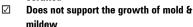
07 16 14 ACRYLIC MODIFIED (FLEXIBLE) CEMENT WATERPROOFING

## III AQUAFIN

# Flexible Cementitious Protective & Waterproof Coating

- ✓ Waterproofing membrane
- ✓ Withstands pedestrian traffic
- ✓ Various colors / color matching available
- ☑ Applied above or below grade
- ☑ Solvent Free 0 g/L VOC
- Potable water NSF/ANSI 61 certified



- ☑ Meets or exceeds ANSI A118.10 and 12
- UV, weather & freeze/thaw resistant
- ☑ Contributes to LEED (MR 5.1 + EQ 4.2)
- $\square$  30+ years of successful installations.

#### Product Description

AQUAFIN® -2K/M (in short "2K/M") is a state-of the art cementitious, acrylic emulsion based flexible protective coating and waterproof barrier. This product is two-component (powder Component-A and liquid Component-B) and resistant to water and mild abrasion. Available in standard gray and white, or several additional colors. Alternatively, it can be painted. If a sealed surface is desired AQUAFIN-CS/250 clear acrylic sealer can be applied.

"2K/M" is a stand-alone product. It bridges static (non-moving) cracks up to 1/16" (1.6 mm) (positive side applications) at 60 mils (1.6 mm) thickness, and accommodates one-time substrate movement up to 1/16" (1.6 mm).

#### **LEED Points:**

- ♦ MR Credit 5.1,
  - Regional Materials:..... Up to 2 Points
- ♦ IEQ Credit 4.2, Low-Emitting Materials, Paints and Coatings:......1 Point

#### **Typical Applications**

- ♦ Above or below grade exterior applications.
- Horizontal, vertical, or overhead applications to concrete, cementitious overlays, masonry, brick, parging (render), CBU's (cement backer units), gypsum board (drywall), glass mat faced gypsum sheathing, plywood (interior) overlaid with cement board), steel, PVC, mastic asphalt (interior), roughened polystyrol, properly prepared existing cementitious terrazzo floors, ceramic, porcelain and quarry tiles
- Exterior (positive side) waterproofing of new or old below grade foundations.
- Balconies (stand-alone or under tiles), parapets, planter boxes (excellent root resistance), plaza decks, stadiums.
- ♦ Mechanical & equipment rooms.
- ♦ Fountains, and other water features

(under tiles or exposed as stand-alone).

- Underneath flexible thin-set tile mortars (i.e. shower pans, sanitary rooms, kitchens, pools, balconies, etc. See ANSI A118.10 & 12 test results).
- Potable water, wastewater, sea water and marine aquarium tanks and other reinforced concrete structures.
- Over-coating and sealing of old bituminous dampproofing exterior below grade.

#### **Advantages**

- ◆ Environmentally friendly, low odor
- ♦ No priming necessary in most cases
- Breathable (not a vapor barrier)
- ◆ Applied to moist/damp substrates
- Resists abrasion & deicing salts
- ♦ Stands up to pedestrian and light traffic
- Resists strong positive side hydrostatic pressure
- ♦ Excellent root resistance
- ♦ Active barrier to carbon dioxide (CO<sub>2</sub>)
- ♦ Permanently flexible
- ♦ Self curing.

#### **Substrate Preparation**

The substrate <u>must be</u> sound, clean, and free from voids, bug holes, gaping cracks, honey combs, or ridges and <u>open pored</u> (like medium grit sand paper).

- 1. Remove bond breakers, such as oil, grease, dirt, loose particles, remains of form oils, water repellents, rust or other coatings by high pressure waterblasting (>5000 psi (34.5 MPa)) or wet or dry sandblasting. Pay particular attention to sufficiently roughen slab and wall substrates to ICRI CSP 3 to 5 profile. High pressure water blasting on troweled slabs is generally not enough. Use mechanical means to prevent "2K/M" from de-bonding!
- Repair holes, defects, irregular surfaces, weak mortar joints, etc. with AQUAFIN MORTAR-V/O; "40" or "LN".
- 3. Round edges at vertical external joints.
- 4. Close large open pores and joint recesses of CMU blocks and joint unevenness in brick walls with sand/cement mortar, AQUAFIN-1K or MORTAR-LN.
- "Sack"/close bug holes in concrete with AQUAFIN-1K.
- Dampen 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. light weight concrete, drywall, gypsum, plywood) with AQUAFIN-CS/250 acrylic sealer, or one coat "2K/M" liquid Comp.-B, diluted with water 1:4 to 1:5.
- Roughen fiberglass substrates using diamond cup grinding, zek wheel, wire wheel, etc. and clean with acetone prior to applying "2K/M".

