructions, ensuring that the mesh is embedded in the middle of the plaster layer.

For use as plastering mortar, the minimum thickness is 10 mm, and the maximum is 30 mm per layer. If thicknesses exceeding 30 mm (even localized) are required, consider the use of anti-shrinkage mesh to prevent crack formation. Apply the product in layers, ensuring that the subsequent layer is applied on the previous one without smoothing it with a trowel. To ensure proper curing of the plaster, especially when the applied surface is exposed to sunlight or wind, mist water onto the exposed surface in the first 48 hours.

The mortar is intended for structural uses. For smoother finishes in plastering, it is possible to apply lime-based finishing mortars with different granulometry following the respective manufacturer's instructions. If planning to apply only a paint coating, wait approximately 7 days for each centimeter of plaster thickness before applying the coating. If no decorative finish is planned and the plaster is exposed to rain, protect it with a transparent, breathable, and water-repellent treatment.

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SAFETY NSTRUCTIONS

During handling and application, wear protective clothing and gloves, safety goggles, and dust masks. In case of skin contact, wash with water and soap. If eye contact occurs, rinse with water and seek medical attention if irritation persists.
For safety information, and details regarding the use and storage of the product, the user should refer to the latest Safety Data Sheet

WARNING

Do not apply at ambient temperatures and substrate temperatures below +5°C or above +35°C.

Do not add cement, lime, or aggregates.

Wet substrates during hot periods.

Protect mortars from freezing, high temperatures, excessive sunlight, and wind during the curing period. Store in a dry place

SPECIFICATION VOICE

EPOCA CALCE – NHL 105 is a pre-mixed mortar, based on natural hydraulic lime NHL 3.5, highly breathable, with compressive strength ≥ 5 MPa, elastic modulus ≤ 7 GPa, compliant with UNI EN 998-1 class CS III and UNI EN 998-2 class M5 in system 2+, designed for the creation of reinforced internal and external plasters, and for localized repairs. It is used for reinforcing vaults and walls, mixed masonry elements, in brick, stone, and rock.

For further information on specification clauses, cost analysis, construction details, and maintenance plans, please contact the Technical Department of Fibre Net SpA.

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