Crystalline Waterproofing Slurry

- ☑ **Capillary/Crystalline (gray + white)**
- ☑ **Penetrates into Concrete**
- ☑ **Potable water approved - NSF/ANSI 61**
- ☑ **Permanently active**
- ☑ **Tested up to 200 psi (14 bar) pressure**
- ☑ **Applied to moist (damp) substrate**
- ☑ **Contributes to LEED (EQ 4.2)**

Product Description

AQUAFIN-IC (IntegraCoat) is a state-of the art one-component, penetrating cementitious material which waterproofs and protects new or old structurally sound concrete or concrete masonry in-depth. It resists strong hydrostatic pressure and is not a vapor barrier (lets concrete "breathe").

Typical Applications

- Exterior (positive side) or interior (negative side) waterproofing of below grade foundations, basements, retaining walls, utility vaults, elevator pits.
- Water tanks (potable + non-potable), wastewater tanks, water catchment basins, manholes, parking garages, tunnels, slurry walls.

Advantages

- Environmentally friendly
- Permanently active
- Easy to use - needs only water for mixing
- Can be applied to green concrete as soon as forms are stripped
- Protects concrete against fresh water, salt water, waste water & aggressive ground water
- Brush, dry-sprinkle or spray applied
- Resists strong hydrostatic pressure (tested up to 200 psi = 460 ft (14 bar = 140 m) head pressure)
- Seals and post seals shrinkage cracks, up to 1/64" (0.4 mm)
- Contains no chlorides
- Protects concrete in-depth - concrete remains waterproof even if coating is damaged
- Applied to positive (active) or negative (passive) water pressure side
- Inorganic - non toxic
- No odor - no fumes
- Cost effective.

Properties

AQUAFIN-IC contains active waterproofing chemicals which react with moisture and free lime in the concrete, creating insoluble crystalline complexes which seal the capillaries and minor shrinkage cracks. They penetrate even against strong hydrostatic pressure, becoming an integral part of the concrete. The waterproofing chemicals remain active for the life of the structure, permanently sealing it from water penetration.

Unlike a membrane, AQUAFIN-IC may require up to one month to reach its maximum waterproofing capability. Environmental factors such as ambient temperature, density of concrete, moisture present and weather conditions all can affect the timing of the sealing process. Under dry conditions the AQUAFIN-IC chemicals lie dormant, however they reactivate whenever re-exposed to moisture.

AQUAFIN-IC post seals shrinkage cracks up to 1/64" (0.4 mm), which occur after the product has been applied and cured.

Concrete treated with AQUAFIN-IC is highly resistant to most aggressive substances, pH 4 - 11 constant contact and pH 2 - 12 periodic contact. In addition it protects against rebar corrosion, spalling, freeze/thaw cycles and weather related damage.

Preparation of Substrate

The substrate must be sound, clean, and have an "open" capillary system ("tooth and suction"), and feel like fine sand paper (ICRI CSP 3 - 4 profile) to insure mechanical bond (surface adhesion) and allow AQUAFIN-IC chemicals to penetrate. Horizontal surfaces should have a rough wood float or broom finish. Smooth formed walls, or smooth troweled slabs; must be roughened, otherwise AQUAFIN - IC application may not achieve sufficient bond.

1. Remove all dirt, cement laitance, form release agents, curing compounds, loose particles, paints, etc. by means of acid etching, wet or dry sand-blasting, high pressure water blasting (i.e. 4,000 psi (275 bar) adjusting higher or lower depending on 28 day concrete strength) or other suitable mechanical means. Do not apply to smooth slabs.
2. Remove all protrusions, work back to sound concrete, chiseling out any honeycombed or damaged areas. Faulty construction joints and visible cracks not subject to movement, exceeding 0.02" (0.4 mm) should be routed out to a U-shaped configuration approx. 3/4" (20 mm) wide and a minimum depth of 1" (25 mm). Formtie holes should be roughened.
3. Stop active water leakages using PLUG-IC or FIX 10-S or chemical grout for severe infiltration.
4. Fill repair areas flush with surface using AQUAFIN MORTAR-IC or MORTAR-LN.
5. Thoroughly rinse all the surfaces to be waterproofed with clean water. Prewater several times so that the concrete or masonry is saturated to control surface suction and ensure the growth of the crystalline formation deep within the pores of the substrate. When AQUAFIN-IC is applied, the surface should be damp, but not wet. Any surface water on horizontal surfaces must be removed.

