

AQUAFIN®-2K/M-PLUS

Crack-bridging mineral-based waterproofing slurry



Material number	Contents	Unit of quantity	Packaging	Colour
204600001	35	KG	Set	Dark grey
204600002	21	KG	Combination packs	Dark grey
204600003	7	KG	Set	Dark grey

Product features

- Cementitious waterproofing slurry (MDS)
- Improved crack bridging even at low temperatures (- 5 °C) [CM O1 P in accordance with DIN EN 14891]
- Resistant to contact with chlorinated water [CM O1 P in accordance with DIN EN 14891]
- resistant to concrete-damaging water, in accordance with DIN 4030
- Very low emission - EMI CODE® EC 1^{PLUS}
- Health safety requirements for contact with drinking water in accordance with Ministerial Decree no. 252/2004
- Hygienic certificate from the National Institute of Public Health NIH - National Research Institute.(PL)

Advantages

- Resistance to frost and thaw
- UV and ageing-resistant
- Adheres to matt damp substrates without primers
- Vapour permeable

Fields of application / waterproofing

- For waterproofing building components in direct ground contact with ground moisture and non pressure water (W1.1-E, W1.2-E in accordance with DIN 18533)
- for waterproofing splash water and ground moisture at the wall base and capillary water in and under walls (W4-E in accordance with DIN 18533)
- As retroactive building waterproofing in accordance with WTA datasheet 4-6
- for waterproofing containers and basins (W1-B, W2-B in accordance with DIN 18535)

Areas of use / bonded waterproofing

For waterproofing bonded with tiles and boards

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Technical Data

Material properties

Product components	2 component system
Base material	Polymer-mortar combination
Consistency	Filler consistency
Density, ready to use product (ISO 1183-1)	approx. 1.6 kg/dm ³
Crack bridging PG MDS / FPD	to 0.4 mm
Crack bridging in accordance with ASTM C836	> 2.6 mm
Crack bridging ability DIN EN 14891 (at normal and low temperatures)	> 0.75 mm
Watertightness (PG MDS/FPD)	to 2,5 bar
Watertightness against negative pressing water (WTA-datasheet 4-6)	to 0,75 bar
Tensile adhesion strength DIN EN 1542	≥ 0.5 N/mm ²
Water vapour diffusion coefficient μ	< 1000
CO ₂ Sd-value (2 mm dry film thickness)	> 200 m
Tensile elongation in accordance with ASTM D 412-16	approx. 192 %
Watertightness when installed in accordance with PG MDS/AIV	to 2,5 bar
Classification of the reaction to fire in accordance with DIN EN 13501-1	E

Mixing

Mix ratio, component A	2.5 weight proportion
Mix ratio, component B	1 weight proportion
Mixing time	approx. 3 minutes
Maturing time	approx. 3 minutes
Water addition, maximum	Max. 0.5 l per 35 kg

Application

Substrate/application temperature	from 5 °C to 30 °C
Pot life	approx. 60 minutes
max. layer thickness per application step	to 1 mm
Second application step after waiting time	approx. 3 - 6 hours
Foot traffic after	approx. 24 hours
Pressurised water resilient after	≥ 7 days

System components for building waterproofing

Mortar / restoration plaster	ASOCRET-M30
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System components according to AbP AIV

Tile adhesive	AK7P ASODUR-EKF CRISTALLIT-FLEX LIGHTFLEX MONOFLEX MONOFLEX-fast MONOFLEX-FB MONOFLEX-white MONOFLEX-white 3:1 with UNIFLEX-F MONOFLEX-XL SOLOFLEX UNIFIX-S3 UNIFIX-S3-fast
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Material consumption

Material consumption rate according to the area of application

Exposure	Dry film thickness, mm	Wet film thickness, mm	Consumption in kg/m ²
Basement walls and floor slabs	> 2.0	approx	3.5
Plinth waterproofing	> 2.0	approx	3.5
Transverse waterproofing	> 2.0	approx	3.5
In accordance with WTA leaflet 4-6 "Subsequent waterproofing of building components in direct ground"			
Ground moisture/ non-standing seepage water	> 2.0	approx	3.5
Non pressure water	> 2.0	approx	3.5
Standing seepage water/pressure water	> 3.0	approx	5.3
Waterproofing of tanks and pools	> 2.0	approx	3.5
Bonded with tiles/boards	> 2.0	approx	3.5
Levelling layers	1 mm	1.1 mm	1.75
Possible additional consumption in case of uneven substrates and artisanal variations must be considered. Therefore a thickness allowance of at least 25 % must be taken into account in accordance with the standards DIN 18531, DIN 18534, DIN 18535.			

