Aquamaster EVO

READY-TO-USE, REINFORCED LIQUID MEMBRANE IN AQUEOUS DISPERSION, ELASTIC, CHLORINE-RESISTANT, FOR WATERPROOFING OF INDOOR AND OUTDOOR WET AREAS IN CLASS DM 02P ACCORDING TO UNI EN 14891. ZHERORISK TECHNOLOGY OFFERS VERY LOW VOLATILE ORGANIC COMPOUND EMISSION RATE.

ANSI A118.10 · DM 02P EN 14891 · CE EN 14891 · FLEXIBLE

DESCRIPTION

Aquamaster EVO is a ready-to-use, reinforced liquid membrane made from synthetic resins in aqueous dispersion, solvent-free, used for the waterproofing of indoor and outdoor wet areas.
Does not require reinforcing mesh or fabric and sealing bands to protect the corners and edges of the waterproofing system.
It can be applied on top of non-absorbent materials, such as existing ceramic and porcelain tiles.

ADVANTAGES / FEATURES

- Product exhibiths Very low volatile organic compound (VOC). Complies with the most stringent Global Air Quality Regulations.
- Single component ready-to-use product that does not require any preparation
- Unlike other waterproofing membranes, it does not require reinforcing mesh or fabric and sealing bands for the protection of corners, making installation faster and more affordable
- Applicable with smooth steel trowel, roller or brush
- Reusable product. Any leftover material, if stored in the original packaging at temperatures between +5°C (41°F) and +35°C (95°F), can be reused even after months, thus avoiding wastage
- The fast drying time allows the application of multiple coats just a short time apart, making it possible to complete waterproofing in one day only
- Coverings can be installed just 24 hours after the application of the last coat with cementitious adhesives in class C2 or reactive adhesives in class R2 according to EN 12004
- No restrictions for transport over road, sea, air and rail
- Fiber-reinforced for maximum elasticity and strength even at low temperatures
- Complies with the most stringent Global Air Quality Regulations

PACKAGING

11lb (5 kg) buckets - 1,620lb (735 kg) standard pallet (147 buckets)
22lb (10 kg) buckets - 1,411lb (640 kg) standard pallet (64 buckets)
44lb (20 kg) buckets - 1,322.7lb (600 kg) standard pallet (30 buckets)

FIELDS OF APPLICATION

Intended uses
Interiors and exteriors
Floors and walls
Underfloor heating
SPAS and Saunas
Terraces and balconies
Indoor wet areas (bathrooms, shower enclosures)
Residential, public, commercial building
Industrial flooring
Tanks, swimming pools, fountains

Suitable substrates:
Cement screeds
Self-levelers
Cement levelers
Existing tiles
Gypsum
Concrete
Fiber cement slabs
Gypsum-based plasters
Aerated concrete
Cement plasters
Wood panels, type CTBH
Underfloor heating systems
Lightweight panels (such as WEDI-SCHLÜTER).

WATERPROOFING PLANNING

The only way to guarantee the long-lasting performance of ceramic and porcelain tile installations is to properly plan the process. It is therefore advisable to consult the national regulations in force in each country, for example standard UNI 11493 in Italy, which provides all necessary instructions regarding the choice of materials, correct planning, use and installation, so as to ensure all quality, performance and durability standards are safely met.
When installing large tiles or low thickness laminated porcelain stoneware slabs, we recommend paragraphs 7.13.8 and 7.13.9 of regulation UNI 11493 be carefully read. Moreover, certain producers of thin slabs provide installation manuals indicating the adhesive classes that need to be used depending on the size, characteristics and intended use of the slabs.
Some of the general precautions that need to be followed are listed below as an example.

Substrates

Before installation, check that substrates are clean, free of loose fragments, properly dried and cured, flat and level, and that mechanical strength requirements based on the intended use have been met.
Before application, use a hygrometer to check that the residual humidity in the substrate is maximum 3% CM; on anhydrite screeds maximum 0.5% CM; on anhydrite screeds with heating systems maximum 0.2% CM. (CM = measurement with carbide method hygrometer).

Worksite conditions

Check the suitability of the temperature, humidity, light conditions etc. at the time of the product's application.
In the case of particularly warm climates (T>95°F) (T>35°C), perform installation in the early hours of the morning.

