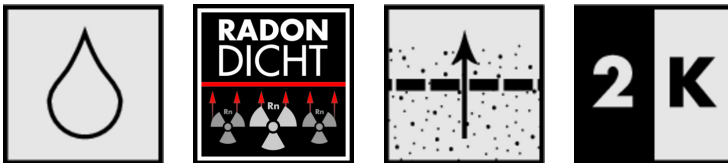


# AQUAFIN®-RB400

Rapid cementitious waterproofing



Material number	Contents	Unit of quantity	Packaging	Colour
204218006	32,5	KG	Set	Grey
204218007	24	KG	Combination packs	Grey

### Product features

- Flexible polymer modified thick layer coating (FPD)
- Cementitious waterproofing slurry (MDS)
- Bitumen-free
- Rapid reactive drying
- Improved crack bridging even at low temperatures (-5 °C)
- Very low emission - EMICODE® EC 1<sup>PLUS</sup>

### Advantages

- Sulphate resistant
- Resistant to frost, de-icing salts, UV and ageing
- Radon tight
- Good crack bridging

### 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)
- for waterproofing pressing water (W2.1-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)
- For waterproofing window and door elements to floor level
- Suitable for old, firmly adhering bituminous substrates

# AQUAFIN<sup>®</sup>-RB400

## 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. 1.1 kg/dm <sup>3</sup>
Crack bridging PG MDS / FPD	to 2 mm
Crack bridging in accordance with ASTM C836	> 3 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
Watertightness (PG FBB)	1.0 mm (joint width)
Tensile adhesion strength DIN EN 1542	≥ 0.5 N/mm <sup>2</sup>
Water vapour diffusion coefficient $\mu$	< 670
CO <sub>2</sub> diffusion coefficient, $\mu$	> 100000
CO <sub>2</sub> Sd-value (3.5 mm dry film thickness)	> 200 m
Rainproof	On inclined surfaces after approx. 3 hours; standing water must be avoided
Sealing against pressing water after (1 bar)	approx. 16 hours
UV-resistance as per DIN EN ISO 4892-2	2000 hours
Exposure classes (DIN EN 1992-1-1)	XA2
Classification of the reaction to fire in accordance with DIN EN 13501-1	E

### Mixing

Mix ratio, component A	1,5 weight proportion (powder)
Mix ratio, component B	1 weight proportion (fluid)
Mixing time	approx. 3 minutes
Maturing time	approx. 5 minutes
Water addition, maximum	Max. 0.24 l per 24 kg

### Application

Substrate/application temperature	from 5 °C to 30 °C
Pot life	approx. 45 minutes
Foot traffic after	approx. 24 hours
Overcoat after	approx. 3 hours
Pressurised water resilient after	≥ 1 days

# AQUAFIN<sup>®</sup>-RB400

## Material consumption

Material consumption rate according to the area of application

Water exposure class		Dry film thickness, mm	Wet film thickness, mm	Consumption, kg/m <sup>2</sup>
W1.1-E/ W1.2-E	Ground moisture and non-pressing water (concrete components)	≥ 2.0	≥ 2.2	≥ 2.4
W1.1-E/ W1.2-E*	Ground moisture and non-pressing water (masonry work)	≥ 3.0	≥ 3.3	≥ 3.6
W2.1-E *	Moderate influence from pressure water < 3 m	≥ 4.0	≥ 4.4	≥ 4.8
W3-E *	Floor slabs covered with soil	≥ 3.0	≥ 3.3	≥ 3.6
W 4-E	Splash water at the wall base and capillary water in and under walls	≥ 2.0	≥ 2.2	≥ 2.4
<b>Container waterproofing</b>				
W2-B	Water container Fill level < 10 m, crack width < 0.2 mm	≥ 2.0	≥ 2.2	≥ 2.4
W2-B*	Water container Fill level < 10 m, crack width < 1.0 mm	≥ 4.0	≥ 4.4	≥ 4.8
<b>Application in accordance with WTA Leaflet 4-6 "Subsequent waterproofing of building components in direct ground" (renovation):**</b>				
Soil moisture / non-accumulating seepage water		≥ 2.0	≥ 2.2	≥ 2.4
Non pressure water on slab surfaces, moderate exposure		≥ 3.0	≥ 3.3	≥ 3.6
Standing seepage water / pressure water		≥ 3.0	≥ 3.3	≥ 3.6
<b>Joint water proofing on transitions of concrete components ***:</b>				
without		≥ 4.0	≥ 4.4	≥ 4.8
ASO-Joint-Tape-2000S		≥ 2.5	≥ 2.8	≥ 3.0
ADF-Expansion-Joint-Tape		≥ 2.5	≥ 2.8	≥ 3.0

**Remarks:**

- \* Special agreement necessary. The specifications in the relevant general building authority test certificates for MDS (cementitious waterproofing slurry) and FPD (flexible polymer-modified test certificates) must be observed.
- \*\* The WTA leaflet is currently being revised in regards to the water impact classes of DIN 18533.
- \*\*\* The application applies to construction joints (horizontal and vertical) as well as intersections for waterproof and other concrete components.

## 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
- Applicable with a brush

### Machine application

AQUAFIN<sup>®</sup>-RB400 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
- Cement screed (CT)
- All substrates in accordance with DIN 18535, DIN 18531, DIN 18533

# AQUAFIN<sup>®</sup>-RB400

## 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. Edges are to be chamfered and corners are to be rounded.
3. Level indentations < 5 mm with ASOCRET-M30 / AQUAFIN-1K or a mixture of AQUAFIN-RB400 and quartz sand (Ø 0.1-0.35 mm) approx. 6 kg to 24 kg AQUAFIN-RB400.
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. Old, firmly adhering bituminous substrates must be covered with a scratch coat and overcoated after drying out completely.
2. 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.
3. On uneven substrates, pre-sealing can also take place with ASOCRET-M30.
4. Pre-moisten the dry substrate so that it is matt damp at the time of application.
5. Extremely absorbent and slightly sandy substrates must be primed with AQUAFIN-Primer .
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<sup>®</sup>-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<sup>®</sup>-RB400.

