



Technical Data Sheet

AQUAFIN®-IC

Crystalline waterproof slurry

Art.-No. 2 04220

CE	
SCHOMBURG GmbH & Co. KG Aquafinstraße 2-8 D-32760 Detmold 14 2.04220	
EN 1504-2 AQUAFIN-IC Surface protection product Moisture balance regulation Principle 2.2(C)	
Capillary water absorption and water permeability	$w < 0.1 \text{ kg/m}^2 \times \text{h}^{0.5}$
Water vapour permeability	Class I - $S_D < 5 \text{ m}$
Tensile adhesion strength by pull-off test	$\geq 1.0 \text{ N/mm}^2$
Reaction to fire	Class E

Properties:

- Penetrates the capillaries in concrete.
- Continually active.
- Can be applied to damp substrates.
- Chloride free.
- Resists high levels of hydrostatic pressure.
- Carbonatisation barrier.
- Waterproofs retrospective cracks up to 0.4 mm.
- Test certificates to German 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 $\leq 3^\circ \text{ dH}$. AQUAFIN-IC is resistant against strong chemical attack (exposure class XA2 to DIN 4030).

Technical Data:

Basis: sand/cement, additives
 Colour: grey
 Bulk density: 1.1 kg/l
 Mix: 25 kg AQUAFIN-IC to 6.75 to 8.0 litres clean water

Mixing time:	3 minutes (drill with 500 – 700 rpm)
Pot life:	30 to 60 minutes (at +23° C / 60%)
Substrate/Application temperature:	min. +5° C to max. +35° C. Lower temperatures extend, higher temperatures reduce curing times.
Packaging:	25kg bags
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.
Material consumption:	
Dry film thickness:	min. 0.8 mm -1.5 mm
Ground moisture/ non standing drainage water:	0.75 kg/m ² in one coat
Non-hydrostatic pressure:	1.2 kg/m ² in two coats
Rising damp / pressure water:	1.5 kg/m ² in two coats
*Consumption may increase on uneven substrates	

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/mm² at 7 days
 approx. 21 N/mm² at 14 days
 approx. 25 N/mm² at 28 days

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Flexural strength:	approx. 6 N/mm ² at 28 days (ASTM C 580:96)
Adhesion strength:	approx. 1 N/mm ² (ASTM D 4541:2002)
Water impermeability:	min. 13 bar negative or positive side (CRD-C 48-92, US)

Substrate 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 and repaired with ASOCRET-IM. Anchoring holes should be roughened.
3. Plug water leaks with FIX 10-S or Fix 20-T plugging cement.
4. Repair damaged areas with INDUCRET-BIS-system or ASOCRET-IM dependent on area of application.
5. Pretreat all connecting joints and construction joints with ASO-Joint-Tape-2000-S and AQUAFIN-RS300 or AQUAFIN-2K/M (please see respective Technical Data Sheets).
6. Thoroughly pre-wetting all surfaces before application of AQUAFIN-IC with clean water is recommended. 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 500 – 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:

AQUAFIN-IC must be broadcast at the coverage rate appropriate for the expected water exposure (see under „Material consumption“) 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, start trowelling of the surface (helicopter smoothening).

Application by brush:

Spread two coats of AQUAFIN-IC at the required quantity in a slurry consistency with a roofer's brush or builder's 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, e.g. with the HighPump M8 (peristaltic pump), Highpump Small or HIGHPUMP Pictor (spiral pump) from HIGH TECH, Berlin. Dependent on 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. Re-wet the area in intervals with water, starting 1 day after application, if not 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.

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b) Interiors: In areas with high humidity the material cures very well. In relatively dry areas keep the coating damp for min. 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.

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.
- A load bearing surface is necessary for a long lasting bond between surface and coating system. Adhesion inhibiting materials have to be removed completely. High pressure (> 400 bar) or ultra high pressure (> 2000 bar) waterblasting and blasting with solid abrasives are suitable procedures. The final cleaning has to be carried out with water blasting.
- 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