Technical Datasheet

AQUAMAT-MONOELASTIC

Highly flexible, fiber-reinforced, waterproofing cement-based slurry

Description

AQUAMAT-MONOELASTIC is a one-component, highly flexible, waterproofing slurry consisting of a cement-based powder mortar enriched with resins. After hardening, it forms a seamless, jointless membrane with the following advantages:

- Crack-bridging ability.
- Total waterproofing against positive hydrostatic pressure up to 5 atm according to EN 12390-8. It can also withstand negative pressure.
- Protection of concrete from carbonation.
- No corrosive effect on the reinforcing steel in concrete.
- Vapor permeability.
- Resistance to aging.
- Adhesion to wet surfaces without priming.
- Simple and low-cost application.
- Suitable for green roofs, flower beds, etc., as it is root-resistant.
- Suitable for brush and trowel application.

AQUAMAT-MONOELASTIC complies with all the requirements established in Royal Decree 140/2003, modified by RD 314/2016 and by RD 902/2018, which establishes sanitary criteria for the quality of water for human consumption. Water tanks must be thoroughly washed prior to filling with potable water.
AQUAMAT-MONOELASTIC has been successfully tested by a third-party laboratory for resistance to root penetration, according to CEN/TS 14416:2014.
Also certified according to EN 14891 and classified as liquid-applied one-component water-impermeable product CM P for waterproofing under tiles, in external installations (walls and floors) and swimming pools. Certificate No.: 22/32301444, APPLUS Laboratories. CE marked.
Certified according to EN 1504-2 and classified as a coating for surface protection of concrete. CE marked. Certificate No.: 2032-CPR-10.11.
AQUAMAT-MONOELASTIC has received an Environmental Product Declaration (EPD) following an assessment of its life-cycle environmental impacts. Registration No: S-P-06177, The International EPD® System.

Fields of application

It is used for waterproofing surfaces made of concrete, plaster, bricks, cement blocks, terrazzo, gypsum boards, wood, metal, etc. Ideal in cases where high flexibility and good adhesion are required. Suitable for waterproofing substrates subject to expansion-contraction or vibration and show or are expected to show hairline cracks, such as terraces, balconies, above ground level water tanks, swimming pools, inverted roofs, etc.
Ideal for application on terraces, rooftops, balconies and wet areas to be covered with tiles (bathrooms, kitchens). It can also be used for waterproofing basements, internally or externally, against moisture or water under pressure.

Technical data

Base:	cementitious powder
Color:	grey
Mixing ratio with water:	
• Brush application:	5.0-5.4 l/18 kg bag
• Trowel application:	3.6-4.3 l/18 kg bag
Mixing time:	3 min
Pot life:	60 min at +20°C
Bulk density of dry mortar:	1.15 ± 0.05 kg/l
Bulk density of fresh mortar:	1.50 ± 0.10 kg/l

Final properties acc. to EN 14891

Initial tensile adhesion strength: (requirement: ≥ 0.5 N/mm²)	≥ 1.1 N/mm²
Tensile adhesion strength after water contact: (requirement: ≥ 0.5 N/mm²)	≥ 0.7 N/mm²
Tensile adhesion strength after heat aging: (requirement: ≥ 0.5 N/mm²)	≥ 1.3 N/mm²
Tensile adhesion strength after freeze thaw cycles: (requirement: ≥ 0.5 N/mm²)	≥ 1.1 N/mm²

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Tensile adhesion strength after contact with lime water: (requirement: ≥ 0.5 N/mm²)	≥ 0.5 N/mm²
Tensile adhesion strength after contact with chlorinated water: (requirement: ≥ 0.5 N/mm²)	≥ 0.6 N/mm²
Crack-bridging ability at +23°C: (requirement: ≥ 0.75 mm)	≥ 0.81 mm
Waterproofing (7 days at 1.5 bar, requirement: impermeable to water and ≤ 20 g mass increase):	no penetration

Other properties acc. to EN 1504-2

Adhesion strength: (EN 1542)	≥ 1.0 N/mm²
Crack bridging at +23°C: (Class A3) (EN 1062-7, Method A, C.1 test procedure)	0.5 N/mm
Permeability to CO_2: (EN 1062-6 Method A, requirement: Sd > 50 m)	160 m
Capillary absorption and permeability to water: (EN 1062-3, requirement of EN 1504-2: w < 0.1)	0.03 kg/m²h$^{0.5}$
Water vapor permeability: (EN ISO 7782-2, Class I < 5 m)	Sd = 0.83 m
Water penetration under positive hydrostatic pressure: (EN 12390-8, 3 days at 5 bar)	no penetration
Water penetration under negative hydrostatic pressure: (at 1.5 bar)	no penetration

Durability against:

