



## Technical Data Sheet

# AQUAFIN®-IC

## Crystalline waterproof slurry

**Art.-No. 2 04220**

### Properties:

- Penetrates the capillaries in concrete.
- Continually active.
- Can be applied to damp substrates.
- Chloride free.
- Resists high levels of hydrostatic pressure.
- Carbonisation barrier.
- Waterproofs retrospective cracks up to 0.4 mm.
- Test certificates to DVGW worksheets W 347 and W 270 are available.

### Areas of application:

- Exterior and interior waterproofing in cellars, lift shafts, foundations, retaining walls.
- Waterproofing containers for drinking and service water, retaining basins, water treatment plants, garages, tunnels etc.
- Waterproofing beneath screeds (unbonded screeds or floating screeds).

An analysis of the water is necessary where the hardness degree is  $\leq 3^\circ$  dH. For the assessment of aggressiveness towards concrete to DIN 4030 the level of lime soluble carbon dioxide is obligatory.

### Typical Properties:

Basis:	sand/cement, inorganic
Colour:	grey
Bulk density:	1.1 kg/litre
Mix:	25 kg AQUAFIN-IC to 6.75 to 8.0 litres clean water
Mixing time:	3 minutes (drill with 300 – 500 rpm)
Pot life:	30 to 60 minutes (at +23° C / 60%)
Substrate/Application temperature:	min. approx. +5° C to max. approx. +35° C. Lower temperatures extend, higher temperatures reduce curing times.

Ready for exposure at +20° C and 60% relative humidity:

- to rain after approx. 24 hours
- to foot traffic after approx. 5 hours
- backfilling the building trench after 3 days
- filling containers after approx. 7 days

### Technical Properties:

Compressive strength:	approx. 18 N/mm <sup>2</sup> at 7 days approx. 21 N/mm <sup>2</sup> at 14 days approx. 25 N/mm <sup>2</sup> at 28 days
Flexural strength:	6.2 N/mm <sup>2</sup> at 28 days (ASTM C 580:96)
Adhesion strength:	1.0 N/mm <sup>2</sup> (ASTM D 4541:2002)
Water impermeability:	> 13 bar negative or positive side

### Surface preparation:

The substrate must be sound, clean and have an open capillary structure. The surface must be porous and permit a good surface adhesion so that the chemicals can penetrate well into the concrete. Horizontal areas should have a rough surface. Smooth surfaces must be mechanically abraded in order to achieve good penetration.

1. All adhesion inhibiting substances such as dirt, cement laitance, mould oil, hardeners, loose components, paint etc. must be removed by sand blasting, water jetting or other mechanical methods.
2. Eradicate all ridges, gravel pockets and other damaged areas. Poor joints and visible cracks (non-dynamic) above 0.4 mm should be chased out 20 mm wide by 25 mm deep. Anchoring holes should be roughened.

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# AQUAFIN<sup>®</sup>-IC

3. Plug water leaks with FIX 10-S plugging cement.
4. Repair damaged areas with the repair mortar ASOCRETRN or ASOCRETIM dependent on area of application.
5. Pre-treat all connecting joints and construction joints with ASO-Joint-Tape-2000-S and AQUAFIN-2K/M (please see Technical Data Sheet).
6. Thoroughly pre-wetting all surfaces before application of AQUAFIN-IC with clean water. Repeated dampening may be necessary to ensure complete saturation, which promotes deeper penetrating crystalline growth. The substrate should be matt damp, without puddles or standing water.

## Product preparation:

Pour 6.75 to 8.0 litres of clean water into a clean mixing bucket and mix in sufficient dry mortar while mechanically stirring (drill at 300 – 700 rpm) until a lump free, homogenous fluid or sprayable consistency is achieved. Only mix as much material as can be used within the pot life. After a maturing time of min. 3 minutes, stir again.

## Application:

### Dry shake application:

Concretes must be designed to develop a good load bearing capacity. AQUAFIN-IC must be broadcast at the coverage rate appropriate for the expected water exposure (see under "Estimating & Supply") on to freshly poured concrete.