Materials

Check that all materials used for tiling (ceramic materials, leveling systems, adhesives, grouts, waterproofing products, etc.) are suitable for the intended use and have been correctly stored.

Expansion joints

Check that the perimeter, expansion, divider and structural elastic joints have been correctly designed and prepared. Divider joints are normally needed for 20/25 m^2 (21.9/27.3yd^2) indoor sections, and 9-15m^2 (9.84/16.4yd^2) outdoor sections. For exteriors, make sure joints are properly waterproofed and sealed.
Expansion joints must be waterproofed by inserting the Litoband SK Tape sealing tape, omega-folded inside the joint. To reduce the thickness, allowing the silicone sealant to adhere only to the sides of the tiles, insert the Litogap compressible tubing first, in a diameter suited to the width of the joint. Litokol proposes the neutral cross-linking silicone sealant, Ottoseal S70 for the sealing of elastic joints on terraces, balconies and in swimming pools. To guarantee long-lasting sealing, it is advisable to treat the edges of the joint with Ottoprimer 1216 in the case of balconies and terraces, and Ottoprimer 1218 in the case of tanks and swimming pools.
When waterproofing indoor wet areas such as bathrooms and shower enclosures, or external areas such as balconies, terraces and swimming pools, critical points such as corners, drains, pipework and expansion joints must be very carefully sealed.
Litokol proposes a wide range of sealing elements that must be laid between the first and second coat of the waterproofing membrane. This range includes the following items:
Litoband SK Net: tape with double layer of polypropylene fabric for corner and expansion joints.
Litoband SK Pipes Collar: special gaskets for pipework made from a non-woven fabric with a flexible membrane at the center, for the waterproofing of pipework with various diameters.
Litoband SK Self-Adhesive Drains Collar: drain gasket in self-adhesive butyl, resistant to aging for the waterproofing of drains in different sizes and materials (PVC, metal). Suitable for applications in the presence of low pressure water.

PREPARATION OF SUBSTRATES

The substrates must be clean, solid, compact, crack-free, properly cured and without rising damp.
If the substrate is not perfectly flat or the level is incorrect, it can be evened before installation using suitable leveling or self-leveling products, for example Litoliv S40 Eco, Litoliv Extra 15, Litoliv Express or Litoplan Smart.
In the case of surfaces exposed to frequent wetting such as balconies, terraces, shower floors, etc., check that the slopes and dimensioning of the drain systems are adequate to allow the proper outflow of water considering the width of the exposed surface and maximum expected wet conditions. Generally, a slope of 1-1.5% is sufficient to guarantee the correct outflow of water. Cementitious substrates can be evened or sloped using the Litoplan Smart rapid skim coat.

Use of primer:

