SCHOMBURG GmbH & Co. KG
Aquafinstrasse 2 – 8
D-32760 Detmold (Germany)
phone +49-5231-953-00
fax +49-5231-953-108
email export@schomburg.de
www.schomburg.com

SCHOMBURG

Technical Data Sheet

AQUAFIN®-2K/M-PLUS

Art.-No. 2 04600

2.-comp., flexible, elastomeric, polymer-modified, cementitious waterproofing

CE

SCHOMBURG GmbH & Co. KG
Aquafinstraße 2 – 8
D-32760 Detmold
18
2 04600

EN 1504-2
AQUAFIN-2K/M-PLUS
Surface protection product – coating

Principle 1.3

Capillary water absorption and impermeability to water	w < 0,1 kg/m² x $h^{0.5}$
Water vapour transmission	class I
CO_2-transmission	SD-value > 50 m
Pull off test to determine adhesion	≥ 0,8 N/mm²
Reaction to fire	Class E

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EN 14891
AQUAFIN-2K/M-PLUS
Liquid applied water impermeable cementitious product for application beneath ceramic tile and slab finishes in exterior areas

EN 14891: CM

Initial tensile adhesion strength:	≥ 0.5 N/mm²
Tensile adhesion strength	
after contact with water:	≥ 0.5 N/mm²
after heat ageing:	≥ 0.5 N/mm²
after freeze-thaw cycling:	≥ 0.5 N/mm²
after contact with lime water:	≥ 0.5 N/mm²
Impermeability to water:	no water penetration
Crack-bridging:	≥ 0.75 mm

SCHOMBURG GmbH & Co. KG Detmold

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

MPA Braunschweig

GEV-EMICODE EC 1 PLUS very low emission

- Seamless and jointless, flexible, crack-bridging waterproofing
- Suitable for all load-bearing substrates, conventionally used in construction
- Bonds to damp substrates without priming
- Vapour permeable, resistant to frost, UV and ageing
- Resistant to de-icing salts
- Very low emission EC1 PLUS R in accordance with GEV-EMICODE
- Structural waterproofing in accordance with DIN 18533, DIN 18535 and DIN EN 1504-2
- Bonded waterproof membrane with tiles and slabs in accordance with DIN 18531, DIN 18534, DIN 18535 and DIN EN 14891
- Resistant to solutions which are aggressive to concrete up to XA2

Areas of application:

Structural waterproofing:

- Structural waterproofing of concrete and masonry work, wall and floor areas in contact with the ground, and for new build and refurbishment.
- Waterproofing against waterpressure from inside in container construction (e.g. service water tanks, waste water tanks).
- Horizontal waterproofing beneath walls, against capillary rising moisture.
- AQUAFIN-2K/M-PLUS has very low emission in accordance with GEV-EM ICODE, which normally results in positive evaluations within the scope of building certification systems in accordance with DGNB, LEED, BREEAM, HQE.
  Maximum quality level 4, lines 7 and 8 in accordance with DGNB criteria "ENV 1.2 Risks to the local environment".

When using in containers or exposed to aggressive or soft water with a hardness of < 30 mg CaO per l, an analysis of the water is a fundamental requirement. Assessment of the aggressiveness to concrete is in accordance with EN 1992-1-1 (Eurocode 2). AQUAFIN-2K/M-PLUS is resistant up to exposure class XA2.

Waterproofing in combination with tiles:

For safe and economical waterproofing in combination with tile or slab finishes, e.g. in bathrooms, sanitary rooms, and kitchens in living areas as well as balconies and terraces, swimming pools, and swimming pool borders. At the wall/floor junction, reinforce the surface waterproofing membrane by incorporating ASO-Joint-Tape-2000 or ASO-Joint-Tape-2000-S, dependent on the exposure class.

