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SCHOMBURG

Technical Data Sheet

AQUAFIN®-RS300

Rapid hybrid waterproof membrane

Art.-No 2 04208

CE

SCHOMBURG GmbH & Co. KG
Aquafinstraße 2–8
D-32760 Detmold
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2 04208

EN 14891
AQUAFIN-RS300

Liquid-applied water impermeable cement-based product for use beneath ceramic tiling in external areas

EN 14891: CM

Initial tensile adhesion strength:	≥ 0.5 N/mm²
Tensile adhesion strength	
after water contact:	≥ 0.5 N/mm²
after heat aging:	≥ 0.5 N/mm²
after freeze/thaw cycles:	≥ 0.5 N/mm²
after contact with lime water:	≥ 0.5 N/mm²
Water impermability:	no water penetration
Crack bridging:	≥ 0.75 mm

FAST TECHNOLOGY

SCHOMBURG GmbH & Co. KG Detmold

P-DD-4534/01/2010C
P-DD-4535/01/2010

KIWA MPA, Bautest GmbH

Properties:

- Seamless and joint free construction waterproofing and waterproofing beneath tiles
- Multi-functional
- Highly flexible crack bridging
- Self cross-linking hydraulic cure
- Rapid reactive through drying
- Very low loss on drying
- After 3 hours resistant to rain and foot traffic and ready for overcoating
- Vapour permeable, resistant to frost, UV and ageing
- Resistant to de-icing salts
- Resistant to pressure
- Suitable for all load-bearing substrates conventional to construction
- Easy and very smooth application
- Highly slump resistant
- Can be brushed, trowelled or sprayed with suitable equipment
- Solvent free
- Bonds without priming to matt-damp substrates
- Construction waterproofing to DIN 18195, part 2, tables 7 and 8
- Tested against aqueous solutions aggressive to concrete in accordance with DIN 4030
- Tested against negative hydrostatic pressure

Areas of application:

Due to its reactive properties, AQUAFIN-RS300 is an efficient application as a construction waterproofer and for waterproofing beneath tiles.

Critical applications, e.g. applications at high humidity, low temperatures etc., can be carried out assuredly and without long waiting times.

Construction waterproofing:
AQUAFIN-RS300 can be applied for waterproofing wall and floor areas, in new-build and buildings under redevelopment, in contact with the ground where structural components are concrete or masonry work under the following conditions:

- Ground moisture/non-standing seepage water in accordance with DIN 18195 part 4
- Water not under pressure on surface areas and in wet rooms in accordance with DIN 18195, part 5
- Standing seepage water in accordance with DIN 18195, part 6
- Water under pressure in accordance with DIN 18195, part 6 (with suitable construction)
- Waterproofing against positive water pressure on the inside of container construction in accordance with DIN 18195, part 7 (e.g. swimming pools, service water containers, effluent containers)
- Horizontal waterproofing in and beneath walls against capillary rising moisture
- The waterproofing of external walls in contact with the ground against standing seepage water and water under pressure up to 3 m head of water including the transition zone to the concrete floor slab with high resistance to water penetration (waterproof concrete)
- Combination waterproofing as well as transitions such as e.g. base plinth waterproofing
- Suitable for bonding protective and perimeter insulation

When waterproofing containers the water must be analysed. For the assessment of the degree of chemical attack please follow DIN 4030.
AQUAFIN-RS300 is resistant up to degree of attack "highly aggressive" (exposure class XA2).

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Waterproofing beneath tiles:
AQUAFIN-RS300 can be used for assured and efficient waterproofing beneath tiles, when water impermeability from long term to constant water contact is required e.g. in bathrooms and kitchens in living areas, private and public washrooms as well as balconies and terraces, swimming pools and pool surrounds. At the wall/floor junction reinforce the waterproof membrane with ASO-Joint-Tape-2000 or ASO-Joint-Tape-2000-S dependent on the type of wet duty exposure.
AQUAFIN-RS300 is suitable for wet duty classes A and B in accordance with DIN 18195, part 7 and wet duty classes A0 and B0 in accordance with the ZDB information sheet (*1).
The impermeability to water when installed has been tested together with the ASO waterproof tape system in accordance with test principles for mineral-based waterproofing slurries (MDS) as well as for waterproofing combined with tiled finishes (AIV) up to a 15 m head of water and is acceptable for an installation depth up to 6 m.

