

Elastocem

TWO-COMPONENT CEMENTITIOUS MORTAR, ELASTIC UP TO -20°C, CHLORINE-RESISTANT, FIBRE-REINFORCED, FOR WATERPROOFING OF INDOOR WET AREAS, BALCONIES, TERRACES, TANKS AND SWIMMING POOLS IN CLASS CMO2P ACCORDING TO UNI EN 14891 PRODUCT WITH LOW VOLATILE ORGANIC COMPOUND EMISSION RATE.



DESCRIPTION

Two-component fibre-reinforced cementitious mortar.

The powder part is made up of cements, inert fillers, polypropylene fibres and special organic additives.

The liquid part consists in a synthetic resin in aqueous dispersion, solvent-free and highly elastic even at very low temperatures.

By mixing the two components together (already pre-batched in their respective packaging), a plastic mortar is obtained, easy to work with a smooth trowel, particularly adhesive and fluid, which can be applied to floors and walls with no dripping up to a maximum thickness of 2 mm.

ADVANTAGES / FEATURES

- High elasticity and waterproofing
- Excellent adhesion to concrete, all cementitious substrates and also smooth, compact and non-absorbent substrates such as ceramic and porcelain tiles, natural and polished stones, without the need for primer
- For interior and exterior wall and floor coverings
- Allows waterproofing repairs on balconies and terraces directly over the existing ceramics without the need for demolition
- Maintains excellent workability over time, without any bothersome thickening
- Product with very low volatile organic compound (VOC) emission rate, compliant with class A+ (Émission dans l'air intérieur – French Regulations)
- Retains its flexibility even at very low temperatures (-20°C), making it suitable for application in particularly cold climates

PACKAGING

Part A (powder) 24 kg bags

Part B (liquid) 8 kg cans

FIELDS OF APPLICATION

Intended uses

Interiors - exteriors
Floors and walls
Underfloor heating
Indoor wet areas (bathrooms, shower enclosures)
Overlaying
Terraces and balconies
Residential, public, commercial building
Industrial floors
Tanks, swimming pools, fountains
SPA and Hammam

Suitable substrates:

Cement screeds
Self-levellers
Cement levellers
Existing tiles
Existing agglomerates
Underfloor heating systems
Concrete
Gypsum
Fibre cement slabs
Gypsum-based plasters
Aerated concrete
Cement plasters
Wood panels, type CTBH
Lightweight panels

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 stone 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 ($T > 35^{\circ}\text{C}$), perform installation in the early hours of the morning.

Materials

Check that all materials used for tiling (ceramic materials, levelling 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 m² indoor sections, and 9-15m² 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 Tape: sealing tape with a double layer of polypropylene fabric and waterproof thermoplastic elastomer film inside, for corner and expansion joints.

Litoband SK for internal (IC) and external (EC) corners: pre-shaped elements for corner waterproofing in non-woven fabric and lined with waterproof rubber.

Litoband SK Self-Adhesive Drains Collar: drain gasket in self-adhesive butyl, resistant to ageing for the waterproofing of drains in different sizes and materials (PVC, metal). Suitable for applications in the presence of low pressure water.

Litoband SK Pipes Collar: special gaskets for pipework made from a non-woven fabric with a flexible membrane at the centre, for the waterproofing of pipework with various diameters.

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 levelling or self-levelling 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:

- Smooth and compact substrates such as existing ceramic or agglomerate coverings, must be properly degreased with specific detergents such as Litoscrub EVO
- In the case of anhydrite screeds, check for the presence of a suitable vapour 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 0.4-1 mm

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

MIX RATIO

Component A (powder) 24 kg (1 bag) + Component B (liquid) 8 kg (1 can)

PREPARING THE MIX

Pour component B (liquid) into a clean container and add component A (powder) while stirring. Mix, preferably using an electric drill with mixing paddle at low speed ($\approx 300/\text{min.}$) until a consistent mix is obtained without lumps.

Let the mix rest for about 5 minutes and then briefly mix again for a few seconds.

The two components are pre-batched in their packaging, thus preventing mixing errors.

Manual mixing or the partial mixing of the two components is not recommended.

Do not add more water to the mix once setting has begun.

APPLICATION

In the presence of drains, lay the special Litoband SK Self-Adhesive Drains Collar sealing pieces.