AQUAFIN®-2K/M-PLUS

Technical Data:

	UNIFLEX-M-PLUS	Powder component AQUAFIN
Basis:	Polymer dispersion	Sand, cement, additives
Mixing ratio:	1 part by weight	2.5 parts by weight
Packaging:	10 kg 6 kg 2 kg	25 kg 15 kg 5 kg
Colour:	white	grey

	Combined product
Density:	approx. 1.6 g/cm³
Pot life*):	approx. 60 minutes
Overcoat after*):	approx. 3–6 hrs.
Substrate/application temp.:	+ 5°C to + 35°C
Tensile adhesion strength to DIN EN 1542:	> 1.0 N/mm²
Crack-bridging to DIN 28052-6 (PG MDS/AIV)::	0.4 mm
Crack-bridging to DIN EN 14891 at normal and low temperatures:	≥ 0.75 mm
Crack-bridging to ASTM C836:	> 2.0 mm
Elongation, to ASTM D 412-16:	ca. 192 %
Watertightness when installed:	2.5 bar
Water vapour transmission coefficient μ:	approx. 1,200
Sd value at 2 mm dry film thickness:	approx. 2.4 m
Transmission coefficient, CO_2, μ	> 100000
Sd value, CO_2 at 2.0 mm dry film thickness:	> 200 m
Reaction to fire DIN EN 13501-1:	E

Ready for exposure*):

- Rainproof on sloped surfaces after approx. 6 hours, prevent standing water.
- by foot traffic after approx. 1 day
- by pressurized water after approx. 7 days
- coverable by tiles after approx. 1 day

*) at +23°C and 50% relative humidity. Due to project and weather conditions, the given data may extend or shorten. High temperatures and low humidity decrease whereas low temperatures and high humidity increase the drying time.

Storage::

Powder component:	cool and dry, 12 months
Liquid component:	frost free, 12 months; in the original unopened containers. Use opened containers promptly.
Cleaning:	Whilst still fresh, clean tools with water, dissolve and wash-off dried material with ASO-R001.

Substrate:

The substrate must be load-bearing, largely flat and fully pointed, and flat with open pores with a compact surface. It must be free from gravel clusters, blowholes, gaping cracks, and ridges, dust and adhesion reducing substances such as e.g. oil, paint, laitance layers, and loose components.

Suitable substrates are close textured concrete, renders P II and P III, fully pointed masonry work, cement-based screeds, poured asphalt of hardness class IC10, gypsium boards and gypsum fibreboards as well as heated and unheated screed constructions.

Break out or chamfer corners and edges such as e.g. at the base slab. Beforehand and using a suitable cement-based mortar e.g. ASOCRET-M30, make leveling to deviations in depth > 5 mm as well as mortar pockets, open masonry joints, damaged areas, substrates with large pores or uneven masonry work.

AQUAFIN®-2K/M-PLUS

Material consumption:

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
Waterproofing of tanks and pools	> 2.0	approx. 2.2	3.5
In combination with tiles/ slabs	> 2.0	approx. 2.2	3.5
Waterproofing beneath walls	> 2.0	approx. 2.2	3.5
Levelling layers	1	1.1	1.75
Possible greater material consumption due to uneven substrates as well as variations in manual application are to be taken into account.			

At the base/wall transition apply a slurry coat of AQUAFIN-1K or ASOCRET-M30 and whilst still wet, form a fillet with ASOCRET-M30 with a minimum side length of 4 cm. Once dried, waterproof with AQUAFIN-2KM-PLUS.

Pre-wet the substrate so that it is matt-damp at the time the AQUAFIN-2K/M-PLUS is applied. Prime highly absorbent and lightly sanded substrates with ASO-Unigrund-GE or ASO-Unigrund-K. The primer must be fully dry before continuing with other work steps.

Prepare penetrations with a thin-bed flange to a minimum width of 5 cm circumference around the flange composed of a suitable material for bonding such as e.g. stainless steel, red brass, PVC-U. Clean and degrease the flange. With narrower flange widths (> 30 mm, < 50 mm), we recommend bonding the waterproof gasket – at the flange transition – with ASOFLEX-AKB-Wall.

Eliminate moisture penetration from the rear and localised moisture from the negative side. In all cases where there is rear moisture penetration, we recommend prewaterproofing with AQUAFIN-1K, to prevent negative pressure from the substrate. Dependent on the water pressure, carry out single or multiple coatings beforehand. For ground moisture the consumption is min. 1.75 kg/m² and water pressure min. 3.5 kg/m² AQUAFIN-1K. In concrete constructions, moisture pressure from the negative side can also be elimnated with ASODUR-SG2/-SG2-thix. When using ASODUR-SG2/-SG2-thix, a consumption of 600–1.000 g/m² is required.