Application technology

Aids/tools

- Stirrer (approx. 500-700 rpm)
- Suitable mixing paddle
- Trowel
- Serrated or layer-thickness trowel
- Flat trowel
- Brush
- Spray equipment

Manual processing

Can be trowelled off

Machine application

AQUAFIN[®]-2K/M-PLUS can be mechanically applied. For precise information, see the additional Technical Information No. 43.

Suitable substrate

- Old, firmly adhering bituminous substrates
- Concrete
- Masonry work
- Plasters P II and P III

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Substrate preparation

Requirement for substrate

1. Even
2. Free of adhesion inhibiting substances
3. Sealed in the surface
4. Pore open
5. Load-bearing
6. Extensively fully grouted

Preparing the details

1. The base point area and the transition to the splash water base must be built back to the cementitious substrate for any subsequent application.
2. Clean and degrease flanges.
3. Edges are to be chamfered and corners are to be rounded.
4. Depressions > 5 mm and mortar pockets, plaster grooves in brickwork, open butt or bed joints, damaged areas, large pored substrates or uneven masonry work must be levelled in advance with ASOCRET-M30 (cement-based mortar).

Preparing the surface

1. In the case of substrates damaged by de-icing salt, the substrate must be removed down to the neutral area, e.g. by means of milling, etc.
2. On uneven substrates, pre-sealing can also take place with ASOCRET-M30.
3. Pre-moisten the dry substrate so that it is matt damp at the time of application.
4. Extremely absorbent and slightly sandy substrates must be primed with AQUAFIN-Primer .
5. The primer must be completely dry / must have reacted fully before the subsequent work steps are carried out.
6. Moisture penetration from the rear and intermittent moisture loading from the negative side must be avoided.
7. For waterproofing with moisture penetration from the rear, we recommend pre-sealing with AQUAFIN-1K or ASODUR-SG2/-thix.

Base slab-wall transition

1. Pre-screen with AQUAFIN[®]-1K or ASOCRET-M30 in a consistency that is able to screen.
2. While still wet, install a sealing cove with an edge height of at least 4 cm made of ASOCRET-M30.
3. After drying, carry out the waterproofing with AQUAFIN[®]-2K/M-PLUS.
4. In the area of structural movement joints, the waterproofing is reinforced with ADF[®]-Dehnfugenband (Expansion-Joint-Tape) or ASO[®]-Joint-Tape-2000-S and integrated in the area waterproofing.

Pipe penetrations

1. In water wear class W 2.1-E, suitable loose fixed flange constructions or tested house entry systems must be used.
2. For the watertight formation of pipe penetrations, the system components of the ASO-Joint-Sleeves are to be used in accordance with their technical data sheets.

Usage

Mixing

1. Fill approx. 50-60% of the liquid component into a clean mixing bucket and mix with the powder component to produce a homogeneous, lump-free mass.
2. Finally, add the rest of the liquid component and mix sufficiently.
3. Depending on the application technique (e.g. application by screen or spray technique), do not add more water than specified under "Technical Data > Mix > Water addition, maximum". Water is added after mixing.
4. Water is added after mixing.
5. The mixing time is ca. 3 minutes.
6. After a settling period of ca. 5 minutes, thoroughly homogenise the compound again.

Waterproofing

1. The material rate is dependent on the required dry film thickness corresponding to the water impact class (see Material rate table).
2. Apply AQUAFIN[®]-2K/M-PLUS in a minimum of two application steps ensuring it is free of pores.
3. The second application step (and those following) may be completed once the first application step cannot be damaged (see "Technical data > Processing > Second application step after waiting time")
4. An application thickness of more than 2 kg/m² in one application step can lead to cracking.
5. An even layer thickness is achieved using a coating thickness trowel or notched trowel and then smoothing.