Mixing

Approximate mixing ratio is:

- by volume: 3 parts powder to 1 part water
- 50 lb powder to 1.6 - 1.9 gallons water (22.7 kg powder to 6.1 - 7.3 liters water)

Add the AQUAFIN-IC powder to water and mix thoroughly until the mixture is completely free of lumps. Mix only as much material as can be used within 30 minutes. AQUAFIN-IC should be mechanically mixed with clean water to a consistency of thick oil paint. Separate containers (equal volume), should be used for measuring the powder and water. If "false setting" occurs after mixing, do not add water; restir to restore workability.

Application

⇨ Do not apply AQUAFIN-IC at temperatures below 40° F (5° C) or to a frozen substrate. For temperatures of 90° F (32° C) and above consult our office.

⇨ Do not apply to a dry substrate.

⇨ Use AQUAFIN-1K for brick or stone substrates.

HORIZONTAL SURFACES & CONSTRUCTION JOINTS

A. Dry-sprinkle and power-trowel or wooden float application:

A trial dry-shake application is recommended prior to the actual application.

- Standard application for concrete with design strength up to 4000 psi (27.6 MPa): When the concrete to be treated starts to reach initial set, the specified amount of AQUAFIN-IC is dry distributed, by hand, using a sieve, or similar device, onto the concrete surface. It is then troweled in until coverage is uniform and the specified finish is achieved (smooth or brushed). Consult Technical Guideline G001.
- Obtain technical guidance from our office for concrete >4000 psi (>27.6 MPa).

B. Mud Slabs / Split Slabs / Construction Joints:

- Apply AQUAFIN-IC in slurry or dry powder consistency to pre-watered concrete substrate, "mud slab", split slabs or construction joints immediately prior to casting the structural slab or wall. Consult Technical Guideline G002.

C. Brush or spray application:

⇨ Note: Slab surfaces must have a rough wood float or broom finish.

- Apply AQUAFIN-IC in slurry consistency in the specified quantity, in one coat.

VERTICAL SURFACES & CONSTRUCTION JOINTS

A. Brush application:

- Apply two coats of AQUAFIN-IC, in the specified quantity, in a slurry consistency with a masonry brush. Brush on the material evenly and work it well into the surface. Apply second coat while the first coat is still tacky ("green").

B. Spray Application:

- AQUAFIN-IC may be applied using appropriate compressed-air spray equipment. Spray on one or two coats, according to the specification, in circular movements. Apply second coat while first coat is still tacky ("green").

Curing & Protection

➢ Outdoor, or exposed treated areas:

- Keep damp (moist) for a period of 2 - 3 days. Start curing as soon as AQUAFIN-IC has hardened sufficiently so as not to be damaged by a fine water spray. Alternatively a dissipating resin curing agent in elevator pits, wastewater tanks, etc. can be used. Call our office for guidance.
- Protect exposed surfaces against direct sun, wind and frost by covering with (black) plastic sheeting,

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burlap, or similar. Do not lay plastic sheeting directly on AQUAFIN-IC as air contact is required for proper curing.

- The freshly treated surfaces should be protected from rain for a minimum period of 24 hr.
- Back filling can be carried out 36 hrs after completion of the AQUAFIN-IC treatment. Protection boards are generally not required. Backfill material shall be moist and not contain rocks or larger aggregate.

➢ Indoor treated areas:

- Self curing in cool areas with high humidity.
- Keep moist for 2 - 3 days in areas with low humidity.
- Provide air circulation for 24 hr. following the AQUAFIN-IC treatment in poorly ventilated areas and deep pits.

➢ Water including structures:

- Can be carefully filled after 3 days. Do not fill large tanks faster than 6½ feet per 24 hrs (2 m/24 hrs).
- After complete curing of AQUAFIN-IC, potable water reservoirs should be thoroughly rinsed with potable water prior to being placed in service.

Decoration, Coating & Tiling

• All surfaces treated with AQUAFIN-IC which are to be coated or painted must be left to cure for at least 4 weeks. At the end of the curing period, the surfaces should be saturated with water and neutralized with a 1:8 solution of muriatic acid. Following this, the areas must be thoroughly rinsed with water.

• When a plaster or render finish is required on top of AQUAFIN-IC treatments, it is essential to apply a thin rough cast of sand and cement on the final AQUAFIN-IC layer when it has reached initial set. If this is not practical, carefully clean the hardened AQUAFIN-IC surface and apply an appropriate bonding agent prior to rendering.