Technical Data:

	Liquid component	Powder component
Basis:	polymer dispersion	special cement, functional fillers
Mixing ratio:	1 part by weight	1 part by weight
Packaging:	20 kg combined product	
	10 kg bucket	2 x 5 kg bag
	10 kg combined product	
	5 kg bucket	5 kg bag
Colour:	white	grey

	Combined product
Density:	approx. 1.27 g/cm³
Pot life *):	approx. 45 minutes
Overcoat after*:	approx. 2–4 hrs
Substrate / application temp:	+5° C to +35° C
Tensile adhesion strength to DIN EN 1542:	> 1.0 N/mm²
Tensile strength to DIN 53504:	approx. 1.0 N/mm² at +23° C
Elongation at break to DIN 53504:	approx. 85% at +23° C
Crack bridging to DIN 14879-6 0.4 mm crack, held 24 hrs:	passed
Watertightness in construction to PG MDS and AIV, (15 m WC):	passed
Impermeability to negative hydrostatic pressure:	1.5 bar
Water vapour resistance factor μ with a 2 mm dry film thickness:	approx. 1100
Sd value at 2 mm dry film thickness:	approx. 2.5 m

Conditions/material consumption/dry film thickness

Ground moisture/non-standing seepage water:	min. 3.0 kg/m²
	approx. 2 mm
Water not under pressure:	min. 3.0 kg/m²
	approx. 2 mm
Standing seepage water/ water under pressure:	min. 3.75 kg/m²
	approx. 2.5 mm

In accordance with the WTA information sheet "Retrospective construction waterproofing of structural components in contact with the ground":

Ground moisture/non-standing seepage water:	min. 3.0 kg/m²
	approx. 2 mm
Water not under pressure:	min. 4.5 kg/m²
	approx. 3 mm
Standing seepage water/ water under pressure:	min. 4.5 kg/m²
	approx. 3 mm

Waterproofing in accordance with DIN 18195, part 7:

Without tiled finish:	min. 3.0 kg/m²
	approx. 2 mm
In combination with tiles:	min. 3.0 kg/m²
	approx. 2 mm

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Apply approx. 1.1 mm wet film thickness per mm dry film thickness.
Greater consumption must be factored in for uneven substrates.
Ready for use*):
- Rainproof on surfaces to falls after approx. 3 hours, avoid exposure to standing water
- from water under pressure after approx. 3 days
- ready for tile installation after approx. 6 hours

*) at +23° C and 50% relative humidity

Storage: Powder component: cool and dry, 6 months.
Liquid component: frost free, 6 months in the original unopened containers.
Use opened packaging promptly.

Cleaning: Clean tools with water whilst product is still fresh. Soften dried on material with AQUAFIN-Cleanser and wash off.

System component	Wet duty classification		
	A, A0	B (incl. classes A, A0)	Construction waterproofing
ASO-Joint-Tape-2000	x	–	–
ASO-Joint-Tape-2000-S	x	x	x
ASO-Joint-Tape-2000-corners, (90°, internal/external)	x	–	–
ASO-Joint-Tape-2000-S-corners, (90°, internal/external)	x	x	x
ASO-Joint-Tape-2000-T-pieces, cross pieces	x	x	x
ASO-Joint-Sleeve-Floor/Wall	x	x	x
UNIFIX-S3	x	x	–
UNIFIX-2K	x	x	–
UNIFIX-2K/6	x	x	–
LIGHFLEX	x	x	–
MONOFLEX-XL	x	x	–
MONOFLEX-FB	x	x	–
ASODUR-EK98-Floor/Wall	x	x	–
ASODUR-Design	x	x	–
SOLOFLEX	x	x	–
AK7P	x	x	–
CRISTALLIT-flex	x	–	–
SOLOFLEX-white modified with UNIFLEX-B	x	x	–
CRISTALLIT-MULTI-flex	x	x	–
UNIFIX-S3-FAST	x	–	–
SOLOFLEX-FAST	x	–	–

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Substrate preparation:
The substrate must be load-bearing, largely flat and fully pointed, open pored and with a compact surface. It must be free from gravel pockets, cavities, gaping cracks and ridges, dust and be free from adhesion inhibiting substances such as oil, paint, laitance and loose parts. When using in combination with tiled finishes, DIN 18157, part 1 is decisive regarding substrate assessment.