#### Mixing

**NOTE**: In hot weather conditions, up to 20 fl. oz. (0.6 L) water can be added to a 46 lb (21 kg) pail unit and up to 1 Quart (1 L) to a 77 lb

(35 kg) bag & pail unit after initial mixing  $\underline{to}$  adjust application consistency.

**AQUAFIN®-2K/M** 

- A.Mixing ratio by weight = 5:2
  - 5 lb powder to 2 lb liquid (5 kg: 2 kg).
- B. Mixing ratio by volume = ~ 5 : 3 approx. 5 parts powder ("A") to 3 parts liquid ("B").
- C.Pour 2/3 liquid Component-B into a <u>clean</u> <u>container</u>, add "2K/M" powder (Comp-A)

and mix to a lump free creamy consistency. Add remaining 1/3 liquid and mix total 2 - 3 minutes with a strong, slow speed (300 rpm) mechanical mixer.



D. Pigmenting: Add and mix liquid pigments to liquid Component-B or powder pigments to powder Component-A prior to mixing Component-A with Component-B.

#### **Application**

NOTE: Do not apply "2K/M" at temperatures below 40°F (5°C) or to frozen substrates. Can be applied to 3 day old concrete at >86°F (>30°C) temperature and 5 day old at 60-70°F (15-21°C), or when concrete reaches minimum 2,000 psi (13.8 MPa).

- ◆ Protect application from direct sun and wind to prevent premature surface drying, bubbling and shrinkage cracks. Apply material in 2 (two) coats minimum.
- ◆ <u>Use AQUAFIN®-1K</u> as 1st coat where negative side pressure from ground or rain water can be expected.
- ◆ Do <u>NOT</u> directly apply "2K/M" over AQUAFIN-IC or similar crystalline waterproofing products.

#### Application tools:

"2K/M" may be applied by brush, roller, trowel or appropriate compressed-air spray equipment (i.e. Inomat-M8, Quikspray, or similar).

 $\underline{\underline{\text{Do not}}}$  pre-dampen brush or roller with water.

Quantities are dependent on the amount of protection desired.

Honeycombs & spalled concrete: repair using structural fast setting MORTAR-"40"; "V/O" or structural waterproofing and lining "LN".

Concrete bug holes: less than 1/4" (6 mm) width and 1/2" (12 mm) depth can be pre-treated with a scratch coat of AQUAFIN-1K to prevent "outgasing". Larger bug holes can be filled with MORTAR-LN.

#### Static horizontal and vertical joints:

Seal horizontal wall-floor joints and internal vertical corners with JOINT SEALING TAPE



## **AQUAFIN®-2K/M**

Consumption & Yield											
Application Condition:			Min. coating thickness DFT (dry film thickness) inch [ mils ] ( mm )			Application rate  lb/y² ( kg/m² )		Appx. Yield ft² ( m²)		77 LB UNIT Appx. Yield ft² ( m²)	
1. Foot traffic: walkways, non-tiled balconies, mech. rooms, planters			~1/16"	[ 60 ]	(1.6)	5.5	( 3.0 )	75	(7.0)	125	(11.6)
2. Tiled: balconies, plaza decks				[ 80 ]	(2.0)	7.3	(4.0)	56	(5.1)	94	(8.7)
3. Waterproofing above grade: water depth	A. <13 ft	(<4 m)	~1/16"	[ 60 ]	(1.6)	5.5	(3.0)	75	(7.0)	125	(11.6)
	B. 13 - 33 ft	(4-10 m)		[ 80 ]	(2.0)	7.3	(4.0)	56	(5.1)	94	(8.7)
Waterproofing, exterior application, below grade structures: (ground) water depth	A. <13 ft	(<4 m)	~1/16"	[ 60 ]	(1.6)	5.5	(3.0)	75	(7.0)	125	(11.6)
	B. 13 - 33 ft	(4-10 m)		[ 80 ]	(2.0)	7.3	(4.0)	56	(5.3)	94	(8.7)
5. Waterproofing, interior application, below grade structures:  1st (base) coat: AQUAFIN-1K (50 lb bag (22.7 kg))  2nd (top) coat: AQUAFIN-2K/M			~ 1/16" ~ 1/16"	[ 60 ] [ 60 ]	(1.6) (1.6)	4.6 5.5	(2.5)	98 75	(9.1) (7.0)	98 125	(9.1) (11.6)
6. Swimming Pools:	tiled			[ 80 ]	(2.0)	7.3	(4.0)	56	(5.3)	94	(8.7)
7. Aquarium & Zoo Tanks: Refer to Spec Sketch No.1.1.3-10.			~3/32"	[ 90 ]	(2.25)	8.3	(4.5)	50	(4.7)	84	(7.8)

