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SCHOMBURG

Technical Data Sheet

AQUAFIN®-RB400

Rapid cementitious waterproofing

Art. No. 2 04218

CE

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2 04218

DIN EN 14891
AQUAFIN-RB400
Liquid-applied water impermeable cement-based product for use beneath ceramic tiling in external areas
DIN EN 14891: CM

Initial tensile adhesion strength	≥ 0,5 N/mm²
Tensile strength	
after water contact	≥ 0,5 N/mm²
after heat ageing	≥ 0,5 N/mm²
after freeze/thaw cycles	≥ 0,5 N/mm²
after contact with lime water	≥ 0,5 N/mm²
Water impermeability	no water penetration
Crack bridging	≥ 0,75 mm
Release of dangerous substances	NPD

NPD = „No Performance Determined"

RADON BARRIER

- Rapid reactive drying
- Multi-functional
- Good crack bridging
- Hydraulic, self-cross-linking setting
- Rainproof, can be walked on and coated already after just 3 hours
- Vapour-permeable, resistant to frost, UV-resistant and ageing-resistant
- radon barrier
- Sulphate resistant
- Resistant to de-icing salt
- Resistant to concrete-damaging water
- Resistant to negative pressure water
- Can be plastered an coated
- Bitumen-free

Areas of use:

- For the waterproofing in direct ground of walls and substrates of new and existing buildings on building components made of concrete or masonry work
- Waterproofing against internal pressure water in container constructions (e.g. service water tanks, waste water tanks)
- Waterproofing of window and door elements
- Horizontal waterproofing against capillary rising moisture in and underneath walls
- Application on old, firmly adhering bitumen coatings
- Bonding protective or perimeter insulation

If applied in containers or in case of water loads with aggressive water or soft water with a hardness < 30 mg CaO per l, a water analysis is always required. The degree of attack is evaluated in accordance with EN 1992-1-1 (Euro Code 2). AQUAFIN-RB400 is resistant up to exposure class XA2.

Technical data:

Drum size: 20 kg

	Liquid component	Powder component
Basis:	Polymer dispersion	Special cement, functional filling materials
Mix ratio:	1 part by weight	1.5 parts by weight
Packaging:	8 kg	12 kg
Colour:	white	grey

Combination product

Density:	approx. 1.1 kg/dm³
Grain size:	< 0.5 mm
Pot life*:	approx. 45 minutes
Substrate temperature/ processing temperature:	+5 °C to +30 °C
Adhesive strength, in accordance with DIN EN 1542:	> 0.5 N/mm²
Crack bridging ability referring to DIN 28052-6:	> 2.0 mm
Expansion, in accordance with ASTM D 412-06:	approx. 220 %
Crack bridging ability, in accordance with ASTM C836:	3.0 mm
Water-tightness:	2.5 bar
Sealing against negative pressing water:	1.5 bar

AQUAFIN®-RB400

Water vapour diffusion coefficient μ: approx. 670
s_d value at 2 mm dry film thickness: approx. 1.3 m
CO_2 coefficient of permeability, μ: > 96,000
s_d value, CO_2 at 3.0 mm dry film thickness: > 280 m
Full service conditions*):

- Rainproof on inclined surfaces after approx. 3 hours, standing water loading must be avoided
- Sealing against pressing water, (1 bar) after approx. 16 h

*) at +23°C and 50% relative humidity. The stated data may be extended or shortened as a consequence of weather conditions. Higher temperatures and lower humidity shorten the drying time, lower temperatures and higher humidity extend the drying time.

Storage:
Powder component: cool and dry, 9 months
Liquid component: Frost-free, 9 months in original unopened container, use the opened container promptly
Cleaning: Clean tools in fresh condition with water, loosen dried-on material with ASO-R001 and wash off

Substrate:
The substrate must be load-bearing, fully grouted and level to a large extent, open-pored, and have a closed surface. It must be free of gravel pockets, cavities, gaping cracks and ridges, dust and adhesion inhibiting substances such as oil, paint, laitance layers, and loose components.