For large areas it is recommended that the floor be marked into bays with known area. Sufficient AQUAFIN-IC should then be laid out to meet the recommended spread rate. Once the concrete has started initial setting (light foot traffic imprint of 3-5 mm) apply AQUAFIN-IC immediately. When AQUAFIN-IC absorbs the concrete moisture entirely and a uniform darkening of colour takes place, commence with the power floating. Do not overwork the material.

### Application by brush:

Spread two coats of AQUAFIN-IC at the required

quantity in a slurry consistency with a roofers brush or builders brush. Brush thoroughly and evenly, working into the substrate. Apply the second coat whilst the first coat is still tacky and hasn't dried out.

### Spray application:

AQUAFIN-IC can be applied with the aid of suitable compressed air spray equipment. Dependent of the final wet duty of the installation spray apply one or two coats in a circular motion. Apply the second coat whilst the first coat is still tacky and hasn't dried out.

### Curing and protection:

- a) In exteriors or exposed areas: keep AQUAFIN-IC damp for min. 3 days. Protect areas exposed to the weather from sun, wind and frost with e.g. polythene sheets, canvas etc. Re-wet the area in intervals with water, starting 1 day after application. Alternatively the surface can be covered with polythene. The fresh coating should be protected from rain for a minimum of 24 hours. Backfilling can take place 3 days after the last coat.
- b) Interiors: In areas with high humidity the material cures very well. In relatively dry areas keep the coating damp for 3 days. Ensure that there is adequate ventilation for 24 hours in areas of poor ventilation and deep pits.
- c) Containers and tanks: Filling is possible after 3 days. In the case of drinking water storage, the container must be thoroughly rinsed with drinking water before filling. When properly installed, AQUAFIN-IC is permanently active.

### Estimating & Supply:

Packaging:

Available in 25 kg bag

Material consumption:

Dry film thickness:

min. 0.8 mm

Ground moisture/non standing backwater:

0.75 kg/m<sup>2</sup> in one coat

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Non-hydrostatic pressure:

1.2 kg/m<sup>2</sup> in two coats

Rising damp / hydrostatic pressure:

1.5 kg/m<sup>2</sup> in two coats

\*Consumption may increase on uneven substrates

## Cleaning of tools:

With water when in the fresh state, remove dried material with ASO-Steinreiniger.

## Storage & Shelf Life:

12 months when stored dry and frost free in the original unopened packaging. Use opened packaging promptly.

## Important advice:

- Protect areas not to be treated with AQUAFIN-IC from its' effects.
- AQUAFIN-IC cannot be used as an additive for concrete or renders.
- With concrete containing fly-ash it is possible that successive coats of AQUAFIN-IC may discolour and there may be an impaired reaction. The fly-ash component according to ASTM C-618 type C may only be max. 30% of the binder. The minimum quantity of CaO in the fly-ash should not be below 15%. Please contact the technical department regarding particular specification for concretes with type C fly-ash with low CaO content, type F or other pozzolanic concrete additives.
- The reaction between AQUAFIN-IC and free lime in concrete can lead to minor efflorescence. This is not detrimental and can be removed with a brush.
- Different colourings are dependent on the differing dampness of the concrete.
- Temperatures around +10° C to +15° C are to be expected in water containers. In order to guarantee complete hydration of the cement, keep the coating damp for an adequate length of time (constant relative humidity of > 80%) and protect against drying out. In general 7 days is sufficient. It is essential to avoid the

formation of condensation or standing films of water during this time period. Where there is a danger of dropping below the dew point (condensation formation) install dehumidifiers until the mortar is cured. At no time should uncontrolled warm air be blown inside.

- To increase pot life/working time at higher temperature store material in a cool environment above +5° C and only expose to warm temperature shortly before mixing. Additionally use of cold water can also increase pot life/working time, if water addition is necessary.
- AQUAFIN-IC may need up to one month to achieve its maximum waterproofing properties. Influencing factors are ambient temperature, humidity, concrete composition etc.

Please observe a valid EU health and safety data sheet.

GISCODE: ZP1