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Waterproofing bonded with tiles and boards

1. Tiles or boards are laid with one of the tile adhesives listed in the system components section.
2. Apply the sealing sleeve in accordance with the Technical Data Sheet.
3. Floor drains and intersections in the tank area must be provided with suitable flange elements.
4. The waterproofing layer must be totally hardened at the time of the laying work.

Movement and connecting joints

For watertight formation of moving and connecting joints, use ASO-Joint-Sealing Tape system components in accordance with their technical data sheets.

Cleaning tools

Clean tools immediately after use with suitable solvent.

Storage conditions

Storage

Store in a frost-free, cool and dry place. At min. 5 - 40 °C for 12 months in the original canister. Promptly use opened canister.

Disposal

Product leftovers can be disposed of in accordance with disposal code AVV 17 01 01 and AVV 08 04 10.

Emission behaviour / building certification systems

- Very low emissions in accordance with GEV-EMICODE, which normally results in positive evaluations within the scope of building certification systems in accordance with DGNB, LEED, BREEAM, HQE.
- Maximum quality level 4, line 8 in accordance with DGNB criteria "ENV 1.2 Risks to the local environment".

Notes

- When used underwater or in swimming pool surrounds, the pool water must comply with DIN 19643.
- AQUAFIN[®]-2K/M-PLUS may not be subjected to punctiform or linear loads as the surface coating.
- AQUAFIN[®]-2K/M-PLUS may be plastered and coated with vapour permeable, solvent-free dispersion façade paints or dispersion silicate paints (not pure silicate paints). Silicon resin paints and acrylate-based paints may also be used.
- On PVC, gunmetal, and stainless steel flanges, ASO[®] joint sleeves or alternatively ADF[®] pipe gaskets must be installed without voids or wrinkles and integrated seamlessly into the waterproofing.
- In case of strong sunlight, work against the movement of the sun in shaded areas.
- Direct contact with metals such as copper, zinc, and aluminium must be avoided by means of a pore sealed primer. A pore sealed primer is produced via 2 application steps using ASODUR[®]-GBM (see technical data sheet).
- In rooms with high humidity and/or insufficient ventilation (e.g. water containers), dropping below the dew point (condensation formation) may occur on the surface. This must be avoided by taking suitable measures such as by using condensation dryers. Direct heating or uncontrolled blowing warm air is not permissible.
- Protect surfaces that are not to be treated from the effects of AQUAFIN[®]-2K/M-PLUS!
- The waterproofing must not be affected by water while it is binding. The effect of water from behind can lead to spalling in case of frost.

Relevant regulations

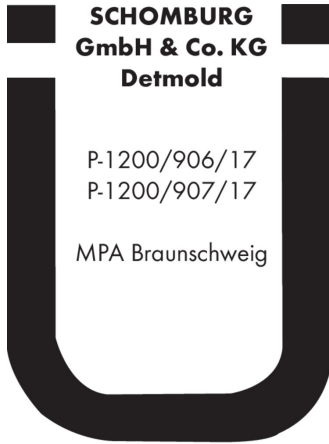
Extract of essential regulations

- DIN 18533
- DIN 18534
- DIN 18535
- WTA leaflets

AQUAFIN®-2K/M-PLUS

Annotations

Conformity / Declaration / Verification



CE
SCHOMBURG GmbH & Co. KG Aquafinstraße 2-8 D-32760 Detmold (Germany) 18 2 04600
EN 1504-2 AQUAFIN®-2K/M-PLUS Surface protection material – Coating
Principle 1.3 [C]
Capillary water absorption and water permeability $w < 0.1 \text{ kg/m}^2 \times \text{h}^{0.5}$ Water vapour permeability class I CO ₂ permeability SD value > 50 m Pull-off test for assessment of adhesion $\geq 0.8 \text{ N/mm}^2$ Reaction to fire Class E