Use Item 5. "Waterproofing, interior, below grade structures" application rates for all in-ground fountains, water tanks, etc. Do not exceed total thickness 100 mils] (2.5 mm) for "2K/M". Please also refer to waterproofing specification sketches no. 1.1.3. All above values theoretical. Variations may apply due to substrate conditions or conversion factors.

Alternative: form cove (minimum 1.5" x 1.5" [38 x 38 mm] with MORTAR-40 or "LN" and embed 4x4-MESH in "2K/M" coating.

#### Static cracks:

Repair static (non-moving) cracks with JOINT SEALING TAPE-2000 (60% elongation), or rout (cut) out and fill with MORTAR-LN and cover with "2K/M", reinforced with 4x4-MESH.

#### Dynamic cracks:

Seal dynamic (moving) cracks with JOINT SEALING TAPE-2000-S (600% elongation).

#### **Expansion joints:**

Seal non-traffic bearing expansion joints with JOINT SEALING TAPE-2000-S.

NOTE: Wherever aesthetics are important (i.e. walkways, decks, patios, fountains, etc.) honor all joints & cracks with an appropriate elastomeric joint sealant or premanufactured joint profile. Do not use tapes.

#### PVC pipe penetrations & stainless steel flanges:

Abrade (sand) PVC pipes and stainless steel flanges and degrease with isopropanol or acetone. Apply "2K/M" and embed SEALING GASKET-18/18 or JOINT SEALING TAPE-2000 as per data sheet.

#### Alkali sensitive substrates:

Protect and seal alkali sensitive metal substrates such as copper, aluminum, galvanized or zinc treated metal first with a primer (i.e. KRYLON Primer, or equal) prior to applying (over-coating) "2K/M".

#### Reinforcement Mesh:

If AQUAFIN-4x4-MESH is required or desired for reinforcement of coating, immediately embed into fresh (wet) 1st "2K/M" coat. Assure/confirm it "wettens" (seeps) through. Using a stainless steel trowel, sponge float

or similar, smooth out any wrinkles in the 3.) Surface can be left brushed or relatively mesh, forcing it down. Cover with 2nd coat "2K/M" after 3 - 5 hrs, or next day.

Note: 4x4-MESH substantially reduces elongation and flexibility of "2K/M". From 70% to approx. 10%.

Protect areas not to be treated from "2K/M". Hardened "2K/M" can only be removed as per item VII.

PRIME COAT: Not required, unless highly absorbent substrate. Refer to "Substrate Preparation", item 7.

#### APPLICATIONS TO BUG HOLE FREE SUB-STRATES:

#### I. STANDARD APPLICATION:

Always apply "2K/M" in two coats as specified, especially when spraying. High ambient temperatures can create flash setting when product leaves the spray nozzle, creating pinholes in the applied layer. Therefore 2 coats minimum are required for an even, dense surface. If applied in full sunshine product can skin-up on the surface and result in post-bubbling.

- 1.) Apply 1st coat by brush, roller or appropriate compressed-air spray equipment. If sprayed, even out and seal surface by back-troweling, brushing, rolling or "Magic troweling".
- 2.) Apply the 2nd coat (or multiple coats) as soon as the first coat has sufficiently hardened (1.5 to 4 hrs) or wait until next day. Do not pre-dampen 1st or following coats.