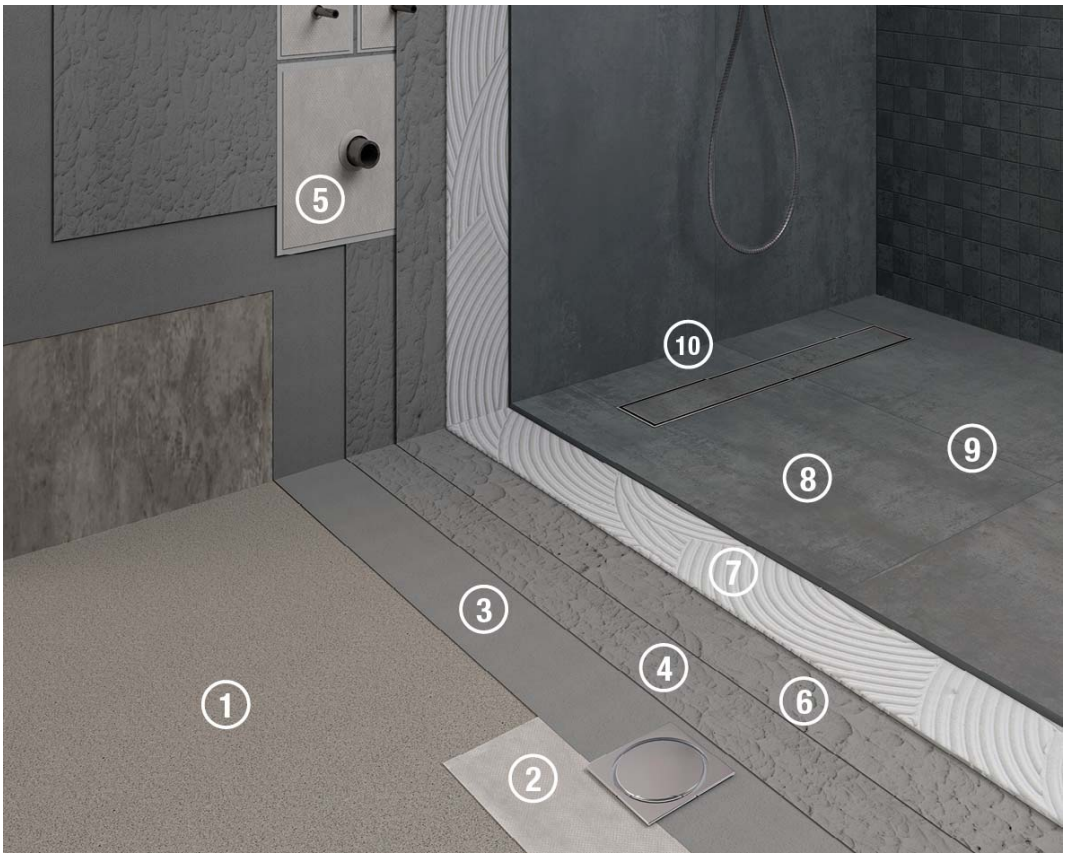
- In the case of substrates that are not perfectly smooth such as screeds and cementitious leveling layers or those created with Litoplan Smart, and lightweight panels finished with a reinforced cementitious leveling layer, apply the first coat of Aquamaster EVO with a roller or brush, diluted with 10% water, making sure it penetrates the substrate properly. This will close the surface pores of the substrate, thus preventing the emergence of bubbles when the subsequent coats are applied
- In the case of anhydrite screeds, check for the presence of a suitable vapor barrier in order to prevent rising damp. Use a carbide method hygrometer to check that the residual humidity is less than 0.5%. The surface must be sanded and treated with Primer C
- Any cracks must be repaired with Multifondo EVO, sprinkling the fresh surface with sand or dried quartz with granulometry 1/50" - 1/24 in (0.4-1 mm)

In any case, the respective technical data sheets must be consulted for correct use of the indicated products.

APPLICATION

Apply the product directly onto the substrate using a smooth steel trowel, roller or brush. Apply two/three consecutive coats so that the final thickness of the dried material is at least 0.8-1 mm (0.03-0.039in).
In the case of substrates that are not perfectly smooth such as screeds and cementitious leveling layers or those created with Litoplan Smart, and lightweight panels finished with a reinforced cementitious leveling layer, apply the first coat of product with a roller or brush, diluted with 10% water, making sure it properly penetrates the substrate. This will close the surface pores of the substrate, thus preventing the emergence of bubbles when the subsequent coats are applied.
After the drying time (approx. 30 minutes at a temperature of 73.4°F (+23°C)), apply the subsequent coats of undiluted product.
The open time between the second and third coat is approximately 4 hours at a temperature of 73.4°F (+23°C).
Use utmost caution when applying the product in edges and corners, making sure not to leave any excess material that may cause cracking during the drying phase.
In the presence of pipework, drains, spotlights, etc., lay the special Litoband SK Pipes Collar and Litoband SK Self-Adhesive Drains Collar pieces.
Alternatively:
For the sealing of pipework and through-elements in general with irregular sizes and/or shapes, create a connecting bead between the element and the waterproof membrane with the ready-to-use adhesive grout Litosil MS.
For correct use of the products to be used, always refer to the respective technical data sheets.

