

# AQUAMAT-PENETRATE

## Crystalline, brushable waterproofing slurry

### Description

AQUAMAT-PENETRATE is a cement-based, brushable waterproofing slurry. It consists of special active chemicals, which in contact with moisture and the present hydroxide of lime, react and form insoluble bonds (crystals). These crystals block the capillary pores and seal the shrinkage cracks inside the concrete, preventing any further water absorption.

AQUAMAT-PENETRATE offers a number of advantages. In detail:

- Remains permanently active, therefore it continuously protects construction from water.
- Total waterproofing against positive hydrostatic pressure up to 5 atm, according to EN 12390-8. It can also withstand negative pressure.
- Bonds perfectly to concrete, under both positive and negative hydrostatic pressure.
- Capable of waterproofing hairline cracks up to 0.4 mm wide, even if they appear afterwards.
- In case of injuring the concrete surface or the waterproofing layer, the water tightness of the construction is not affected.
- Protects the steel reinforcement of concrete from corrosion.
- Suitable for potable water tanks, as well as food contact surfaces, according to W-347.
- Does not affect the “breathability” of the concrete element.
- Has a simple and low cost application.

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-PENETRATE has also been tested and approved by the National University of Water Management and Natural Resources (Rivne Ukraine) – Laboratory of Testing Building Materials, for the following properties:

- Increased water tightness of concrete against hydrostatic pressure and reduced capillary absorption.
- Increased frost resistance.
- No effect on the strength of concrete.
- Increased chemical resistance of concrete.

### Fields of application

It is used for waterproofing concrete elements, in cases ranging from simple moisture to water under pressure. Suitable for waterproofing basements, foundations, manholes, water tanks, sewage tanks.

### Technical data

Form:	cementitious powder
Color:	grey
Water demand:	6.40-6.70 l / 20 kg bag
Bulk density of dry mortar:	1.06 ± 0.05 kg/l
Bulk density of fresh mortar:	2.00 ± 0.05 kg/l
Compressive strength: (EN 196-1)	17.00 ± 2.00 N/mm <sup>2</sup>
Flexural strength: (EN 196-1)	6.00 ± 1.00 N/mm <sup>2</sup>
Adhesion (EN 1542):	≥ 1.0 N/mm <sup>2</sup>
CO <sub>2</sub> permeability: (EN 1062-6 Method A, requirement: Sd > 50m)	181 m
Capillary absorption and permeability to water: (EN 1062-3, requirement of EN 1504-2: w < 0.1)	0.095 kg/m <sup>2</sup> ·h <sup>0.5</sup>
Water vapor permeability: (EN ISO 7783-2, Class I < 5m)	Sd=1.40 m
Pot Life:	30-60 min at +20°C

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Water penetration under positive hydrostatic pressure: no penetration (EN 12390-8, 3 days at 5 bar)

Water penetration under negative hydrostatic pressure: no penetration (at 1.5 bar)

## Durability against:

- Rain: after approx. 1 day
- Walking: after approx. 1 day
- Water under pressure: after approx. 3 days
- Backfill: after approx. 3 days

## Directions for use

### 1. Substrate preparation

- The substrate must be porous, free of oily residues, loose material, dust, etc. Very smooth surfaces should be treated with mild sandblasting or water blasting.
- Water leaks should be plugged with AQUAFIX rapid-setting cement.
- Any cavities in concrete surface should be filled and smoothed out using DUROCRET-PENETRATE, after all loose aggregate has been removed and the surface has been well moistened.
- Starter bars and wooden molds should be cut to a depth of about 3 cm into the concrete and the holes should be sealed as above.
- Existing construction joints - 0.4 mm wide - are opened lengthwise in a V shape to a depth of about 3 cm and are then filled as above.
- Corners, like wall-floor junctions, should be filled and smoothly rounded with DUROCRET-PENETRATE (fillets having a triangular cross-sectional area with side lengths of 5-6 cm).

### 2. Application

AQUAMAT-PENETRATE is added to the water under continuous stirring, until a uniform, viscous mixture is formed, suitable for brushing or spraying. The application surface must be well moistened, but without ponding. The product is applied by brush or spraying in two layers. Layers thicker than 1 mm should be avoided, because the material may crack.

The second coating is applied while the previous one is still fresh (fresh on fresh). In case the first layer has already dried, the surface must be dampened before applying the second layer. Also, after the application is over, the final surface must be moistened for the next 2-3 days, so that the waterproofing layer remains slightly wet and hardens properly.

The surface should be moistened as soon as AQUAMAT-PENETRATE has started hardening, in order to avoid the possibility of damage. Water spraying 2-3 times a day is usually enough.

The freshly coated surface should be protected from rain and frost.

## Consumption

Approximately 0.75 kg/m<sup>2</sup>/layer.

## Packaging

AQUAMAT-PENETRATE is available in 20 kg paper bags.

## Shelf life – Storage

12 months from production date if stored in original, unopened packaging in a frost-free and dry place.

## Remarks

- In case of water under pressure, the structure which bears the waterproofing layer (wall, floor, etc.) should be suitably designed, in order to be static enough to withstand hydrostatic pressure.

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- In case AQUAMAT-PENETRATE is used in potable water tanks, after the product is applied, the surface should be carefully washed out with plain water, before the final filling of the tank.

AQUAMAT-PENETRATE can also be dusted on the lean concrete and the steel reinforcements. This process will protect not only the reinforcement itself but also the foundation slab from rising damp.

The lean concrete should be moistened, until saturation is reached. Then, AQUAMAT-PENETRATE is dusted using 1.5-2.5 kg/m<sup>2</sup>. The concrete of the foundation slab can be poured after one hour, once AQUAMAT-PENETRATE has hardened and adhered to the lean concrete, in order not to damage the previous application.

- Temperature during application should be at least +5°C.
- Due to cement content, AQUAMAT-PENETRATE reacts with water forming alkaline solutions, thus is classified as irritant.
- Please consult the safety instructions written on the packaging before use. In case AQUAMAT-PENETRATE is going to be covered with mortar, plaster or tiles, consult the Technical Support Department of ISOMAT.



2032

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DoP No.: AQUAMAT-PENETRATE 1621-01

EN 1504-2

Surface protection products  
Coating

CO<sub>2</sub> permeability: Sd > 50m

Water vapor permeability: Class I (permeable)

Capillary absorption: w < 0.1 kg/m<sup>2</sup>·h<sup>0.5</sup>

Adhesion: ≥ 1.0 N/mm<sup>2</sup>

Reaction to fire: Euroclass A1

Dangerous substances comply with 5.3

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BUILDING CHEMICALS AND MORTARS

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