Suitable substrates are concrete with sealed joints, render classes PII and PIII, fully pointed masonry work, cement-based screeds, poured asphalt of hardness classes IC10 and IC15, moisture resistant plasterboard and gypsum fibre boards, heated and unheated constructions. Corners and edges such as foundation slabs etc, are to be broken or chamfered. Deviations > 5 mm as well as mortar recesses, open butt or horizontal joints, breakouts, largely porous substrates or uneven masonry work are to be made good beforehand with a suitable cement-based mortar such as e.g. ASOCRET-M30 or SOLOCRET-15. Pre-wet substrates so that at the time of product application they will be matt-damp. Prime very porous substrates with ASO-Unigrund-GE or ASO-Unigrund-K, as well as aerated concrete or gypsum containing substrates, to improve adhesion.

Penetrations should be planned with thin-bed flanges of a minimum 5 cm circumferential width and composed of a material which can be bonded such as e.g. stainless steel, gun metal, PVC-U. With narrow flange widths (> 30 mm < 50 mm) we recommend bonding a waterproof gasket at the flange transition with ASODUR-EK98-wall.

Damp penetration from the rear or localized moisture from the negative side is to be excluded. In all cases when waterproofing with rear moisture penetration present, pre-treat with AQUAFIN-1K to prevent pressure from the substrate. Dependent on the wet duty conditions pre-treat with one or more coats. In case of ground moisture the consumption is a minimum of 1.75 kg/m² and for standing seepage water a minimum of 3.5 kg/m² of AQUAFIN-1K. For concrete components, moisture from the negative side can also be excluded with ASODUR-SG2/SG2-thix with a consumption of 600 – 1000 g/m².

AQUAFIN-RS300 can be used as a bonding agent on old, well bonded bitumen based waterproof membranes. Apply a scratch coat to the waterproof membranes and once fully dried overcoat with two layers of a high build bituminous coating at a thickness appropriate to the level of exposure.

Product application:
Pre-wet the substrate so that it is matt-damp at the time the AQUAFIN-RS300 is applied. Prime very porous and marginally sanded substrates with ASO-Unigrund. The primer must be fully dried before proceeding with following work.

Place approx. 50-60% of the liquid component into a clean mixing bucket and pre-mix with the powder component to a homogenous, lump free consistency. Subsequently add the remaining liquid and adequately mix. Using a mechanical stirrer (approx. 500-700 rpm) a mixing time of approx. 2-3 minutes is required. Allow to stand for approx. 5 minutes, then thoroughly blend once again.

Apply AQUAFIN-RS300 by brush or trowel techniques in a minimum of 2 coats free from pores. The second or next coat can be applied when the first or previous coat will not become damaged by foot traffic or by further coatings (approx. 2-4 hours dependent on ambient conditions). Dependent on the load case, an even coat can be achieved by using a 4 to 6 mm notched trowel and subsequent smoothening. Exclude application thickness greater than 3 kg/m² in one operation as cracks may appear in the waterproof layer due to the high binder content.

Alternatively AQUAFIN-RS300 can be spray applied with suitable equipment such as e.g. HighPump M8 (Peristaltic pump), HighPump Small or HighPump Pictor (screw feed pump). Information on the above can be obtained from HTG HIGH TECH Germany, GmbH, Berlin – www.hightechspray.de.

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When spray applying, a water demand of maximum 0.15 l / 10 kg AQUAFIN-RS300 is permitted, dependent on the equipment used.

To form waterproof movement and connection joints, insert the system component from the ASO-Joint-Tape technology appropriate for the particular wet duty service conditions. Use the pre-formed sections ASO-Joint-Tape-2000 corners (90° internal/external), ASO-Joint-Tape-2000-T sections, ASO-Joint-Tape-2000-Crossing and ASO-Joint-Sleeve for corners, penetrations and crossovers. Using a 4-6 mm notched trowel, apply AQUAFIN-RS300 a minimum of 2 cm wider than the waterproof tape, to both sides of the joint to be bridged. Lay the ASO-Joint-Tape-2000/-S into the fresh coat and subsequently carefully press into the waterproof coat, without creating voids or folds, using a steel trowel or roller. Watch for a full bedding and coverage. The bonding must be completed in such a way so that water cannot migrate around the back of the ASO-Joint-Tape-2000/-S. Over movement joints lay the ASO-Joint-Tape-2000/-S in a loop. Overlap waterproof tape joints by a minimum of 5 to 10 cm, fully bond without folds with AQUAFIN-RS300, overcoat and seal off the surface with a seamless application of the waterproof membrane. Install pre-formed sections in a similar way.
The installation of tiles can be carried out with one of the adhesives named as a system component. At the time of tiling, the waterproofing must be completely hardened.
As an alternative to the ASO-Joint-Tape system (production of mineral-based coved fillets):
Coat the junction between base slab and wall with AQUAFIN-1K. Construct a coved fillet with a minimum haunch length of 4 cm, using ASOCRET-M30. Once fully dried, carry out the waterproofing operation with AQUAFIN-RS300.