WATERPROOFING OF BATHROOM/SHOWER

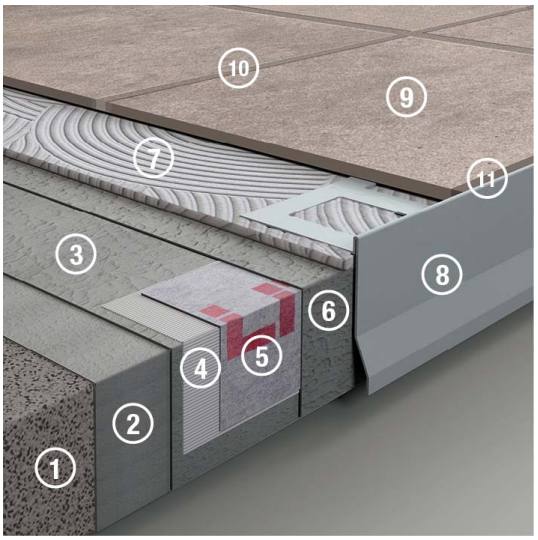


Waterproofing of bathrooms/showers
1 – Substrate
2 – Self-Adhesive Drain Collar
3 – Aquamaster EVO (1st coat diluted at 10%)
4 – Aquamaster EVO (2nd coat)
5 – Litoband SK Pipes Collar
6 – Aquamaster EVO (3rd coat)
7 – Adhesive in class C2 / R2
8 – Tile / Mosaic
9 – Starlike EVO / EpoxyElite EVO / StyleGrout
10 – Ottoseal S70

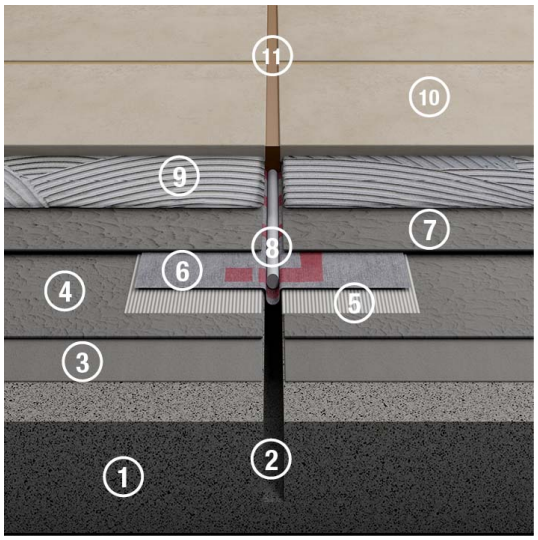
INSTALLATION OF TILES

Coverings can be installed after at least 24 hours have passed since the last coat.
Ceramics, natural stones or mosaics can be installed with cementitious adhesives in class C2 or reactive in class R2 according to UNI EN 12004.
The choice of adhesive depends on the size of the tiles and expected operating conditions.
In the case of large tiles (side > 24" (60 cm), it is preferable to use deformable adhesives in class S1 or highly deformable adhesives in class S2.
The tiles must be installed with a solid bed using the back-buttering technique, with joint widths suited to their size.
For the correct choice of adhesive, refer to the technical data sheets of the products.

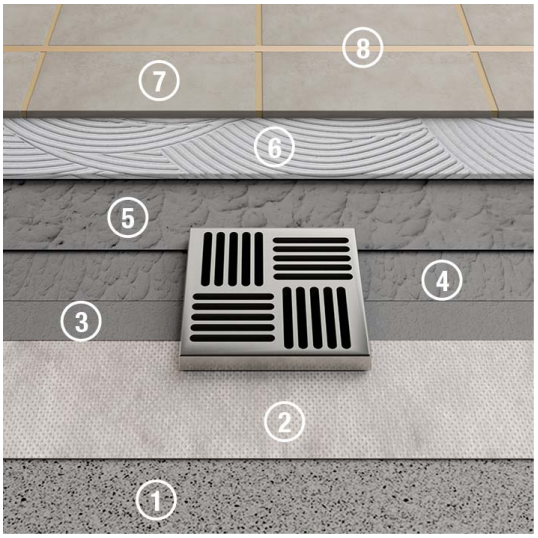
FOCUS



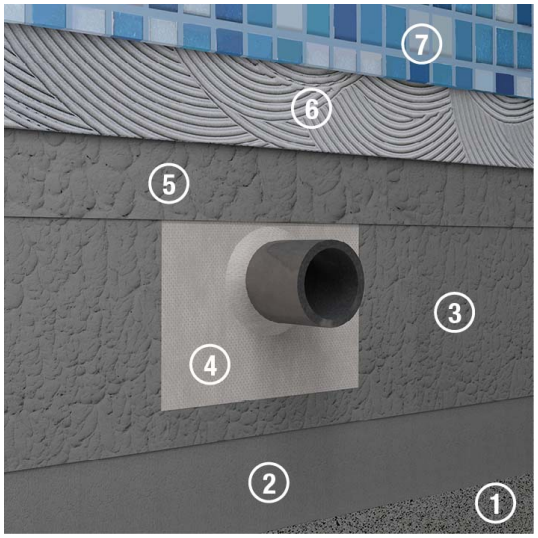
Protection of fronts and edges against outflow
1 – Screed
2 – Aquamaster EVO (1st coat diluted at 10%)
3 – Aquamaster EVO (2nd coat)
4 – Litoband Koll 1K
5 – Litoband SK Tape
6 – Aquamaster EVO (3rd coat)
7 – Adhesive in class C2 / R2
8 – Drip tray
9 – Tile
10 – Starlike EVO / EpoxyElite EVO / StyleGrout
11 – Ottoseal S70



