



## Technical Data Sheet

# AQUAFIN®-UM

Art.-No 2 04263

## Flexible cementitious protective coating

### Properties:

- Liquid applied waterproofing
- Applied above or below grade
- Elongation up to 37%
- Crack bridging
- Horizontal, vertical, or overhead applications
- Waterproofing of new or old below grade foundations
- Balconies, plaza decks, in combination with a UV protective sealer
- Underneath tile mortars (showers, sanitary rooms, kitchens, pools, etc.)
- Solvent free - Environmentally friendly
- No priming necessary in most cases
- Breathable (not a vapor barrier)
- Applied to moist/damp substrates
- Permanently flexible
- Resists strong hydrostatic pressure (tested up to 5 bar, positive side)
- Self curing
- Active barrier to carbon dioxide (CO<sup>2</sup>)

AQUAFIN-UM is a economic cementitious, polymer dispersion based highly flexible protective coating and waterproof barrier. This product is two-component and resistant to water, moisture and abrasion. Its liquid mixing component is solvent free. AQUAFIN-UM is a stand-alone product. It can be top or overcoated with flexible or rigid mortars, stuccos or coatings for uniform appearance. It bridges shrinkage cracks. Larger cracks, static (non moving) or dynamic (moving), can be sealed with ASO-Joint-Tape-2000 or ASO-Joint-Tape-2000-S.

### Typical Properties:

Mixing ratio:	25 kg powder (comp. I) to 8.33 kg liquid (comp. II)
Substrate/Application temperature:	min. approx. +5° C to max. approx. +35° C. Lower temperatures extend, higher

temperatures reduce curing times.

### Technical Properties:

Adhesion strength:	approx. 1.0 N/mm <sup>2</sup> (ASTM D 4541:2002)
Crack bridging:	1.14 mm (ASTM C 836:95)
Tensile strength:	6 N/mm <sup>2</sup> (ASTM D 412-98a)
Elongation:	37% (ASTM D 412-98a)
Water permeability:	Nil at 5 bar (BS EN 12390)
Shore 'D':	D/69/1 (ASTM D 2240:05)
Initial surface absorption:	Nil (BS 1881 Part 208:96)
Rapid chloride permeability:	94% reduction (ASTM-C 1202.97)
Water vapor diffusion μ-value:	2000

### Surface preparation:

The substrate must be sound, clean, and free from voids, gaping cracks or ridges and open pored (like fine sand paper). Remove bondbreakers, such as oil, grease, dirt, loose particles, remains of form oils, water repellents, rust or other coatings by waterblasting or wet or dry sandblasting.

Repair holes, defects, irregular surfaces, weak mortar joints, etc. with a patching mortar.

Round edges at vertical external joints.

Close large open pores and joint recesses of CMU blocks and joint unevenness in brick walls with sand/cement mortar before applying AQUAFIN®-UM.

Pre-water substrate (excluding drywall or similar) with clean water to saturated surface dry (SSD) condition, with no standing surface water.

Seal dry, dusty or very absorptive surfaces (i.e. drywall, gypsum) with one coat liquid component, diluted with water 1:4 to 1:5.

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# AQUAFIN®-UM

## A. Mixing ratio by weight:

25kg powder to 8.33kg liquid

## B. Mixing ratio by volume: approximately

2 parts powder to 1 parts liquid.

Pour AQUAFIN-UM liquid into a clean container, add AQUAFIN®-UM powder and stir to a lump free creamy consistency with a strong, slow speed (300 rpm) mechanical mixer.

**NOTE:** Do not apply AQUAFIN-UM at temperatures below + 5° C.

At high temperatures, i.e. +35° C and above, protect application from direct sun and wind to prevent premature surface drying and shrinkage cracks.

Apply material in 2 (two) coats minimum.

AQUAFIN-UM may be applied by brush, roller, trowel or appropriate compressed-air spray equipment. Surface can be left brushed or smooth troweled, depending on type of application and project specifications.

Do not pre-dampen brush or roller with water.

## Horizontal and vertical joints:

Seal horizontal wall-floor joints and internal vertical corners with ASO-Joint-Tape-2000. Alternative: form cove (minimum 40 x 40 mm) with cement mortar.

## Static cracks greater than 1,0 mm:

Repair static cracks >1,0mm width with ASO-Joint-Tape-2000, or rout (cut) out and fill with ASOCRETRN and cover with AQUAFIN-UM, reinforced with AQUAFIN-2K-fabric.

## Dynamic cracks and joints:

Seal dynamic cracks and expansion joints with ASO-Joint-Tape-2000-S.

## Positive side waterproofing 1,5 – 2,5 mm:

Apply AQUAFIN-UM in two coats as specified. Apply the second coat (or multiple coats) as soon as the first coat has sufficiently hardened or wait until next day.

## Negative side waterproofing 2,5 mm:

Apply 1st coat with AQUAFIN-1K at 2 kg/m<sup>2</sup>

Apply 2nd coat with AQUAFIN-UM at 3 kg/m<sup>2</sup>

## EXPOSURE\*) OF APPLICATION TO:

- rain, vertical surfaces, after approx. 3 hrs
- rain, horizontal surfaces, minimum 6 hrs
- foot traffic after approx. 1 day
- tile mortar and tiles after approx. 1 day
- hydrostatic pressure after reaching Shore A Hardness >85 (between 3 - 7 days)
- back filling after approx. 3 days

\*) at 20°C and 60% humidity.

## Curing and protection:

Self curing under normal conditions. Provide suitable protection against extremeweather conditions while setting.

- Attach drainage and protection boards after full curing of application (after 3 days).
  - The cured application can be troweled over with parging (rendering/ plaster) after 1 day or painted with a vapor open ("breathable"), solvent free paint (non silicate) after 3 days (at +20° C).
  - Do not expose the application to water during the setting time.
  - Expect prolonged setting and hardening time in rooms with high humidity, poorly ventilated areas and corners (i.e. water tanks).
  - Negative water pressure, if exposed to freezing, can create spalling of the application.
  - If application is exposed to intense sunlight work against movement of sun.
  - Carbonation protection and carbondioxide-screen: 1 mm AQUAFIN-UM thickness warrants the same protection as 30 cm of concrete.
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# AQUAFIN®-UM

## **Cleaning & Equipment Maintenance:**

Unhardened AQUAFIN-UM can be removed from tools and equipment with water. Once cured, material can only be removed mechanically.

## **Storage & Shelf Life:**

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

Use opened packaging promptly.

NOTE: the liquid component is sensitive to frost. When the ambient temperature is  $>35^{\circ}\text{C}$  the materials must be stored under acclimatized conditions.

## **Important advice:**

- Do not use in contact with alkali sensitive metals, such as copper, aluminum, galvanized or zinc treated metal. Protect and seal metal first with a primer
- AQUAFIN-UM has a limited UV stability. Long term exposure to direct sunlight may lead to decomposition of the polymer.
- To increase pot life/working time at higher temperature store material in a cool environment above  $+5^{\circ}\text{C}$  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.