Near corners, expansion joints and pipework, insert the sealing elements Litoband SK Tape, Litoband SK internal and external corners and Litoband SK Pipes Collar on the fresh layer of product.

Apply a first layer directly onto the substrate with a smooth steel trowel and at the same time, lay the Litomesh anti-alkaline glass fibre reinforcing mesh on the fresh product, avoiding the formation of folds and overlapping the rolls by at least 10 cm.

The product must be applied within 60 minutes.

Once the first layer has set (approx. 3-4 hours at $T=+23^{\circ}\text{C}$) apply the second layer of product so as to obtain a final thickness of at least 2 mm, completely covering the mesh and all sealing elements.

After the application of the second coat, wait 5 days for curing before installing the ceramics, natural stones or mosaics.

In favourable weather conditions, the curing time can be reduced to 24 hours.

INSTALLATION OF TILES

Coverings must not be installed until at least 24 hours after 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.

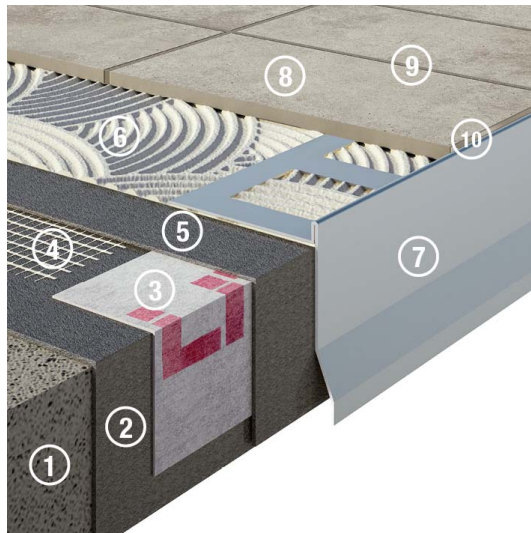
In the case of large tiles (side > 60 cm), it is preferable to use deformable adhesives in class S1 or highly deformable adhesives in class S2.

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.

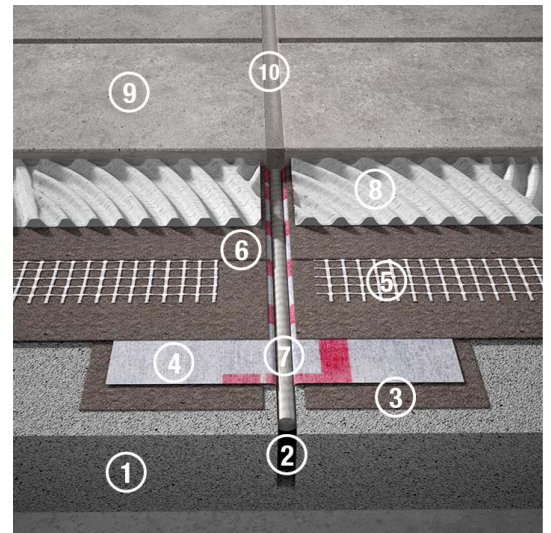
WARNINGS

- Spread the product at temperatures between $+5^{\circ}\text{C}$ and $+35^{\circ}\text{C}$
- Do not add lime, cement or other foreign materials to the product
- Respect the mix ratio
- Do not dilute the product with water
- The pot life is about 60 minutes at a temperature of $+23^{\circ}\text{C}$. Be sure to mix only the quantity of product that can actually be used within this period of time
- Do not spread the product with thickness > 2 mm per coat
- 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
- Do not use the product on plastic, resilient, wood, metal materials or resin-treated substrates
- Do not use the product on damp surfaces or surfaces subject to rising damp
- 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.