Thickness: 60 mils = 2x30 mils (2x0.8 mm)80 mils = 2x40 mils (2x1.0 mm)90 mils = 2x45 mils (2x1.1 mm).

Note: time intervals >1 day require cleaning with potable water or sanding/roughening of exposed surface.

- smooth troweled (i.e. steel or "Magic Trowel"), depending on type application and project specifications.
- 4.) Immediately smooth over spray applications with the flat trowel edge if textured spray finish is NOT desired.

#### II. NEGATIVE SIDE W.P. - 100 mils (2.5 mm):

1.) Apply two coats AQUAFIN-1K at 50 mils (1.25 mm) each coat to a well saturated substrate. Pre-wetten substrate several times. Protect from direct sunlight to prevent "1K" from premature drying ("burning out"), resulting in loss of adhesion, strength and integrity. Follow application instructions contained in the "1K" technical data sheet.

#### III. CMU BLOCK SUBSTRATES -120 mils [1/8"] (3.2 mm):

Positive or negative waterproofing side:

- 1.) Apply base coat with AQUAFIN-1K at 60 mils (1.6 mm) as per item II.
- 2.) Apply top coat with "2K/M" in 2 (two) coats at total 60 mils (1/16" (1.6 mm)) thickness as per item I.

Note: wait minimum 24 hours before top coating "1K" with "2K/M".

#### IV. EXPOSURE\*\*) OF APPLICATION TO:

- 1. rain, vertical surfaces, after approx. 3 hrs.
- 2. rain, horizontal surfaces, minimum 6 hrs.
- 3. foot traffic after approx. 1 day.
- 4. tile mortar and tiles after approx. 1 day.
- 5. hydrostatic pressure between 3 7 days (after "2K/M" reaching Shore A Hardness 80), check with "finger-nail test".
- 6. back filling after approx. 3 days.
- \*) at 68°F (20°C) and 60% humidity.



## **AQUAFIN®-2K/M**

### V. SEALING/PROTECTING "2K/M" SURFACE:

In areas such as pool decks, walkways, balconies, etc. where higher than usual surface contamination can be expected, the surface of "2K/M" can be sealed with clear acrylic sealer AQUAFIN-CS/250. The "2K/M" should be cured for at least 1 day before "CS/250" application.

#### VI. CLEAN UP:

Clean tools and equipment with water immediately after use. Cured material can only be removed mechanically or with a soy based paint remover.

#### VII. CURING:

- ♦ Self curing. <u>Do not</u> use water. It may discolor pigmented applications during the fresh stage. However, provide suitable protection against extreme weather conditions while setting.
- ♦ In hot and very dry climates coating may become slightly tacky/sticky during the curing process. 24 hrs after application mist coating with water to ensure complete hydration of material.
- ◆ Expect prolonged setting and hardening time in rooms with high humidity, poorly ventilated areas and corners (i.e. water tanks, etc.). The use of fans will accelerate the setting and curing time.

#### VIII. PACKAGING:

AQUAFIN provides the following packaging:

#### A.) 46 lb (21 kg) unit (A + B) inside 5 gal (19 L) pail:

A-Component (powder): 33 lb (15 kg) bag B-Component (liquid): 1.5 gal / 13 lb pail (5.7 L /6 kg).

B.) 77 lb (35 kg) bag + pail unit (A + B):
A-Component (powder): 55 lb (25 kg) bag
B-Component (liquid): 2.5 gal / 22 lb pail
(9.5 L / 10 kg).

#### IX. SHELF LIFE:

Approx. 12 months for powder Component-A and up to 24 months for liquid Component -B in unopened packaging, stored dry and frost-free.

#### X. MISCELLANEOUS:

- Attach drainage and protection boards after full curing of application (after 3 days). DO NOT mechanically attach.
- The cured application can be painted with a "breathable", solvent free paint (non silicate) after 3 days (at 68°F (20° C).
- Do not use solvent based adhesives, epoxies, etc. directly on "2K/M".
- Product can be tinted (pigmented), however, color uniformity can not be guaranteed.
- Do not expose the application to water during the setting time.
- 6. Do not apply "2K/M" in direct sunlight as

this can result in bubbles or blisters of the cured coating. Work during the night. Alternatively, protect application with temporary "tenting" or other means.