Dense concrete, P II and P III plaster, fully grouted masonry, and cement-based screed are suitable as substrates.

Exposure	Dry film thickness, mm	Wet film thickness, mm	Consumption, kg/m²
Ground moisture, non-pressure water	> 2.0	approx. 2.2	2.4
Pressure water	> 3.0	approx. 3.3	3.6
Joint water proofing in conjunction with joint tape technology	> 2.5	2.75	3.0
Container waterproofing	> 2.0	approx. 2.2	2.4
Profile waterproofing beneath masonry	> 2.0	approx. 2.2	2.4
Non-pressure water on slab surfaces	> 3.0	approx. 3.3	3.6
Levelling layers	1 mm	1.1 mm	1.2
Possible additional consumption in case of uneven substrates and artisanal variations must be considered.			

AQUAFIN-RB400 can be used to renovate old, firmly adhering coatings containing bitumen **(not bitumen sheeting).** The waterproofing must be covered with a scratch coat and double-coated after drying out completely. The base point area and the transition to the splashing water base must be stripped down to the cementitious substrate beforehand, because these connection and termination areas are frequently affected by moisture penetration from the rear during renovation.

Corners and edges such as those on base slabs, etc. must be cut or chamfered. Depressions >5 mm and damaged areas, large-pored substrates, or uneven masonry must be levelled out beforehand using a suitable cement-based mortar, e.g. ASOCRET-M30. Alternatively, levelling or filling coats <5 mm can be applied with a mixture of AQUAFIN-RB400/quartz sand 0.1–0.35 mm (approx. 5 kg on 20 kg of AQUAFIN-RB400).

The substrate must be pre-dampened so that it is matt

damp when AQUAFIN-RB400 is applied. Extremely absorbent and slightly sandy substrates must be primed with ASO-Unigrund-GE or ASO-Unigrund-K, and the primer must be totally dry before the subsequent work steps are carried out.

Moisture penetration from the rear and intermittent moisture loading from the negative side must be avoided. We recommend pre-sealing with AQUAFIN-1K to prevent pushing off of the substrate. This requires min. 1.75 kg/m² AQUAFIN-1K. On uneven substrates, pre-sealing with ASOCRET-M30 can also be completed with consumption of 1.4 kg/m²/mm. Negative moisture loading can also be counteracted with ASODUR-SG2/-thix depending on the object. Consumption of 600–1,000 g/m² is required when using ASODUR-SG2/-thix.

Application:
Put approx. 50–60% of the liquid component into a clean mixing bucket and mix with the powder component to produce a homogeneous, lump-free compound. Finally, add the rest of the liquid component and mix sufficiently. A mixing time of approx. 2–3 min. is required with a powerful agitator (approx. 500–700 min^{-1}). After a settling period of approx. 2 minutes, thoroughly homogenise the compound again.

Due to the project or processing conditions, e.g. processing using the screening or spraying method, adding water up to a maximum of 1.0% (0.2 l/20 kg) AQUAFIN-RB400 is permitted. Water is added after mixing the powder and liquid component.

Pre-screen the base slab-wall transition with AQUAFIN-1K or ASOCRET-M30 featuring consistency able to be screened, and install a sealing groove of ASOCRET-M30 with an edge height of at least 4 cm while it is still wet. After drying, carry out the waterproofing with AQUAFIN-RB400.

AQUAFIN-RB400 is applied pore-free by trowelling, spraying or brushing for at least two application steps. The second and subsequent application steps may be completed once the first application step cannot be damaged (approx. 3 hrs., depending on the ambient conditions). An even layer thickness is achieved, e.g. using a coating thickness trowel or a 6 to 8 mm notched trowel and then smoothing. Apply as much material as needed to achieve the required dry film thickness.

If you apply using the spraying method with suitable spraying systems like HighPump M8 (peristaltic pump), HighPump Small, -Medium or -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.

