AQUAFIN®-2K/M-PLUS

Crack-bridging mineral-based waterproofing slurry



Material number	Package type	Colour	Units / pallet	Pc/package
204600001	35 kg, set (2 component)	Dark grey	42,000	1,000
	25 kg, bag		42,000	1,000
	10 kg, pail		40,000	1,000
204600002	21 kg, combination container	Dark grey	18,000	1,000
	15 kg, bag		90,000	1,000
	6 kg, pail		64,000	1,000
204600003	7 kg, set (2 component)	Dark grey	160,000	1,000
	5 kg, bag		160,000	1,000
	2 kg, pail		100,000	1,000

Areas of use/bonded waterproofing

- for waterproofing bonded with tiles and boards
- as bonded waterproofing for water impact class W0-I to W3-I in accordance with DIN 18534

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 DIN18535)

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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 - EMICODE® EC 1^{PLUS}

Advantages

- Resistant to frost, de-icing salts, UV and ageing
- Adheres to matt damp substrates without primers
- Vapour permeable

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/dm³
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/mm²
Water vapour diffusion coefficient µ	< 1000
CO2 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	approx. 5 - 30 °C
Pot life	approx. 60 minutes
Wet film thickness (yields 1 mm dry film thickness)	approx. 1.1 mm
Method of application, max. layer thickness per application step	up to 1 mm
Second application step after waiting time	approx. 3 - 6 hours
Foot traffic after	approx. 24 hours
Withstands pressurised water after	≥ 7 days

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System components in accordance with AbP AIV

Joint Sealing tape	ASO-Dichtband-2000 ASO-Dichtband-2000-Ecken (Innen und Aussen) ASO-Dichtband-2000-S ASO-Dichtband-2000-S-Ecken ASO-Dichtmanschette-Boden ASO-Dichtmanschette-Wand ASO-Dichtband-120 ASO-Dichtecke-I ASO-Dichtecke-A ASO-Dichtmanschette-W ASO-Dichtmanschette-B
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

System components for building waterproofing

Mortar / restoration plaster	ASOCRET-M30

Material rate

Material consumption rate according to the area of application

Exposure	Dry film thickness, mm	Wet film thickness, mm	Consumption, kg/m²
Basement walls and floor slabs	> 2,0	approx. 2,2	3,5
Plinth waterproofing	> 2,0	approx. 2,2	3,5
Transverse waterproofing	> 2,0	approx. 2,2	3,5
In accordance with WTA leaflet 4-6 "Subsequent waterproofing of building components in direct ground contact"			
Soil moisture/non-accumulating seepage water	> 2,0	approx. 2,2	3,5
Non-pressurised water	> 2,0	approx. 2,2	3,5
Standing seepage water /pressure water	> 3,0	approx. 3,3	5,3
Waterproofing of tanks and pools	> 2,0	approx. 2,2	3,5
Bonded with tiles/boards	> 2,0	approx. 2,2	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.			

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Processing equipment

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

Preparing the substrate

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. Before any subsequent application, remove all loose or poorly bonded layers from the wall footing and the transition to the splash water plinth down to the cementitious substrate.
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. Highly absorbent and slightly sanding substrates must be primed with ASO-Unigrund-GE, ASO-Unigrund-K, ASO-Unigrund-S and ASO-Unigrund-PLUS
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-SG3-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®-Dichtband-2000-S and integrated in the area waterproofing.

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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-Dichtmanschetten (Joint sealing tape sleeves) are to be used in accordance with their technical data sheets.

Application

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. processing in slurry and spray technique) Max. 0.5 l per 35 kg, add water. Water is added after mixing.
4. The mixing time is ca. 3 minutes.
5. After a settling period of ca. 5 minutes, thoroughly homogenise the compound again.

Waterproofing bonded with tiles and boards

1. Tiles or boards are layed 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 completely hardened at the time of the laying work.

Formation of intersections, movement and connecting joints

Use the ASO-Dichtband 2000 - System or the ASO-Dichtband-System along with the required pre-formed pieces to form movement and connecting joints, as well to integrated intersections and assembly parts. Bond joint sealing tapes, joint-tape edges or connections with the waterproofing material and fill in the overlap area and the edge zone with filler. Check elements such as linear drainage systems for suitability in advance and include them in the bonded waterproofing in accordance with the manufacturer's specifications.

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 container.

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 as a surface coating must not be exposed to point or linear loads.
- AQUAFIN®-2K/M-PLUS may be plastered and coated with vapour permeable, solvent-free dispersion facade 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®-Dichtmanschetten or alternatively ADF®-Pipe-Gasket 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 permitted.
- Protect surfaces that are not to be treated from the effects of AQUAFIN®-2K/M-PLUS!
- The waterproofing must not be affected by water during binding. The effect of water from behind can lead to spalling in case of frost.

AQUAFIN®-2K/M-PLUS

Relevant regulations

Extract of essential regulations

- DIN 18533
- DIN 18534
- DIN 18535
- WTA datasheets

Observe applicable safety data sheet!

Explanations

Conformity / Declaration / Verification

SCHOMBURG GmbH & Co. KG Detmold

P-1200/906/17
P-1200/907/17

MPA Braunschweig

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 kg/m² x $h^{0.5}$
Water vapour permeability	class I
CO_2 permeability	SD value > 50 m
Pull-off test for assessment of adhesion	≥ 0.8 N/mm²
Reaction to fire	Class E

CE

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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:	≥ 0.5 N/mm²
Tensile adhesion strength	
after contact with water:	≥ 0.5 N/mm²
after heat ageing:	≥ 0.5 N/mm²
after alternating frost/thaw exposure:	≥ 0.5 N/mm²
after contact with lime water:	≥ 0.5 N/mm²
Water permeability:	no water penetration
Crack bridging:	≥ 0.75 mm

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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-pressurised water	• Capillary-bound water and water transported by capillary force even against gravity
	W1.1-E	Ground moisture and non-pressurised water for floor slabs and walls in direct ground	• Highly permeable subsoil • Highly permeable back-filling of the building pit • Minimum 50 cm above the design water level
	W1.2-E	Ground moisture and non-pressurised water for floor slabs and walls in direct ground with drainage	• Water-logging in poorly permeable subsoil is avoided through drainage • Minimum 50 cm above the design water level
W2-E		Pressure water	• 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	• Backwater / flood water up to 3 m
	W2.2-E	High exposure to pressing water > 3 m immersion depth	• Backwater / flood water over 3 m
W3-E		non-pressurised water on earth-covered ceilings	• 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	• Splash and seepage water affect the plinth surfaces, floor slabs and foundations • Water can rise in capillary action in and under walls • With double-shell masonry work, rainwater running off can seep into the space between the shells

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

Impact classes and typical applications in accordance with DIN 18534-1			
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 and sinks in domestic kitchens • Areas of floor surfaces in domestic areas without drains, e.g. in kitchens, utility rooms, guest WCs
W1-I	Moderate	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.)

Impact classes for container in accordance with DIN 18535

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

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