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Technical Data Sheet

AQUAFIN®-2K/M

Art.-No. 2 04280

2-comp., flexible, polymer-modified, cementitious waterproof coating

Description:
AQUAFIN-2K/M is a flexible elastomeric, 2-comp. polymer modified coating that waterproofs and protects concrete, masonry, brick and some natural stone substrates with crack-bridging properties.

AQUAFIN-2K/M has excellent adhesion characteristics and provides a seamless system which can be left as the finished surface, or can be top-coated with tiles, pavers, paint, or other coatings.

Primary Uses:
For waterproofing water structures, sewage treatment plants, exterior basement walls, retaining walls, swimming pools, fountains, aquarium & zoo tanks, spillways, wet areas, under tiled applications, exposed and decoupled roofs and sealing of expansion and construction joints with ASO-Joint-Tapes.

General waterproofing:
- External waterproofing of old and new buildings against ground moisture, humidity, pressure water.
- Horizontal waterproofing beneath masonry.
- Internal waterproofing against humidity from outside.
- For waterproofing of underground car parks, prefabricated garages, containers, service water tanks, liquid manure containers, canalisation, areas of high humidity, terraces, balconies and swimming pools.
- For the fixing of ASO-Joint-Tape-2000, ASO-Joint-Tape-2000-S and ASO-Joint-Sleeve.

Waterproofing beneath tiles:
- Safe and economic waterproofing beneath tiles in wet rooms, where water impermeability against long term and permanent water table is demanded, i.e. in bath rooms, kitchens, shower rooms, on balconies and terraces.
- For waterproofing inside swimming pools.

NOTE: for applications were negative side hydrostatic water pressure can be anticipated use AQUAFIN-1K as a base coat.

Advantages:
- Crack bridging up to 2.6 mm
- Easy to use – can be brush, spray, roller or trowel applied
- Vapour permeable
- Waterproof – resistant to 5 bar (positive side water pressure)
- Can be tiled or left uncoated
- UV, weather and freeze-thaw resistant
- Bonds well to damp substrates without priming
- Environmentally friendly
- Resistant to concrete aggressive water according to DIN 4030
- Potable water approval according to DVGW W347
- Root resistance acc. to Swiss Society of Engineers & Architects: SIA V 280 no. 11.

Typical Properties:

Basis:	2-comp., cement/sand powder and acrylic polymer dispersion
Mixing ratio:	5:2 powder:liquid by weight
Mixing time:	2 - 3 min. (drilling machine min. 300 - 500 r/min)
Density:	1.6 g/cm³
Pot life:	approx. 60 min. at +23 °C, 60% RH. approx. 20 min. at +35 °C, 65% RH
Substrate/Application temperature:	min. +5° C to max. +35° C. Lower temperatures extend, higher temperatures reduce curing times.
Time between re-coat:	approx. 1.5 to 4 hrs. depending on climate conditions
Exposure to**):	- rain on inclined areas after approx. 6 hours - pedestrian traffic after approx. 1 day - pressure water after approx. 7 days

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	- setting of tiles after approx. 1 day
Service temperature:	traffic -15 °C to +50 °C non traffic -20 °C to +60 °C

**) at ambient temperature of +20 °C and 60% RH, for higher temperatures and RH consult the method statement for tropical climates.

Technical Properties:

Adhesion strength:	approx. 1.5 N/mm² at 28 d
Tensile strength:	4.2 N/mm² (ASTM D 412-98a)
Elongation:	115% (ASTM D 412-98a)
Crack bridging:	2.6 mm (ASTM C 836:95)
Water permeability:	Nil at 5 bar (BS EN 12390)
Abrasion resistance:	110 mg (ASTM D 4060:01)
Shore 'A':	approx. 85
Initial surface absorption:	Nil (BS 1881 Part 208:96)
Rapid chloride permeability:	85% reduction (ASTM-C 1202.97)
Vapour diffusion resistance number:	approx. 1,000 μ
Sd – value:	approx. 2 m
Sd – value, CO2:	approx. 200 m
Flammability class:	B2 (DIN 4102 Part 1)

Application Procedures:

Surface preparation

The surface must be clean, sound and fine pored. It must be free from grease, dust, pockets, cracks and ridges. AQUAFIN-2K/M is suitable for smooth concrete, screed, mastic asphalt, plaster, gypsum board and masonry. Coarsely pored surfaces like gutter blocks or precast concrete blocks have to be grouted with cement mortar, ASOCRET–FS or AQUAFIN-1K. Prime highly absorbent surfaces like light weight concrete or gypsum boards with ASO-Unigrund-GE or ASO-Unigrund-K to improve adhesion. Use suitable methods to prepare the substrate dependent on its condition such as e.g. brushing, vacuuming, grinding, milling, shotblasting and water jetting.

Details:

- Fillet cove, ledging corner: Form between masonry and foundation a fillet cove of 4 cm length with pre-blended mortar ASOCRET-RN or cement-based mortar and ASOPLAST-MZ additive.
- Existing cracks can be sealed with AQUAFIN-2K/M by embedding the ASO-Joint-Tape-2000 into the first layer.
- For moving cracks and construction joints use ASO-Joint-Tape-2000-S.

Mixing:

Pour approx. 2/3 of the liquid component UNIFLEX-M into a clean container and add AQUAFIN powder component whilst stirring until a lump free mass is achieved. Mixing time of 2 - 3 minutes is required. After that, add the remaining UNIFLEX-M and stir until a uniform consistency is achieved.