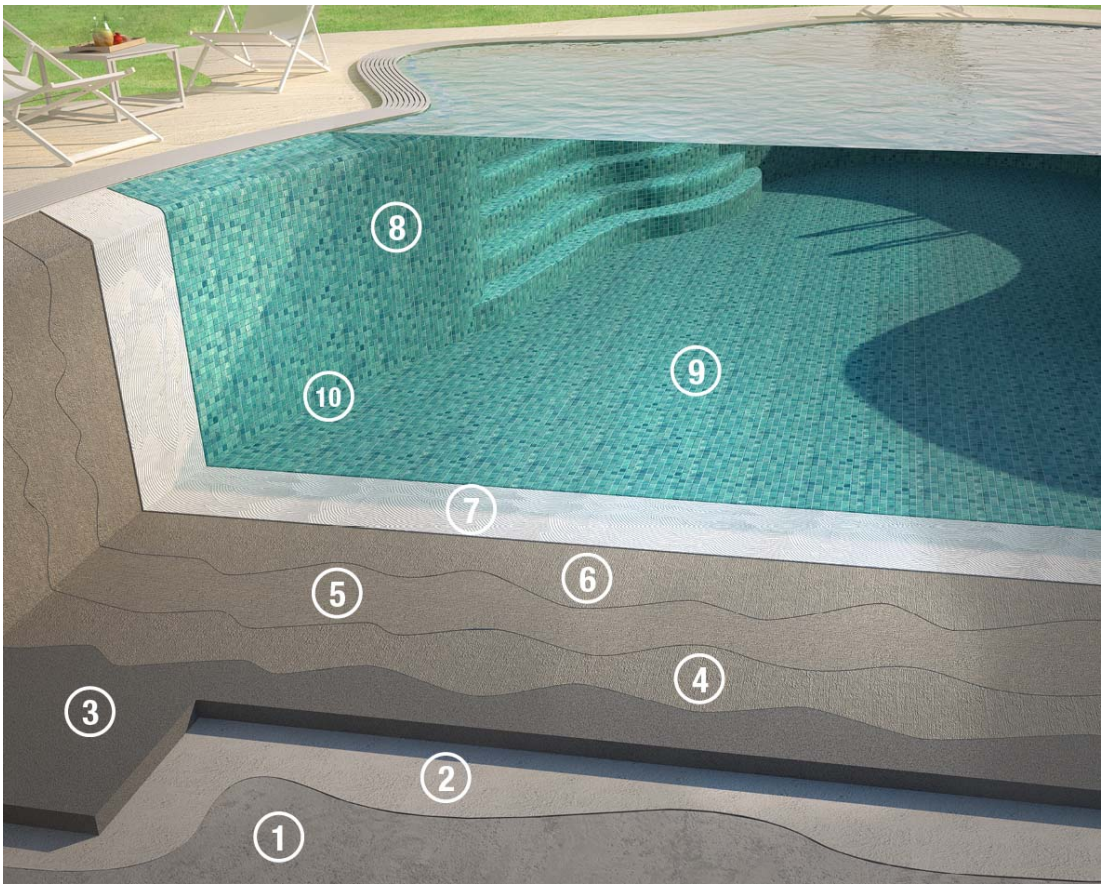
Waterproofing of divider joints
1 – Screed
2 – Joint
3 – Aquamaster EVO (1st coat diluted at 10%)
4 – Aquamaster EVO (2nd coat)
5 – Litoband Koll 1K
6 – Litoband SK Tape
7 – Aquamaster EVO (3rd coat)
8 – Litogap
9 – Adhesive in class C2 / R2
10 – Tile
11 – Ottoseal S70