Product preparation:

Place approx. 50 - 60% of the liquid component into a clean mixing bucket and pre-mix with the powder component to create a homogenous, lump-free

AQUAFIN®-2K/M-PLUS

System components	Exposure classes	
	Waterproofing in combination with tiles and slabs*	Structural waterproofing
ASO-Joint-Tape 2000	×	–
ASO-Joint-Tape 2000-S	×	×
ASO-Joint-Tape-2000-S-Corners, (90°, internal/external)	×	x
ASO-Joint-Tape-2000-T- piece, -Cross	×	×
ASO-Dichtmanschette-Boden/ -Wand (Joint-Gasket-floor/wall)	×	×
ADF-Rohrmanschette (Pipe-Gasket)	–	×
ADF-Dehnfugenband	–	×
UNIFIX-S3	×	–
LIGHTFLEX	×	–
MONOFLEX-XL	×	–
MONOFLEX	×	–
MONOFLEX-FB	×	–
MONOFLEX-white	×	–
MONOFLEX-white 3:1 with UNIFLEX-F	×	–
ASODUR-EK98-Wall/-floor	×	–
ASODUR-DESIGN	×	–
SOLOFLEX	×	–
AK7P	×	–
CRISTALLIT-FLEX	x	–
CRISTALLIT-MULTI-FLEX	×	–
CRISTALLIT-VARIO-light	×	–
UNIFIX-S3-fast	×	–
SOLOFLEX-fast	x	–

*The AQUAFIN-TBS-system should be used in balcony and terrace areas.

mass. Then, add the remaining liquid component and adequately blend. With a mechanical mixer (approx. 500 – 700 rpm), a mix time of approx. 2 - 3 mins is required. Allow to stand for approx. 5 minutes, thoroughly homogenize by mixing once again.
Mixing AQUAFIN-2K/M-PLUS is carried out with the following mix ratio, parts by weight:
2.5 parts powder component : 1 part dispersion component.

Due to project or application conditions, e.g. application in the screen or spray technique, water addition of up to a maximum of 1.5 % (0.5 l/35 kg) AQUAFIN-2K/M-PLUS is permitted. Water is added after mixing the powder and liquid component.

AQUAFIN-2K/M-PLUS is applied, free from pores, by brush or trowel in at least two coats. The second, as well as subsequent coats may only be applied on the first coat can not become damaged by foot traffic or by further coating applications (approx. 3–6 hrs, depending on ambient conditions). A consistent thickness, dependent on exposure conditions, is achieved e.g. by a 4 to 6 mm notched trowel and subsequently smoothing. Use as much material as required to achieve the dry film thickness necessary for the water exposure class. An application thickness of more than 2.2 kg/m2 in a single coat can lead to crack formation and is to be avoided.

For application in the spray technique with suitable spray equipment, e.g. HighPump M8 (peristaltic pump), HighPump Small or HighPump Pictor (screw pump), we recommend a nozzle size of 4.5 to 6.0 mm. For more information, contact Dittmann Sanierungstechnik GmbH, Hohen Neuendorf, www.saniertechnik.de.

AQUAFIN®-2K/M-PLUS

To form water resistant expansions and construction joints, incorporate the ASO-Joint-Tape technology system components appropriate to the particular water exposure class.
Using AQUAFIN-2K/M-PLUS,
bond ASO-Joint-Tape-2000/-S or
ASO-Joint-Tape-2000/-S-Corners (internal and external corner pieces) in the corner areas, at the transition between wall and floor as well as over connection joints. Using a 4–6 mm notched trowel, apply AQUAFIN-2K/M-PLUS to both sides of the joint that is to be bridged. AQUAFIN-2K/M-PLUS has to be at least 2 cm wider than the joint tape to be used. Lay the joint tape into the wet layer and then carefully press in without folds or voids. Bonding must be carried out in such as way as to eliminate the possibility of water migration around the back. The joint tape should be laid in a loop over expansion joints. Waterproof tape joints should be overlapped by a minimum of 5 to 10 cm and bonded with AQUAFIN-2K/M-PLUS without folds or voids. Subsequently overcoat the bonded joint tapes with AQUAFIN-2K/M-PLUS and seamlessly integrate into the main waterproofed areas. Follow the same procedure when installing ASO-Joint-Tape pre-formed pieces.