NOTE: Depending on application, max. 1.5% (approx. 0.5 l / 35 kg) water can be added during mixing in order to adjust application consistency.

Method of Application:

The substrate must be damp during the application. AQUAFIN-2K/M can be applied by brush, trowel, roller or appropriate spray equipment. At least two coats of AQUAFIN-2K/M are necessary. The applied thickness of the waterproofing must correspond with the required minimum thickness for the expected wet duty conditions.
Only apply the second layer when the first coat will not be damaged by further applications (at +20 °C after 4 hours at the earliest). Due to the possibility of crack formations avoid applied thicknesses greater than 2 kg/m² (= 1 mm dry film thickness) in one application to prevent the formation of cracks. For protection of the AQUAFIN-2K/M waterproofing the ASO-Systemvlies-02 may be embedded into the last layer.
AQUAFIN-2K/M can be spray applied with a suitable spraying machine, e.g. a HighPump M8 from HIGH TECH, Berlin. The required layer thickness is to be applied homogeneously according to the load case.

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Cleaning & Equipment Maintenance:
In wet state with water.
Cured material is etched with AQUAFIN-cleanser.

Estimating & Supply:
Packaging: AQUAFIN-2K/M is available in 35 kg (25 kg powder/10 kg liquid) 21 kg (15 kg powder/ 6 kg liquid) and 7 kg (5 kg powder/2 kg liquid) units.
Powder supplied in bags, liquid in pails.

Storage & Shelf Life:
When stored dry, and kept from freezing:
Powder component: approx. 12 months
Liquid component: approx. 12 months
In original unopened packaging.
Consume open packs immediately.

Loading case / consumption / dry layer thickness:
Positive waterproofing:

Type of application	Water head	Total recommended consumption (kg/sq.m)	Min. dry thickness (mm)**
Roofs, decoupled	below 1m traffic	2.0 – 2.25 2.5 – 3.0 *)	1.0 1.3
Roofs, composite waterproofing	 below 1 m traffic	 2.5 – 3.0 3.0 – 4.0 *)	 1.3 1.5
Balconies/terraces	non tiled tiled	3.0 – 4.0 4.0	1.5 2.0
Plaza decks		3.0 – 4.0 *)	1.5
Swimming pools	small to medium olympic, non tiled olympic, tiled normal adhesive olympic, tiled adhesive UNIFIX-2K/6	3.0 3.0 – 4.0 4.0 – 4.5 3.0	1.5 1.5 2.0 1.5
Fountains	up to 1.0 m up to 1.5 m	2.0 – 2.5 3.0 – 3.5	1.0 1.5
Water tanks	normal water tanks potable water tanks	3.0 – 4.5 4.0 – 4.5	1.5 2.0
below grade	below 2 m below 2 – 4 m below 4 – 7m below 7 – 10 m above 10 m	2.0 – 2.5 3.0 3.5 4.0 4.5	1.0 1.5 1.8 2.0 2.3

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Negative waterproofing below grade & direct water contact (on AQUAFIN-1K substrate):

Type of application	Water head	Total recommended consumption (kg/m²)	Min. dry thickness (mm)**
Below grade	below 2 m	2.0 – 2.5	1.0
	below 2 – 4 m	3.0	1.5
	below 4 – 7m	3.5	1.8
	below 7 – 10 m	4.0	2.0
	above 10 m	4.5	2.3

*) Depends of the amount of traffic.
**) Min. thickness of cured film on any point of the coating. These are technical limits of the product and do not reflect legal requirements for your application. Please review local building codes for conforming min. film thickness. These may be higher than the technical possible min. values stated.

Uneven surfaces may demand more material to reach the specified thickness.

Important advice:

- In hot and humid climates coating may become slightly tacky/sticky during the curing process. If this occurs, mist coating with water 24 hours after application to ensure complete hydration of material.
- Negative water pressure can lead to delamination during frost conditions.
- AQUAFIN-2K/M can be overplastered and also be painted with diffusion permeable and solvent-free paints (no silicate paints).
- In areas with high humidity and inadequate ventilation (i.e. in water tanks) allow for extended drying times.
- Avoid direct sunlight during application.
- Pre-dampen the surface prior to application of AQUAFIN-2K/M.
- Protect areas not be treated from AQUAFIN-2K/M.
- Eliminate direct contact with metals such as copper, zinc and aluminium with pore-tight, priming agent. A pore-tight primer can be produced with two applications of INDUFLOOR-IB1225. Apply the first coat thoroughly to the cleaned substrate and carefully brush in. As soon as this coat has dried sufficiently, so that it can no longer be brushed through (within approx. 3 to 6 hrs) then brush on the second coat of INDUFLOOR-IB1225 and broadcast with quartz sand (grain size: 0.2 to 0.7 mm). Consumption approx. 800 to 1,000 g/m² of INDUFLOOR-IB1225. For sealing of PVC and stainless steel flanging, abrade the flanges and degrease with isopropanol or acetone. Apply AQUAFIN-2K/M and bed in the ASO-Joint-sleeve or alternatively as ADF-pipe seal and fix without voids and folds.
- 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.
- The powder component of AQUAFIN-2K/M is classified as "irritant" in accordance with hazardous goods (GefStoffV).
- Please observe a valid European Materials Safety Data Sheet (MSDS).
- Low chromate level according to TRGS 613 (Technical regulation for Hazardous Materials, European standard).

GISCODE: ZP1 (Powder Comp.)
GISCODE: D1 (UNIFIX-M Liquid Comp.)

06/13 HS/AF/DR/PE/JD