Technical Datasheet

AQUAMAT

Waterproofing cement-based slurry

Description

AQUAMAT is a one-component, cement-based, brushable waterproofing slurry offering:

- Total waterproofing against positive hydrostatic pressure up to 5 atm according to EN 12390-8. It can also withstand negative pressure.
- Perfect bonding to substrates like concrete, masonry, plaster, etc.
- Suitability for potable water tanks, as well as food contact surfaces according to W-347.
- Protection of concrete from carbonation.
- No corrosive effect on the reinforcing steel in concrete.
- 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.

Fields of application

It is used for waterproofing concrete elements, masonry or plaster surfaces, in cases ranging from simple moisture to water under pressure. Also suitable for waterproofing basements, water tanks, swimming pools, sewage tanks, etc. It enables the internal waterproofing of underground areas, since it can withstand negative pressure (water from the substrate side), due to its absolute bonding to the substrate. In case the surface to be sealed shows or is expected to show hairline cracks, like terraces, balconies, etc., the two-component brushable waterproofing slurries, AQUAMAT-FLEX and AQUAMAT-ELASTIC, are recommended instead.

Technical data

Form:	cementitious powder
Colors:	grey, white
Water demand:	8.25 l/25 kg bag

AQUAMAT Grey

Bulk density of dry mortar:	1.30 ± 0.05 kg/l
Bulk density of fresh mortar:	1.90 ± 0.10 kg/l
Compressive strength after 28 days (EN 12190):	≥ 25.00 N/mm²
Flexural strength after 28 days (EN 12190):	≥ 7.00 N/mm²
Adhesion strength (EN 1542):	≥ 1.0 N/mm²
Permeability to CO_2: (EN 1062-6 Method A, requirement: Sd > 50 m)	177 m
Capillary absorption and permeability to water: (EN 1062-3, requirement of EN 1504-2: w < 0.1)	0.056 kg/m²·h$^{0.5}$
Water vapor permeability: (EN ISO 7783-2, Class I < 5m)	Sd = 0.12m
Pot life:	1 h at +20°C
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

AQUAMAT White

Bulk density of dry mortar:	1.30 ± 0.05 kg/l
Bulk density of fresh mortar:	1.85 ± 0.10 kg/l
Compressive strength after 28 days (EN 12190):	≥ 25.00 N/mm²
Flexural strength after 28 days: (EN 12190):	≥ 7.00 N/mm²
Adhesion strength (EN 1542):	≥ 1.0 N/mm²
Permeability to CO_2: (EN 1062-6 Method A, requirement: Sd > 50m)	153 m

AQUAMAT

Capillary absorption
and permeability to water: 0.026 kg/m^2·h$^{0.5}$
(EN 1062-3, requirement of EN 1504-2: w < 0.1)

Water vapor permeability: Sd = 0.80 m
(EN ISO 7782-2,
Class I: Sd < 5 m)

Pot life: 1 h at +20°C

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. 4 h
- Walking: after approx. 1 day
- Water under pressure: after approx. 7 days
- Backfill: after approx. 3 days

Directions for use

1. Substrate preparation

- The substrate must be clean, free of oil or grease, loose material, dust, etc.
- Water leaks should be plugged with AQUAFIX ultra rapid-setting cementitious leak-plugging mortar.
- Any cavities in concrete surface should be filled and smoothed out with DUROCRET or RAPICRET or a cement mortar, improved with ADIPLAST, after all loose aggregate has been removed and the surface has been well dampened.
- 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 are opened longwise in a V shape to a depth of about 3 cm and are subsequently filled, as described 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, the existing plaster 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 etc.) the use of DUROCRET, RAPICRET or a mortar improved with ADIPLAST is recommended.

2. Application

AQUAMAT is gradually added to water under continuous stirring, until a uniform, viscous mixture is formed, suitable for brush application. The substrate must be pre-wetted to a saturated surface dry condition before application. The surface to be covered with AQUAMAT must be free of standing water.
The material is applied in two or more layers, depending on the water load and the consumption required. Layers thicker than 1 mm should be avoided, because the material may crack. Each new coat is applied after the previous one has dried. The freshly coated surface should be protected from high temperature, rain, and frost.

Elastification

For waterproofing unstable substrates subject to vibration or expansion-contraction, such as gypsum boards, chipboards, heated floors, terraces, balconies, swimming pools, etc., it is necessary to add 5-10 kg of ADIFLEX-B to 25 kg of AQUAMAT, plus the amount of water required to achieve the desired workability, in order to improve its flexibility.

Consumption

Depending on the water load, minimum consumption and relevant thickness should be as follows:

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AQUAMAT

Water load	Minimum consumption	Minimum thickness
Moisture	2 kg/m^2	~ 1.5 mm
Water without pressure	3 kg/m^2	~ 2 mm
Water under pressure	3.5-4.0 kg/m^2	~ 2.5 mm

Packaging

- 25 kg paper bags in grey and white.
- 5 kg plastic bags in grey and white.

Shelf life – Storage

- 25 kg paper bags:
  12 months from production date.
- 5 kg plastic bags:
  18 months from production date.

The above data is valid, provided that the product is stored in its original, unopened packaging in frost-free and dry conditions.

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 has sufficiently hardened. About 7 days are needed.
- In case of water under pressure, the structure which bears the waterproofing layer (wall, floor, etc.) should be properly designed in order to be sufficiently static to withstand hydrostatic pressure.
- For walkable floors, the floor surface sealed with AQUAMAT should be protected with a cement screed layer.
- Temperature during application should be at least +5°C.
- Due to cement content, AQUAMAT 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.

CE

2032

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2032-CPR-10.11

DoP No.: AQUAMAT GREY/1618-04

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 strength by pull off test: ≥ 1.0 N/mm^2

Reaction to fire: Euroclass A1

Dangerous substances comply with 5.3

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2032-CPR-10.11

DoP No.: AQUAMAT WHITE/1619-04

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 strength by pull off test:≥ 1.0 N/mm^2

Reaction to fire: Euroclass A1

Dangerous substances comply with 5.3

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