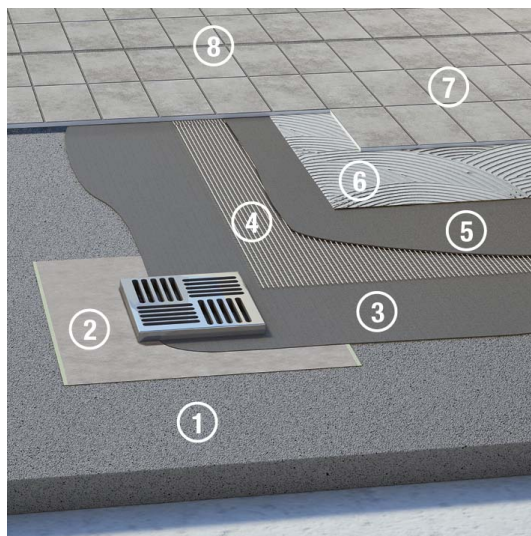
Protection of fronts and edges against outflow

- 1 – Screed
- 2 – Elastocem (1st coat)
- 3 – Litoband SK Tape
- 4 – Litomesh
- 5 – Elastocem (2nd coat)
- 6 – Adhesive in class C2 / R2
- 7 – Drip tray
- 8 – Tile
- 9 – Starlike EVO / EpoxyElite EVO / StyleGrout
- 10 – Ottoseal S70



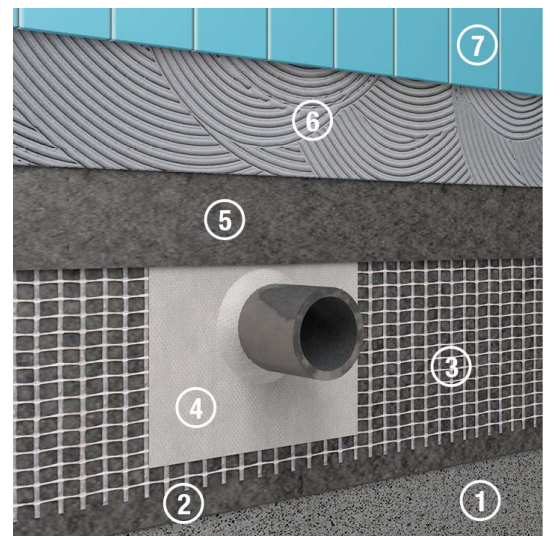
Waterproofing of divider joints

- 1 – Screed
- 2 – Joint
- 3 – Elastocem (1st coat)
- 4 – Litoband SK Tape
- 5 – Litomesh
- 6 – Elastocem (2nd coat)
- 7 – Litogap
- 8 – Adhesive in class C2 / R2
- 9 – Tile
- 10 – Ottoseal S70