⇨ Note: Do not use for waterproofing applications under thin set tile mortar (i.e. swimming pools, balconies, etc.). We recommend AQUAFIN-2K/M.

⇨ **Slabs on or below grade** to be covered with vinyl tiles or other non-breathable products (i.e. epoxy, some carpets, resilient flooring, etc.) must be checked for *moisture vapor emission* as per ASTM F 1869-98 before installation of tiles, etc. since AQUAFIN-IC is not a vapor barrier. Use AQUAFIN VAPORTIGHT COAT®-SG2 or SG3 if vapor emission exceeds permissible limits (i.e. >3.0 lbs/24 hr•1000 SF [>5 g/hr •m²]). Contact our Trchnical Department.

Safety

Refer to MSDS. This product contains Portland cement and silica and is highly alkaline. Avoid contact with skin and eyes. Wear rubber gloves and goggles during mixing and application. A respirator mask is recommended during spray applications. After contact with skin, wash with plenty of water. In case of eye contact, rinse immediately with plenty of water and seek medical advice.

KEEP OUT OF REACH OF CHILDREN.

Storage, Shelf Life & Maintenance

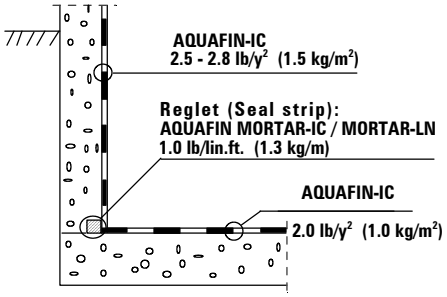
AQUAFIN-IC must be stored in a dry enclosed area off the ground. Shelf life in unopened, dry undamaged bags is 12 months.

When properly installed by an applicator experienced in the installation of crystalline waterproofing, AQUAFIN-IC is permanent and requires no maintenance.

Packaging

AQUAFIN-IC is supplied in 50 lb. (22.7 kg) PE-lined paper bags or plastic pails. AQUAFIN-IC must be stored in a dry enclosed area off the ground. Shelf life in unopened, dry undamaged bags is 12 months.

TYPICAL INTERIOR APPLICATION



Contact our office or web site to obtain additional waterproofing sketches.

Consumption & Yield				AQUAFIN-IC (Gray or White)	
Structure	No. of coats	Rate/Coat lb/yd²	(kg/m²)	Yield/Coat ft² /50 lb	(m² /22.7 kg)
Dampproofing:					
Normal surface applications	1	1.40	(0.75)	320	(30.3)
Hydrostatic pressure:					
Walls, internal / external	2 total	1.25 - 1.4 2.50 - 2.8	(0.75) (1.50)	320 - 360 160 - 180	(30.3) (15.1)
Concrete slabs	1	2.00	(1.00)	225	(22.7)
Top of mud slabs + split slabs	1	2.25	(1.20)	200	(18.9)
Construction joints	1	2.00	(1.00)	225	(22.7)

Note: For salt & waste water environments, apply 2.8 lb/y² (1.5 kg/m²) total.
All above values theoretical. Coating thickness, approximately 1/32" (0.8 mm).

NSF Certified to NSF/ANSI 61

Physical & Technical Data of AQUAFIN-IC

Aggregate State:	Powder	**Pot Life:**	30 minutes	**Bulk Density:**	68 lbs/ft³ (1.09 kg/dm³) gray
Colors:	Cement gray + white	**Setting Time:**	45 minutes (gray); 60 minutes (white)		
Potable water:	Certified to NSF/ANSI Standard 61 (gray + white)				
VOC content:	0% or 0 g/L				
Permeability: (CRD-C 48-92)	No measurable leakage up to 460 feet (140 m) head pressure or 200 psi (14 bar)				

All data are averages of several laboratory tests. Variables such as temperature, humidity and absorbence of the substrate may influence the above given values in actual applications.

LIMITED WARRANTY: AQUAFIN, INC. warrants its products to be manufactured free of defects and to be consistent with its standard high quality. We will replace or, at our election, refund the purchase price of, any product which is proven to be defective, provided that the product was properly applied. Our product recommendations are based on Industry Standards and testing procedures. We assume no warranties either written, expressed or implied as to any specific methods of application or use of the product. AQUAFIN, INC. MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. AQUAFIN, INC. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.

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