- Carbonation protection and carbon dioxide-screen: 40 mils (1 mm) "2K/M" thickness warrants the same protection as 12" (300 mm) of concrete.
- 8. Cured "2K/M" is physiologically and ecologically safe.
- Do not pre-dampen "2K/M" when over coating with the same or another product.
- Soft water: contact our office if water hardness is <30 mg CaO/L.</li>

#### 11. Commercial Pools:

- Note: for Aquafin approved applicators only! "2K/M" is not recommended for residential pools.
- "2K/M" contains a semi-coarse quartz aggregate for non-slip and high abrasion resistance.
- Where a rigid pool coating is desired as top coating, use AQUAFIN-1K in lieu of "2K/M". Call our tech dept. for guidance.
- a. Old pool substrates: contact Aquafin technical dept.
- b. Hot tubs and similar structures: "2K/M" must be tiled over to prevent softening and premature loss of coating thickness.
- c. Tiled pools: If a "brown" or leveling coat of 1"-2" (25-50 mm) thickness is installed, apply "2K/M" on top of it, followed by a flexible thin-set tile mortar.
- d. Construction + Movement joints: assure that construction + movement joints in tiles are foreseen as per industry standards such as per ANSI specification A108.01-3.7 "Requirements for Movement Joints: Preparations by Other Trades" or TCNA detail EJ-171 "Movement Joints-Vertical & Horizontal". Honor all moving joints, perimeter joints, changes in plane, restraining abutments and between tile assembly and coping/decking with an appropriate joint sealant.
- e. Filling of pools with "2K/M" as finish coat: after 7 days @73°F (23°C).

#### 12. Potable water holding tanks:

Fill tanks after a curing period of 7 days and keep full for 3 days minimum.

#### 13. Marine aquarium and zoo tanks:

- a. <u>Structure coat containing waterproofing admixtures:</u> verify with admixture manufacturer that cementitious top coatings will bond to the concrete surface prior to installation of "2K/M". Aquafin recommends liquid AQUAFIN-IC ADMIX.
- b. Overlaying texture coat: Let "2K/M" cure for at least 3-5 days before applying texture coat. Assure that proper measures are taken to avoid shrinkage of

the overlaying "texture coat". Internal stresses of shrinking "texture coat" can negatively affect the bond to "2K/M", or the integrity of the "2K/M".

#### XI. LIMITATIONS:

- ◆ Do not use as an adhesive to install ceramic tile or natural stone.
- ◆ Do not use as a roofing membrane or in lieu of a roofing membrane over occupied space or decks in freeze/thaw and/or thermal movement environments (areas).
- ◆ Do not install directly over single layer wood floors.
- Call Aquafin Tech. Dept. for limitations of tile sizes.

XII. MAINTENANCE: Mechanically damaged "2K/M" can be easily repaired by thoroughly cleaning (sanding) the surface and reapplying a new coat of "2K/M".

#### NOTE:

Installer is responsible for proper product application. Site visits by Aquafin personnel or representatives are solely for the purpose of making technical recommendations, not for providing supervision or quality control.

#### XIII. SAFETY:

Refer to MSDS. For commercial use only.

A-Component (powder) contains sand (crystalline silica) and Portland cement and is highly alkaline (irritant) in contact with water. Prevent inhalation of dust before and during mixing with liquid Component-B.

B-Component (liquid) contains no hazardous materials. Use rubber gloves and goggles during mixing and application. Avoid contact with eyes and skin. After contact with skin, wash with plenty of water. In case of eye contact, rinse immediately with plenty of water and seek medical advice. In case of handling large quantities, provide good ventilation if indoors.