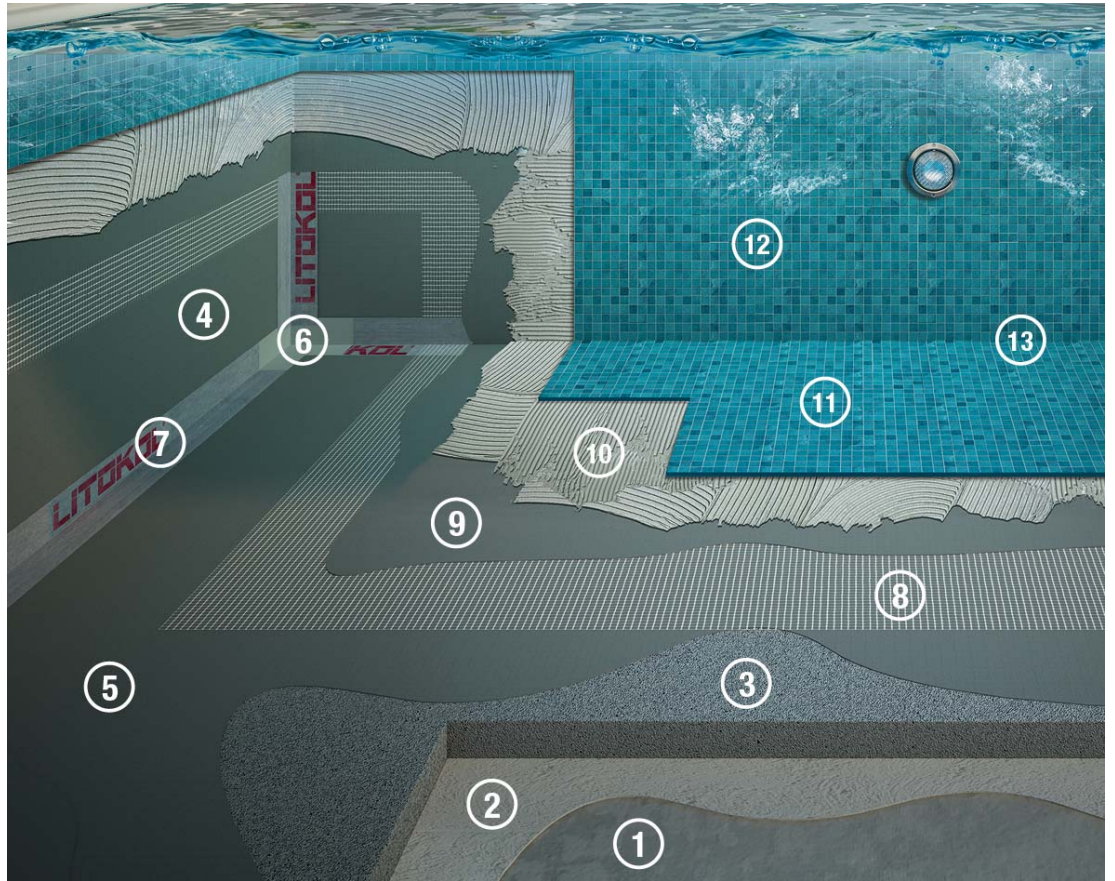
Waterproofing of drains

- 1 – Screed
- 2 – Self-Adhesive Drain Collar
- 3 – Elastocem (1st coat)
- 4 – Litomesh
- 5 – Elastocem (2nd coat)
- 6 – Adhesive in class C2 / R2
- 7 – Tile
- 8 – Expansion joint



Waterproofing of through-elements

- 1 – Substrate
- 2 – Elastocem (1st coat)
- 3 – Litomesh
- 4 – Litoband SK Pipes Collar
- 5 – Elastocem (2nd coat)
- 6 – Adhesive in class C2 / R2
- 7 – Tile



Waterproofing of swimming pools, hammams and thermal baths

- 1 – Concrete
- 2 – Bonding slurry
- 3 – Litocem or Litozem Pronto
- 4 – Litoplan Smart
- 5 – Elastocem (1st coat)
- 6 – Litoband SK IC (internal corner)
- 7 – Litoband SK Tape
- 8 – Litomesh
- 9 – Elastocem (2nd coat)
- 10 – Adhesive in class C2 / R2
- 11 – Tile
- 12 – Mosaic
- 13 – Starlike EVO / EpoxyElite EVO / StyleGrout
- 14 – 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

SAFETY INFORMATION

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

ITEM SPECIFICATION

#The waterproofing of indoor wet areas such as bathrooms and shower enclosures and outdoor areas such as balconies, terraces, tanks and swimming pools in preparation for the installation of ceramic materials, natural stones and mosaics, must be carried out with a two-component fibre-reinforced elastic waterproofing cementitious mortar in class CMO2P according to UNI EN 14891, such as Elastocem by Litokol S.p.A.

IDENTIFICATION DATA

Appearance	Component A: grey powder
Appearance	Component B: white liquid
Colour	Dark grey
Customs code	38245090
Shelf life	12 months in original packaging in a dry place. Protect against frost.

APPLICATION DATA

Mix ratio	Component A (powder): 3 parts (1 x 24 kg bag) - Component B (liquid): 1 part (1 x 8 kg can)	
Consistency of mix	Fluid paste	
Mix curing time	5 minutes	
pH of mix	13	
Specific gravity of mix	1,70 kg/dm ³	
Pot life	Approx. 60 minutes	
Thickness per coat	< 2 mm	
Total thickness	2 mm	
Application	Smooth steel trowel	
Application temperatures	From +5°C to +35°C	
Waiting time between coats	3-4 hours	
Waiting time for installation of covering	5 days. 24 hours in good weather	
Temperature of use	From -20°C to +90°C	
How to clean equipment	With water when product is fresh. Mechanically when product has set.	
Consumption	1,7 kg/m ² per mm of thickness	

PERFORMANCE

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

NOTES

Data detection at temperature +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 Elastocem and cementitious adhesive in class C2 according to UNI EN 12004.

The crack-bridging capacity has been determined with the insertion of the anti-alkaline glass fibre mesh, weight 150 g/m², size 4 x 4.5 mm.

Data Sheet **n. 602**
Revision **n. 3**
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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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