For watertight formation of moving and connecting joints, use the system components of the ASO-joint tape method in accordance with the respective wear class.

Apply ASO-Dichtband-2000-S, or ADF-Dehnfugenband in the transition between the wall and floor and across connecting joints, and adhere ASO-Dichtband-2000-S-Ecken joint tape in the corner areas with AQUAFIN-RB400. Apply AQUAFIN-RB400 at least 2 cm wider than the width of joint tape you use. The joint tape is placed in the fresh layer and then pressed in without voids or wrinkles. Bonding must be carried out in such a way that water cannot migrate around the back. The joint tape to be used should be inserted in a loop over movement joints. The joint tape edges must be adhered overlapping at least 5 to 10 cm with AQUAFIN-RB400, free of wrinkles and covering the whole area. Finally, the bonded joint tapes must be coated over with AQUAFIN-RB400 and seamlessly integrated into the waterproofing. Proceed in the same way when inserting ASO joint tape pre-formed pieces.

Pipe penetrations:
Depending on the nominal diameter, the ASO-Dichtmanschette-Boden (ASO sealing sleeve base)

or ASO-Dichtmanschette-Wand (ASO sealing sleeve wall) or ADF-Rohrmanschette (ADF pipe sleeve) are used for waterproofing pipe penetrations with non-pressing water and waterproofing is applied at least 5 cm onto the pipe penetration. In case of pressing water, use suitable loose fixed flange constructions. Apply the AQUAFIN-RB400 generously to the thin-bed flange and overlapping area, embed the sealing sleeve used free of voids and wrinkles and subsequently integrate in the waterproofing by means of complete over-coating.

Drainage and protection boards for components in direct ground:
The waterproofing must be protected against weathering influences and mechanical damage using suitable protective measures. Protective layers may only applied after drying is complete. Suitable protection and drainage boards can be fastened using heaps of COMBIDIC-1K, and the perimeter insulation must be bonded covering the whole area and butt jointed with COMBIDIC-2K-CLASSIC or COMBIDIC-2K-PREMIUM.

Alternatively, protective layers can be bonded covering the whole area with a mixture of AQUAFIN-RB400/ quartz sand 0.1–0.35 mm (approx. 5 kg on 20 kg AQUAFIN-RB400) and suitable notched trowel using the Buttering-Floating method.

Drainage is implemented in accordance with national regulations.

Notes:

- Protect surfaces that are not to be treated against the effects of AQUAFIN-RB400!
- The waterproofing must not be affected by water while it is setting. The effect of water from behind can lead to spalling in case of frost.
- In case of strong sunlight, work against the movement of the sun in shaded areas.
- In rooms with high humidity and/or insufficient ventilation (e.g. water containers), dew point undershooting (condensation formation) may occur on the surface. This must be avoided by taking suitable measures, e.g. by using condensation dryers. Direct heating or uncontrolled blowing warm air is not permitted.
- AQUAFIN-RB400 may not be subjected to punctuated or linear loads as the surface coating.
- AQUAFIN-RB400 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.
- Direct contact with metals like copper, zinc, and aluminium must be avoided by means of pore-sealed priming. Pore-sealed priming is produced via 2 application steps using ASODUR-GBM. The first application step is generously applied to the degreased and cleaned substrate. Once this coat has reacted to the extent that it can no longer be scattered (approx. 3–6 hours), another coat of ASODUR-GBM is brushed on and sprinkled with quartz sand featuring a grain size of 0.2–0.7 mm. Consumption of ASODUR-GBM approx. 800–1,000 g/m².
- To waterproof PVC, gunmetal, and stainless steel flanges, abrade, clean, and degrease the flange, apply AQUAFIN-RB400 and ASO-Dichtmanschette (ASO-Joint-Sleeve) or alternatively embed the ADF-Rohrmanschette (ADF-Pipe-Sleeve) without cavities or wrinkles and connect seamlessly to the surface waterproofing.

The current applicable regulations must be observed!
Please observe valid safety data sheet!