#### KEEP OUT OF REACH OF CHILDREN.



## **AQUAFIN®-2K/M**

Physical & Technica		"2K/M" Test Results for Adhesion of Tiles				
Ory Powder Component-A		ANSI A118.10 test results				
Aggregate State:	Powder (asbestos free)	Fungus & Micro-Organism	Fungus: Aspergillius Niger			
Colors: standard Bulk Density:	Gray, White & Base White  ~88 lb/ft³ (~1.4 kg/dm³)	Resistance: test period 14 d	Pass. No growth was observed			
VOC	0% (0 g/L)					
VOC	0% (0 g/L)	Seam Strength: (ASTM-D 751)	14.9 lb (6.8 kg) = Pass Requirement 8 lb (3.6 kg)			
Liquid Component-B		Progking Ctrongth:	677 poi (4 7 MPa) = Daga			
Aggregate State:	Liquid	Breaking Strength: (ASTM-D 751)	677 psi (4.7 MPa) = Pass Requirement 170 psi (1.2 MPa)			
Color:						
Density at 68°F (20°C):	~8.74 lb/gal (~1.05 kg/L)	Dimensional Stability:	Pass			
pH-value:	7.5	+158°F (70°C)	0.000%			
VOC:	0% (0 g/L)	-15°F (-26°C) (ASTM-D 1204)	Requirement: 0.7% maximum			
		Waterproofpees:	Pass			
AQUAFIN-2K/M: wet mix		Waterproofness: (ASTM-D 4068-99)	2'(0.6 m) water column over 48 hr			
Color: standard	Gray, White & Base White	,	` '			
additional pigments	Several colors (see color chart)	7-Day Shear Strength:	107 psi (0.74 MPa) = Pass			
Density of wet mix:	~94 lb/ft³ (~1.5 kg/dm³)	(ASTM-C 482-1996)	Required = 50 psi			
Pot life (approximate):	60 min. at 73° F (23° C) 60% RH 20 min. at 95° F (35° C) 65% RH	7-Day Water Immersion Shear Strength: (C 482)	86 psi (0.59 MPa) = Pass Required = 50 psi			
Application Temperature:	40° F to 95° F (+5° C to +35° C)		107 psi (0.74 MPa) = Pass			
VOC:	0% (0 g/L) for standard colors	4-Week Shear Strength: (ASTM-C 482-1996)	Required = 50 psi			
AQUAFIN-2K/M: harder	ned	7-Week Shear Strength:	114 psi (0.79 MPa) = Pass			
Color:	Gray, White or pigmented	(ASTM-C 482-1996)	Required = 50 psi			
Shore 'A' Hardness:	~ 85 (ASTM D-2240)					
Service Temperature:	,	100-Day Water Immersion	166 psi (1.15 MPa) = Pass			
◆ Traffic:	5° F to 122° F (-15° C to +50° C)	Shear Strength: (C 482)	Required = 50 psi			
♦ Non-traffic:	-4° F to 140° F (-20° C to +60° C)					
Elongation at rupture at 1/12" (2 mm) thickness:	70% Gray at 73° F (23° C) 40% White (all without fabric)	ANSI A118.12 test results				
(ASTM D-412-98a)		Point Load Resistance Test:	Pass (after 28 day cure)			
Crack Bridging Capacity:	1/16" (1.6 mm) at 60 mils DFT	Compressive Strength:	5,000 psi (34.5 MPa) calculated			
Tensile Strength: (ASTM D– 412-98a)	600 psi (4.2 MPa) @ 80 mils (2 mm) thickness at 73° F (23° C)	Compressive outerigin.	from Point Load Resistance Test			
Adhesion to concrete: (ASTM C-297 modified)	145 psi (1.0 MPa) @ 7 d 215 psi (1.5 MPa) @ 28 d	System Crack Resistance Test:	Standard Performance Requirement 1/16" (1.6 mm) = Pass			
Abrasion Resistance:	109 mg/1000 cycles, CS-17 wheel		, ,			
(ASTM D-4060)	(Taber 5150 Abrader)	Adhesion to Steel:	250 noi /1 7 MDs\ ashasiya f=:!:			
Rapid Chloride Permeability  • Untreated control:	Chloride Penetration: 3750 Coulombs	Adnesion to Steel:	250 psi (1.7 MPa) cohesive failure (in-house testing) (ASTM D-4541			
♦ 80 mils (2 mm) thickness:	509 Coulombs					
Percentage Reduction:	86% (ASTM C-1202.97)	All data are averages of seve	ral tests under laboratory conditions.			
Flammability: Passed -		In practice climatic variations such as temperature, humidity, and				
(ASTM E-108)	Class A, Spread of Flame	porosity of substrate may affe				
Static Coefficient of Friction:	Non-slip - (ASTM C-1028)					
◆ Dry: with sealer CS/250	1.2 (ADA: 0.8 for ramps)					
♦ Wet: with sealer CS/250	0.9 (ADA: 0.6 or higher)					
Vapor Permeability	(ASTM E-96)					
◆ Untreated control:	10.3 perms (100%)					
1/16" (1.6 mm) thickness: 2.3 perms (22.3%)						
♦ 3/32" (2.4 mm) thickness:	1.4 perm (13.6%)					
Water Permeability:	No measurable leakage up to 200					
(CRD-C 48-92 at 1/6" (1.6 mm) thickness)	psi (460 feet (140 m)) head pressure (positive side).					
Root Resistance:	No punctures, tested with Lupinus					
(EMPA test)	albus					
		i e e e e e e e e e e e e e e e e e e e				