• Rain:	after ~ 1 day
• Tile fixing:	after ~ 1 day
• Water under pressure:	after ~ 7 days
• Backfill:	after ~ 3 days

Directions for use

1. Substrate preparation

- The substrate must be clean, free of oily residue, loose material, dust, etc.
- Water leaks should be plugged with AQUAFIX ultra rapid-setting, cementitious leak-plugging mortar.
- Any cavities on the concrete surface should be filled and smoothed with DUROCRET, DUROCRET-FAST, RAPICRET or a cement mortar improved with ADIPLAST, after all loose aggregates have been removed and the surface has been well dampened.
- Starter bars and spacers should be cut to a depth of about 3 cm into the concrete and the holes should be sealed, as described above.
- Existing construction joints are opened longwise in a V shape to a depth of about 3 cm and are subsequently filled as above.
- Corners, like wall-floor junctions, should be filled and smoothly rounded with DUROCRET or a cement mortar improved with ADIPLAST (formation of a fillet, triangular in cross section, with sides of 5-6 cm).
- In case of masonry walls, joints should be first filled carefully, otherwise it is recommended to apply a cement mortar layer first improved with ADIPLAST.
- For waterproofing basements in old buildings, any existing plaster coat should be removed to a height of at least 50 cm above water level, before proceeding as above.
- Wherever flat surface formation is required (smoothing, slope creation, etc.) the use of DUROCRET, DUROCRET-FAST, RAPICRET or a mortar improved with ADIPLAST is recommended.

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2. Application

The material is applied with a brush or trowel in two or more layers, depending on the water load. The 18 kg bag is added to 5.0-5.4 l of water for application with a brush, or to 3.6-4.3 l of water for application with a trowel, under continuous stirring, until a uniform, viscous mixture is formed. To prevent cracking, layer thickness must not exceed 1 mm in brush-on applications and 2 mm in trowel-on applications. Maximum total thickness is 3 mm.
The entire surface of the substrate should be well dampened but without ponding water.
Each new layer is applied after the previous one has dried. The freshly coated surface should be protected from high temperatures, rain and frost.
In case AQUAMAT-MONOELASTIC needs to be locally reinforced (inside corners where forming fillets is not necessary, at junctions, etc.), the use of a 10 cm wide fiberglass mesh strip (65 g/m^2) or the 12 cm wide JOINT SEALING TAPE AR is recommended.

Consumption

Approx. 1.2 kg/m^2/mm of dry film thickness.

Packaging

18 kg bags.

Shelf life – Storage

12 months from production date if stored in original, sealed packaging in dry, frost-free places.

Remarks

- In case of water under pressure, care should be taken so that pumping, which keeps the water level low, does not stop before AQUAMAT-MONOELASTIC has sufficiently hardened. About 7 days are needed.
- In case of water under pressure, the structure bearing the waterproofing layer (wall, floor, etc.) should have been properly designed in order to be sufficiently static to withstand hydrostatic pressure.
- Temperature during application should be between +5°C and +35°C.
- Tiles should be fixed with a high-performance tile adhesive like ISOMAT AK-20, ISOMAT AK-22, ISOMAT AK-24 CRYSTAL GEL, ISOMAT AK-25, ISOMAT AK-ELASTIC and ISOMAT AK-MEGARAPID.
- Due to cement content, AQUAMAT-MONOELASTIC reacts with water, forming alkaline solutions, thus is classified as irritant.
- Consult the directions for safe use and precautions written on the packaging before use.

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CE

2032

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2032-CPR-10.11

DoP No.: AQUAMAT-MONOELASTIC GREY / 1608-03

EN 1504-2

Surface protection products

Coating

Permeability to CO_2: Sd > 50m

Water vapor permeability: Class I (permeable)

Capillary absorption: w < 0.1 kg/m^2·h$^{0.5}$

Adhesion: ≥ 1.0 N/mm^2

Reaction to fire: Euroclass F

Dangerous substances comply with 5.3

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EN 14891:2012

Liquid applied, one component, water impermeable product CM P for external installations and swimming pools on walls and floors beneath ceramic tiling (bonded with C2 adhesive in accordance with **EN 12004**)

DoP No.: AQUAMAT-MONOELASTIC / 1651-01

Initial tensile adhesion strength: ≥ 0.5 N/mm²

Tensile adhesion strength after water contact: ≥ 0.5 N/mm²

Tensile adhesion strength after heat ageing: ≥ 0.5 N/mm²

Tensile adhesion strength after contact with lime water: ≥ 0.5 N/mm²

Waterproofing: No penetration

Crack bridging ability: ≥ 0.75 mm

Tensile adhesion strength after freeze-thaw: ≥ 0.5 N/mm² cycles

Tensile adhesion strength after contact with chlorinated water: ≥ 0.5 N/mm²

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