Waterproofing of drains
1 – Screed
2 – Self-Adhesive Drain Collar
3 – Aquamaster EVO (1st coat diluted at 10%)
4 – Aquamaster EVO (2nd coat)
5 – Aquamaster EVO (3rd coat)
6 – Adhesive in class C2 / R2
7 – Tile
8 – Ottoseal S70



Waterproofing of through-elements
1 – Substrate
2 – Aquamaster EVO (1st coat diluted at 10%)
3 – Aquamaster EVO (2nd coat)
4 – Litoband SK Pipes Collar
5 – Aquamaster EVO (3rd coat)
6 – Adhesive in class C2 / R2
7 – Mosaic



Waterproofing of swimming pools, Turkish baths and thermal baths
1 – Concrete
2 – Bonding slurry
3 – Litocem or Litocem Pronto
4 – Aquamaster EVO (1st coat diluted at 10%)
5 – Aquamaster EVO (2nd coat)
6 – Aquamaster EVO (3rd coat)
7 – Adhesive in class C2 / R2
8 – Mosaic
9 – Starlike EVO / EpoxyElite EVO / StyleGrout
10 – Ottoseal S70

- It is advisable to perform a hydraulic seal test before installing the covering
- For underground tanks, adopt preventive measures against possible capillary rising damp, which may cause the detachment of the waterproofing membrane applied inside the tank, for example on drains along the side walls of the excavations or waterproofing constituted by osmotic mortars such as Osmogrout
- Once waterproofing is complete, allow it to cure for at least two days before performing a seal test

Impermeabilizzazione di bagni di vapore e hammam
When waterproofing steam rooms and Turkish baths, leading manufacturers of lightweight polystyrene panels recommend applying a primer to create a vapor barrier.
In this case, it is recommended to apply Primer SK before applying Aquamaster EVO.
In this case, only 2 undiluted coats of Aquamaster EVO can be applied directly on the previously applied Primer SK layer.

LIMITATIONS

- Spread the product at temperatures between 40°F and 95°F
- Do not add lime, cement or other foreign materials to the product
- Do not use the product on plastic, resilient, metal materials or resin-treated substrates
- Do not spread the product with thickness > 1/24" (1 mm) per coat
- All substrate should be structurally sound, stable, dry, clean and free of any substance that may inhibit adhesion
- Do not use the product if condensate has formed on the surfaces
- Protect the waterproofing against rain for the first 24 hours after application
- The product must not be visible upon completion. Always apply a ceramic, natural stone or mosaic covering
- In warm climates, keep the packaged product in a cool and dry place away from the sun before use
- In case of substrates that are not perfectly smooth, such as cement screeds and plasters, leveling layers made with Litoplan Smart or Litoplan Rapid, apply a first coat of product diluted with 10% water, ensuring it properly penetrates the substrate

- Do not use the product for applications not stated in this technical sheet
- If in doubt, contact the Litokol S.p.A Technical Help Service.

SAFETY INFORMATION

Consult the product safety data sheet, available on request.
PRODUCT FOR PROFESSIONAL USE

ITEM SPECIFICATION

#The waterproofing of indoor wet and outdoor areas such as bathrooms, shower enclosures, terraces, balconies and swimming pools in preparation for the installation of ceramic materials, natural stones and mosaics, must be carried out with a ready-to-use reinforced elastic liquid membrane in aqueous dispersion in class DMO2P according to EN 14891, such as Aquamaster by Litokol S.p.A.

IDENTIFICATION DATA

Appearance	Thixotropic paste
Color	Light gray
Customs code	40021100
Shelf life	24 months in original packaging in a dry place. Protect against frost.

APPLICATION DATA

Mix ratio	Ready-to-use product without the need for any preparation.
pH of mix	8 - 9
Specific gravity of mix	1.50 kg/dm^3 (3.31lb/in^3)
Solid content	73-76%
Total thickness	0.8 - 1 mm (0.031in - 0.039in)
Application	Roller, brush or smooth steel trowel
Acceptable application temperatures	From +41°F to +104°F (+5°C to +35°C)
Waiting time between coats	1st coat (diluted to 10% with water): 30 minutes
Waiting time between coats	pure: 4 hours
Waiting time for installation of covering	24 hours
Serviceability Temperatures	From -4°F to +176°F (-20°C to +80°C)
How to clean equipment	With water when product is fresh. Mechanically when product has set.