CE
SCHOMBURG GmbH & Co. KG Aquafinstraße 2-8 D-32760 Detmold (Germany) 18 2 04600
EN 14891 AQUAFIN®-2K/M-PLUS Watertight cement product to be applied in liquid form for use under ceramic tiles and paving slabs for exterior area
EN 14891: CM
Initial adhesive strength: $\geq 0.5 \text{ N/mm}^2$ Tensile adhesion strength after contact with water: $\geq 0.5 \text{ N/mm}^2$ after heat ageing: $\geq 0.5 \text{ N/mm}^2$ after alternating frost/thaw exposure: $\geq 0.5 \text{ N/mm}^2$ after contact with lime water: $\geq 0.5 \text{ N/mm}^2$ Water permeability: no water penetration Crack bridging: $\geq 0.75 \text{ mm}$

AQUAFIN®-2K/M-PLUS

Impact classes and typical applications in accordance with DIN 18533

Impact classes and typical applications in accordance with 18533		
Water exposure class	Water exposure	Example applications
W1-E	Ground moisture and non pressure water	<ul style="list-style-type: none"> o Capillary-bound water and water transported by capillary force even against gravity
W1.1-E	Ground moisture and non pressure water for floor slabs and walls in direct ground	<ul style="list-style-type: none"> o Highly permeable subsoil o Highly permeable back-filling of the building pit o Minimum 50 cm above the design water level
W1.2-E	Ground moisture and non pressure water for floor slabs and walls in direct ground with drainage	<ul style="list-style-type: none"> o Waterlogging in poorly permeable subsoil is avoided through drainage o Minimum 50 cm above the design water level
W2-E	Pressure water	<ul style="list-style-type: none"> o Water pressing in from the outside can act as groundwater, flood water or backwater.
W2.1-E	Moderate influence from pressure water ≤ 3 m immersion depth	<ul style="list-style-type: none"> o Backwater / flood water up to 3
W2.2-E	High exposure to pressure water > 3 m immersion depth	<ul style="list-style-type: none"> o Backwater / flood water over 3 m
W3-E	Non pressure water on earth-covered ceilings	<ul style="list-style-type: none"> o Precipitation water that seeps through the earth fill to the waterproofing and must be drained off there
W4-E	Splash water and ground moisture at the wall base and capillary water in and under walls	<ul style="list-style-type: none"> o Splash and seepage water affect the plinth surfaces, floor slabs and foundations o Water can rise in capillary action in and under walls o With double-shell masonry work, rainwater running off can seep into the space between the shells

Impact classes and typical applications in accordance with DIN 18534-1

Impact classes and typical applications according to DIN 18534 and DIN 18535			
Water exposure class	Water exposure		Example applications
W0-I	Low	Surfaces with less frequent exposure to splash water	Areas of wall surfaces above wash-basins in bathrooms and sinks in domestic kitchens. Areas of floor surfaces in domestic areas without drains, e.g. in kitchens, utility rooms, guest WCs
W1-I	Mode	Surfaces with frequent exposure to splash water or less frequent exposure to service water, without intensification due to accumulating water.	Wall surfaces above bath-tubs and in showers in bathrooms. Floor surfaces in the domestic area with drain. Floor surfaces in bathrooms with/without drain without high exposure to water from the shower area.
W2-I	High	Surfaces with frequent exposure to splash water and/or service water, mainly on the floor but temporarily intensified by accumulating water	Wall surfaces of showers in sports facilities/commercial sites. Floor surfaces with drains and/or gutters. Floor surfaces in rooms with showers that are flush with the floor. Wall and floor surfaces of sports facilities/commercial sites.
W3-I	Very high	Surfaces with very frequent or long-lasting exposure to splash and/or service water and/or water from intensive cleaning procedures, intensified by accumulating water	Surfaces in the area around the perimeters of swimming pools. Surfaces of showers and shower facilities in sports facilities/commercial sites. Surfaces in industrial sites (professional kitchens, laundries, breweries, etc.).
W1-B	Very high	Waterproofing containers and pools up to a water depth of 5 m	Containers and swimming pools.
W2-B	Very high	Waterproofing containers and pools up to a water depth of 10 m	Containers and swimming pools.

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Impact classes for container in accordance with DIN 18535

Impact classes for container in accordance with DIN 18535	
The water exposure class of a container depends on the filling level.	
Water exposure class	Filling level
W1-B	≤ 5 m
W2-B	≤ 10 m
W3-B	> 10 m

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