Pipe penetrations:
To seal pipe penetrations, use
ASO-Dichtmanschette-Boden,
ASO-Dichtmanschette-Wand or ADF-Rohrmanschette approriate for the nominal diameter and waterproof to a minimum of 5 cm at the pipe penetration. When using suitable flange units, apply AQUAFIN-2K/M-PLUS to saturation on the thin-bed flange and the overlap area. Bed the ASO-Dichtmanschette into the wet coat without folds or voids and then fully integrate into the surrounding waterproofing by overcoating.

Drainage and protective boards with building elements in contact with the soil:
Waterproofing are protected against weathering and mechanical damage using suitable protective measures. Only install protective layers once the waterproofing has fully dried.
Protective and drainage boards can be fixed on dabs of COMBIDIC-1K but insulation boards is to be fully bonded with COMBIDIC-2K-CLASSIC or COMBIDIC-2K-PREMIUM and tightly butt jointed.

Waterproofing in combination with tiles and slabs:
Floor drains and penetrations in pool areas must be provided with suitable flange elements. Apply AQUAFIN-2K/M-PLUS to saturation on the thin-bed flange and overlap area. Bed the ASO-Dichtmanschette-Boden into the wet waterproofing without voids or folds so that a watertight connection is produced with the surrounding waterproofing. To seal pipe penetrations in walls, ASO-Dichtmanschette-Boden or ASO-Dichtmanschette-Wand appropriate for the nominal diameter can be used.
Roughen the pipe penetration, clean and degrease with a suitable material and prime as necessary. Apply on AQUAFIN-2K/M-PLUS to saturation and install the ASO-Dichtmanschette. Always overlap the joint tapes on to the surrounding waterproof membrane. Jointing is always carried out with a 5 cm to 10 cm overlap.
Installation of tiles or slabs is carried out with one of the tile adhesives named under system components. At the time of tile installation, the waterproofing coat must be fully hardened.

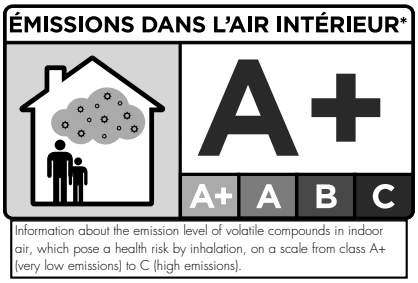
Advice:

- Protect areas that are not to be treated with AQUAFIN-2K/M-PLUS!
- During the curing process, do not expose the waterproofing to water. Water penatrating from the rear can lead to de-bonding in frost.
- In case of strong sunshine, work against the direction of the sun in the shade.
- In rooms with high humidity and / or inadequate ventilation (e.g. water containers), the surface may

drop below the dew point (condensatio). This can be prevented by using suitable measures such as e.g. dehumidifiers. Direct heat or uncontrolled blown warm air is not reliable.

- As a surface waterproofing, AQUAFIN-2K/M-PLUS may not be subjected to point or linear loading.
- AQUAFIN-2K/M-PLUS can be rendered and also coated with vapour permeable, solvent free dispersionbased facade or silicate paints (do not use pure silicate paints). Silicone resin or acrylate-based paints can also be used.
- Direct contact with metals such as copper, zinc and aluminium is to be prevented by a porous-free priming coat, produced with two coats of ASODUR-GBM. Apply the first coat to saturation to the degreased and cleaned substrate. Once this coat has reacted to a point where it will no longer accept a broadcasting sand (approx. 3–6 hrs.), apply a second coat of ASODUR-GBM and broadcast with 0.2–0.7 mm quartz sand. Consumption approx. 800-1000 g/m² ASODUR-GBM.
- To seal PVC, red brass and stainless steel flanges, abrade the flange, clean degrease, apply AQUAFIN-2K/M-PLUS and ASO-Dichtmanschette or alternatively the ADF-Rohrmanschette bedded without voids or folds and seamlessly connect with the surrounding waterproof membrane.

Follow the pertinent current regulatory works.
Please observe the valid EU safety data sheet.



Information about the emission level of volatile compounds in indoor air, which pose a health risk by inhalation, on a scale from class A+ (very low emissions) to C (high emissions).