CONSUMPTION (kg/m^2) (lb/yd^2)

Substrates	1st coat (dil.10%)	2nd coat	3rd coat	Total consumption
Cement screeds, Litocem/Litocem Pronto-based screeds	0.6	0.7	0.7	2.0
Cementitious skim coats, Litoplan Smart, lightweight panels with cementitious leveling layers	0.3	0.7	0.7	1.7
Gypsum, wood panels, concrete, fiber cement panels, cementitious self-levelers, existing ceramic and porcelain tiles, mosaics and natural stone	-	0.7	0.7	1.4

PERFORMANCE

Standard	EN 14891	DM 02 P
Initial tensile adhesion strength	≥ 72 psi (0.5 N/mm^2)	UNI EN 14891-A.6.2
Tensile adhesion strength after immersion in water	≥ 72 psi (0.5 N/mm^2)	UNI EN 14891-A.6.3
Tensile adhesion strength after thermal aging	≥ 72 psi (0.5 N/mm^2)	UNI EN 14891-A.6.5
Tensile adhesion strength after freeze/thaw cycles	≥ 72 psi (0.5 N/mm^2)	UNI EN 14891-A.6.6
Tensile adhesion strength after contact with limewater	≥ 72 psi (0.5 N/mm^2)	UNI EN 14891-A.6.9
Crack-bridging capacity in normal conditions	≥ 0.75 mm (0.030in)	UNI EN 14891-A.8.2
Crack-bridging capacity at very low temperature -4°F (-20°C)	≥ 0.75 mm (0.030in)	UNI EN 14891-A.8.3
Tensile adhesion strength after contact with chlorinated water	≥ 72 psi (0.5 N/mm^2)	UNI EN 14891-A.6.7
Water impermeability in positive pressure	No penetration and increase in weight < 20 g (0.71oz)	UNI EN 14891-A7

PERFORMANCE

Standard		ANSI A118.10
Crescita della muffa	La membrana non supporta la crescita di muffe	4.1
Pull-off strength	16 lbf/2" width	4.2
Resistenza a rottura	≥ 170 psi	4.3
Stabilità dimensionale	0.7% max. length change	4.4
Impermeabilità	Nessuna penetrazione dopo 48 ore	4.5
Resistenza al taglio su piastrelle di ceramica e adesivo cementizio	Resistenza al taglio su piastrelle di ceramica e adesivo cementizio	5.0

Adesione a trazione iniziale dopo 7 giorni	≥ 50 psi	5.3
Adesione a trazione dopo immersione in acqua (7 giorni)	≥ 50 psi	5.4
Initial tensile adhesion strength after 28 days	≥ 50 psi	5.5
Adesione a trazione iniziale dopo 12 settimane	≥ 50 psi	5.6
Adesione a trazione dopo immersione in acqua (100 giorni)	≥ 50 psi	5.7

PERFORMANCE

Standard		ANSI A118.12
Crescita della muffa	La membrana non supporta la crescita di muffe spreadable and water cleanable at 80 min	4.1
Resistenza al taglio su piastrelle di ceramica e adesivo	Resistenza al taglio su piastrelle di ceramica e adesivo	5.1
7-Day shear strength	≥ 50 psi	5.1.3
Adesione a trazione iniziale dopo 7 giorni	≥ 50 psi	5.1.4
Initial tensile adhesion strength after 28 days	≥ 50 psi	5.1.5
Tensile adhesion strength after thermal aging	≥ 50 psi	5.1.6
Prova di carico puntuale	≥ 1000 lbf	5.2

NOTES

Data detection at temperature +73.4°F (+23 °C), R.H. 50% and with no wind. May vary depending on the specific conditions of the installation site.
The adhesion values have been determined with Aquamaster EVO and cementitious adhesive in class C2 according to UNI EN 12004.
The crack-bridging values at very low temperatures were determined with Aquamaster EVO reinforced with Litomesh.

Form **n. 625**
Revision **n. 1**
Date: **06 23**

The information and provisions contained in this technical data sheet reflect our best experience. Given the impossibility of directly intervening on the conditions of the work site and execution of the works, they represent indications of a general nature, which are in no way binding on our Company. It is therefore advisable to perform a spot test to check the suitability of the product for the intended use. In any case, users must determine whether or not it is suitable for the intended use and shall assume all associated responsibility.

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