MX-PVA Fibre-reinforced

CE
EN 998-2

High performance mortar for the structural restoration of walls with polyvinyl alcohol fibers

MX-PVA Fibre-reinforced is a premixed mortar based on a high pozzolan hydraulic binder and low salt content, select aggregates, additives, and polyvinylalcohol fibers.
Its particular composition excludes the possibility of chemical reactions with salts (sulphates, carbonates, nitrates, chlorides, etc.) present in the walls of old buildings. Following the addition of water, a highly adhesive, thixotropic mortar without shrinkage is obtained. It is durable and suitable to improve the ductility and toughness of masonry structures.
It is ready to use: just add water to obtain a thixotropic mixture with no bleeding or segregation phenomena. It can be applied by trowel or spray,
In cases where a high aesthetic quality of the surface is required, use a suitable finishing coat.

- Resistant to the freeze-thaw cycles
- Vapor permeable
- Tensile strain-hardening behavior
- Compatible with masonry

THE PRODUCT:

MX-PVA Fibre-reinforced

Thixotropic mortar reinforced with polyvinyl alcohol fibers for the structural restoration of masonry, the construction of reinforced load bearing outer plasters and layers.

Complies with EN 998-2
MX-PVA Fibre-reinforced complies with EN 998-2 Mortar for general purposes for external use in elements subject to building code requirements (G).

The structural PVA fibers provide resistance to the composite material, modifying the stress-deformation ratio. The three-dimensional contribution of the fibrous reinforcement is particularly noticeable in the post-cracking phase, considerably increasing the material's ability to absorb energy and slow down the cracking process.
It follows that MX-PVA Fibre-reinforced effectively replaces the use of the reinforced slab with reinforcement mesh, considerably reducing the thickness (only 3 cm compared to 7 or 8 cm needed for a standard reinforced slab).

PROPERTIES

- High capacity to absorb energy after cracking;
- High ductility and toughness;
- Increased tensile and flexural strength even after cracking;
- Excellent resistance to impact, wear and dynamic loads in general;
- No corrosion of PVA fibers;
- Excellent adhesion to masonry structures;
- High breathability;
- Complete compatibility with historical masonry;
- Absence of shrinkage cracking;
- High resistance to chemical agents (chlorides, sulphates, acid rain, carbon dioxide, etc.);
- Ease and speed of installation and finishing.

TECHNICAL CHARACTERISTICS

PROPERTIES OF THE MORTAR	MX-PVA Fibre-reinforced
Water per 100 kg of dry premix mortar	16 - 17 liters
Consistency of the mortar (EN 1015-3)	170 +/- 10 mm
Specific weight of fresh mortar (EN 1015-6)	1,85 ± 0,05 g/cc
Volume of fresh mortar per 100 kg of dry premix	about 63 liters
Fresh mortar workability time (20°C)	about 50 min.
Solublesulfates(CEN/TC 125)	< 10 ppm
Soluble chlorides (CEN/TC 125)	< 10 ppm
Soluble Nitrites/Nitrates (CEN/TC 125)	< 10 ppm
Mg^{++} (CEN/TC 125)	< 350 ppm
Ca^{++} (CEN/TC 125)	< 350 ppm
Na^{+} (CEN/TC 125)	< 350 ppm
K^{+} (CEN/TC 125)	< 350 ppm
Porosity of the mortar (Normal 4/80) - pore volume with d<0.5	68%
Porosity of the mortar (Normal 4/80) - open porosity	22%
Water absorption (EN 1015-18)	≤ 0,2 ((kg/(m^2x$min^{0,5}$))
Water vapor permeability (EN 1745-5.4.4)	μ 15/35 as per table
Thermal conductivity/Density (EN 1745-5.4.6)	($\lambda_{10,dry}$) 0,83 W/mK (as per table)
Adhesion (EN 1015-12)	≥ 0,6 N/mm^2 – FP: C
Reaction to fire (EN 13501-1)	Euroclass A1
Compression resistance at 1, 7, 28 days (EN 1015-11)	≥ 10; ≥ 24; ≥ 45 MPa
Bending resistance at 1, 7, 28 days (EN 1015-11)	≥ 2; ≥ 3; ≥ 7 MPa
Elastic modulus at 28 days (EN 13412)	≥ 15 GPa
SPECIFICATIONS FOR THE SUPPLY	
Package	25 kg bags on 1,000 kg pallets
Consumption of dry premixed mortar	About 15,9 Kg/m^2/cm

FIELDS OF APPLICATION

- Restoration of structures subject to shock loads
- Fiber-reinforced plasters (without reinforcement mesh) for the restoration of infill walls;
- Reinforcement of load bearing outer layers (without reinforcement mesh) to consolidate vaults;
- Consolidation of existing walls by repointing with fiber reinforced mortar.
- Interventions in structures exposed to severe chemical-environmental conditions;
- Repair of damaged masonry structures
- Preparation layer on masonry elements (brick, tuff, stone) for the application of structural reinforcements with composite materials.