### 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. Put the liquid component into a clean mixing bucket and mix with the powder component to produce a homogeneous, lump-free mass.
2. The mixing time is ca. 3 minutes.
3. After a settling period of ca. 5 minutes, thoroughly homogenise the compound again.
4. 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.

### 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<sup>®</sup>-RB400 in a minimum of two application steps ensuring it is free of pores.
3. An even layer thickness is achieved using a coating thickness trowel or notched trowel and then smoothing.
4. 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")

### 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.

## AQUAFIN®-RB400

Transitions of watertight concrete building components with an immersion depth of up to 3 m (max. opening width 1.0 mm)

1. Apply the waterproofing to the prepared substrate to a minimum of 15 cm on both sides of the joint.
2. Guide the waterproofing down approx. 15 cm onto the front surface of the watertight floor slab in the wall/floor transition.
3. Processing takes place in 2 application steps. Total dry film thickness: 4 mm.
4. An even layer thickness is achieved using a 6 to 8 mm notched trowel and then smoothing.
5. Alternatively, the transitions can also be sealed using the ASO-Joint-Tape system.
6. Install the selected joint sealing tape in accordance with the technical data sheet.
7. Finally, overcoat the bonded joint sealing tapes with the waterproofing at least 15 cm on both sides of the joint. Minimum dry film thickness: 2.5 mm.

### Integration of floor-depth elements or window elements

1. Wooden substrates must be sanded if necessary.
2. Plastic elements must be degreased.
3. The adjacent substrates must be cleaned of ridges and dirt beforehand.
4. Fix the ASO-Connector-Joint-Tape to the element to be installed using self-adhesive strips.
5. Fold over the joint sealing tape.
6. Apply AQUAFIN-RB400 on the window element, substrate and masonry work.
7. Press on the joint sealing tape with no wrinkles and no voids.
8. Protect the corner areas using ASO-Joint-Tape-2000-S-Corners.
9. Then fully overcoat the entire area with two layers of AQUAFIN-RB400.

### Curing and protection

The material cures very well in areas with high humidity. In relatively dry areas, keep the coating damp for at least 3 days. In poorly ventilated rooms and deep pits, adequate ventilation should be provided for 24 hours.

### Cleaning tools

Rinse tools immediately with water. Dissolve dried material with ASO-R001 and wash off.

### Drainage and protection boards for building components in direct ground

- The waterproofing must be protected against weathering influences and mechanical damage using suitable protective measures in accordance with DIN 18533.
- For the bonding of suitable protection/drainage boards and perimeter insulation boards, AQUAFIN-RB400 is mixed with quartz sand 0.1-0.35 mm (approx. 6 kg per 24 kg AQUAFIN-RB400) and applied with a suitable notched trowel using the buttering-floating method. Depending on the water impact class, bonding is either spot-application or covering the whole area. Alternatively, bonding can be carried out with 2-component bituminous thick layer coating (PMBC) COMBIDIC-2K-CLASSIC or COMBIDIC-2K-PREMIUM.
- Drainage is carried out in accordance with the specifications of DIN 4095.

### 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 AWV 17 01 07 and AWV 08 04 10.

# AQUAFIN®-RB400

## Notes

- Protect surfaces that are not to be treated from the effects of AQUAFIN®-RB400!
- AQUAFIN®-RB400 may not be subjected to punctiform or linear loads as the surface coating.
- AQUAFIN®-RB400 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.
- 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.
- If applied in containers or in case of water loading with aggressive or soft water featuring hardness < 30mg 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).

## Relevant regulations

**The recognised standards of construction engineering, the relevant guidelines and current regulations must be observed.**

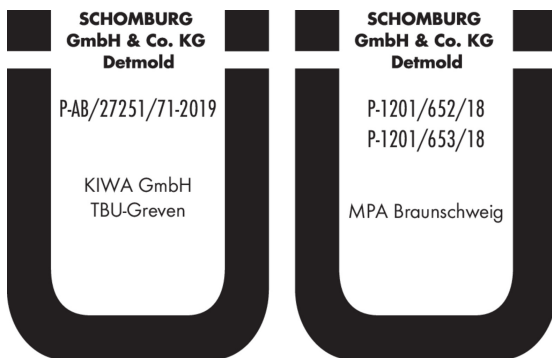
Extract of essential regulations

- DIN 18533
- DIN 18535

## Observe applicable safety data sheet!

## Annotations

Conformity / Declaration / Verification



## AQUAFIN®-RB400

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

Crack classes in accordance with DIN 18533

Crack classes in accordance		
Crack class	Crack formation / crack width change	Typical waterproofing substrate
R1-E	$\leq 0.2$ mm	Reinforced concrete without crack-causing force and bending action; masonry work in the plinth area transition; substrates for cross-section sealing
R2-E	$\leq 0.5$ mm	Closed joints of two-dimensional building components (e.g. prefabricated parts); unreinforced concrete; reinforced concrete with crack-causing force, tensile or bending action; masonry work subjected to earth pressure; joints at material transitions
R3-E	$\leq 1.0$ mm – crack offset $\leq 0.5$ mm	Joints of waterproofing back layers; contact joints of walls subjected to earth pressure
R4-E	$\leq 5.0$ mm – crack offset $\leq 2.0$ mm	

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	$\leq 5$ m
W2-B	$\leq 10$ m
W3-B	$> 10$ m

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