Drainage and protection boards with structural components in contact with the ground:
Waterproof coatings are to be protected from the influences of the weather and from mechanical damage through suitable protective measures in accordance with DIN 18195, part 10. Protective layers are only to be installed after the coating has fully dried. Suitable protective and drainage boards can be fixed with liquid lumps of COMBIDIC-1K and perimeter insulation fully bonded and tightly butt jointed with COMBIDIC-2K. As an alternative the protective layers can also be bonded with AQUAFIN-RS300. In this case the powder component is mixed with approx. 50 - 60% of the liquid component to a plastic consistency and fully bedded using the buttering-floating technique and a suitable notched trowel. Drainage is installed in accordance with the guidelines in DIN 4095.

Advice:
- Protect areas not being treated during the application of AQUAFIN-RS300.
- During the curing process the waterproof membrane may not come into contact with water. Water penetrating from the rear may be lead to delamination in frost.
- When there is strong sunshine, work against the direction of the sun working in the shaded areas.
- Due to the high polymer content a slight stickiness on the surface may occur in high temperatures. In this case we recommend post-treating with water in order to guarantee complete hydration.
- In rooms with high humidity and/or inadequate ventilation (e.g. water containers) temperature may drop below the dew point on the surface (condensation formation). This is to be prevented with suitable measures such as e.g. dehumidifiers. Direct heating or uncontrolled warm air blown in is not permitted.
- In container construction with strong currents as well as in shallow water areas with increased water flow, the AQUAFIN-RS300 coating is subjected to increased erosion. This is especially true when combined with high water temperatures (> +25° C). We recommend that the suitability of AQUAFIN-RS300 is assessed in relation to the project. If necessary, AQUAFIN-RS300 is to be protected by a tiled finish.
- As a surface protection AQUAFIN-RS300 may not be subjected to point or linear loading.

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- AQUAFIN-RS300 can be over-rendered and also over-painted with vapour permeable, solvent free dispersion or silicate dispersion paints (not pure silicate paints).
- Direct contact with metals such as copper, zinc and aluminium is to be prevented by a pore sealing primer. A pore sealing primer can be produced using two coats of ASODUR-GBM. Liberally apply the first coat to the degreased and cleaned substrate. Once this coat has reacted sufficiently so that it can no longer be disturbed (approx. 3-6 hours), brush 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 waterproof PVC, gunmetal and stainless steel flanges, abrade the flange, clean, degrease, apply AQUAFIN-RS300 and the ASO-Joint-Sleeve or alternatively bed in the ASO-Rohrmanschette without voids or folds and seamlessly connect with the membrane used on the rest of the area.
- Heed the relevant current regulations.
  For Germany e.g.:
  DIN 18195 waterproofing of buildings
  DIN 18157 implementation of ceramic tiled finishes using thin bed techniques
  DIN 18352 VOB part C: General technical contractual conditions (ATV) – tile installation
  DIN 18560 screeds in buildings
  EN 13813 European standard for screed mortars, screed materials and screeds
  DIN 1055 Influence of load bearing structures
  "Guidelines for the planning and implementation of waterproofing of structural components in contact with the ground with flexible waterproof slurries", Deutsche Bauchemie e.V.
  WTA information sheet 4-6 "Retrospective construction waterproofing of components in contact with the ground".
  The BEB information sheets distributed by the Bundesverband Estrich un Belag e.V.
  The technical information "Coordination of cut out points with heated floor constructions".
  The ZDB information sheets, distributed by the professional association of the German Tile Industry:
  [*1] "Bonded waterproof membranes"
  [*3] "Movement joints in tiled wall and floor finishes"
  [*5] "Ceramic tiles, natural stone tiles and cement-bound tiles on cement-based floor constructions on insulation"
  [*6] "Ceramic tiles, natural stone tiles and cement-bound tiles on heated cement-based floor constructions"
  [*7] "External finishes"

Please observe a valid EU Health & Safety data sheet (MSDS).

GISCODE: ZP1 (component A)
D1 (component B)