I	"2K/M" Test Resul	ts for Adhesion of Tiles						
	ANSI A118	ANSI A118.10 test results						
	Fungus & Micro-Organism Resistance: test period 14 d	Fungus: Aspergillius Niger Pass. No growth was observed						
	Seam Strength: (ASTM-D 751)	14.9 lb (6.8 kg) = Pass Requirement 8 lb (3.6 kg)						
	Breaking Strength: (ASTM-D 751)	677 psi (4.7 MPa) = Pass Requirement 170 psi (1.2 MPa)						
_	Dimensional Stability: +158°F (70°C) -15°F (-26°C) (ASTM-D 1204)	Pass 0.000% 0.000% Requirement: 0.7% maximum						
	Waterproofness: (ASTM-D 4068-99)	Pass 2'(0.6 m) water column over 48 hr						
	7-Day Shear Strength: (ASTM-C 482-1996)	107 psi (0.74 MPa) = Pass Required = 50 psi						
	7-Day Water Immersion Shear Strength: (C 482)	86 psi (0.59 MPa) = Pass Required = 50 psi						
	4-Week Shear Strength: (ASTM-C 482-1996)	107 psi (0.74 MPa) = Pass Required = 50 psi						
	7-Week Shear Strength: (ASTM-C 482-1996)	114 psi (0.79 MPa) = Pass Required = 50 psi						
	100-Day Water Immersion Shear Strength: (C 482)	166 psi (1.15 MPa) = Pass Required = 50 psi						
4								
	ANSI A118	3.12 test results						
4	Point Load Resistance Test:	Pass (after 28 day cure)						
	Compressive Strength:	5,000 psi (34.5 MPa) calculated from Point Load Resistance Test						
	System Crack Resistance Test:	Standard Performance Requirement 1/16" (1.6 mm) = Pass						
	Adhesion to Steel:	250 psi (1.7 MPa) cohesive failure (in-house testing) (ASTM D-4541)						
	All data are averages of several tests under laboratory conditions.							

Chemical Resistance				
Acid Solution (pH 2.5)	*)			
Alkali Solution (pH 11.5)	*)			
Aqueous ammonia	+			
Aqueous magnesium sulfate	++			
Aqueous sodium chloride solution	++			
Aqueous sodium hydroxide	+			
Aqueous sodium sulfate	++			
Citric acid	-			
Diesel	++			
Formic acid	-			
Fuel (hydrocarbons, benzene containing)	-			
Hydraulic Oil	++			
Inorganic acids	-			
Mineral oil	-			
Olive oil	++			
Salt water (Sea water) & Marsh Water	++			
Sewage (domestic)	++			
Silage	++			
Solvent (90% Acetone)	*)			
Transformer oil	++			
Water ++				
++ = Long Term - Permanent Resistance				
+ = Short Term Resistance - splashes and spills				
- = Not Resistant				
*) = Slight discoloration after 48 hrs (ASTM D-543 spot test)				



Potable water approved: certified to NSF/ ANSI Standard 61, in conjunction with JOINT SEALING TAPES-2000 + 2000-S. See www.wqa.org.

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