ELASTOCEM

TWO-COMPONENT FLEXIBLE CEMENTITIOUS MORTAR UP TO -20°C, CHLORINE-RESISTANT, FIBRE-REINFORCED, FOR THE WATERPROOFING OF WET INDOOR AREAS, BALCONIES, TERRACES, CLASS CMO2P TANKS AND SWIMMING POOLS, IN ACCORDANCE WITH EN 14891

DESCRIPTION

Fibre-reinforced two-component cementitious mortar. The powder part consists of cement, inert fillers, polypropylene fibre and special organic additives. The liquid part consists of a solvent-free, highly elastic, synthetic resin in aqueous dispersion even at very low temperatures. By mixing the two components (pre-measured in their respective containers), you obtain a plastic mortar that is easily applied with a smooth trowel, particularly adhesive and smooth that can be applied on the floor or wall in a maximum thickness of 2 mm without dripping. Once the product hardens, it is distinguished by:

• High elasticity and impermeability.

• Excellent adhesion to concrete, any cementitious surface and supports, even if smooth, compact and non-absorbent: ceramic tiles, natural stone, even if polished, PVC, linoleum and with no primer required.

ADVANTAGES

• Product with ultra-low emission of volatile organic compounds Class A + in compliance with French Regulations.

• For indoors and outdoors on flooring and walls.

• Allows you to restore the waterproofing of balconies and terraces directly on existing ceramics with no demolition.

• Maintains its flexibility even at very low temperatures (-20°C), making it suitable for applications in particularly cold areas.

EN 14891 CLASSIFICATION

Elastocem conforms to the CMO2P class (a product that is waterproof to the applied cement liquid polymer-modified with improved crack-bridging ability at very low temperature (-20°C) and resistant to contact with chlorinated water) in accordance with the EU standard EN 14891 on waterproofing products applied in liquid form to be used under ceramic tiles glued with adhesives. The compliance of the product with the EN 14891 harmonised standard is reported in the Declaration of Performance CPR-IT602 according to the European Regulation for construction products (CPR - Construction Products Regulation No.: 305/2011/EU) and tested by a notified European body according to system 3 certification for that which concerns water impermeability.

PACKAGING

Part A (powder) 24 kg sacks.

Part B (liquid) 8 kg canisters

INTENDED USE

The Elastocem waterproofing mortar is used to waterproof bathrooms, showers, balconies, terraces and swimming pools before laying ceramic tiles, natural stone and mosaics with class C2 or R2 reactive cement adhesives.

SUITABLE SUPPORTS

The product can be applied on the following surfaces: cement plasters and screeds, concrete, levelling or cementitious self-levellers, old tiles, marble, plasterboard slabs including waterproof, lightweight panels, concrete or fibre cement panels, marine plywood panels and CTBH wood panels.

TILING DESIGN

The durability of a ceramic tile can only be guaranteed by means of a good design of the same. We therefore recommend referring to the national legislation in your country such as for example standard UNI 11493:2013 for Italy which provides the necessary guidelines for choosing materials, correct design, use and installation, in order to ensure the achievement of the required levels of quality, performance and durability.

In the case of waterproofing wet indoor areas such as bathrooms and showers or outdoors such as balconies, terraces and swimming pools, it is essential to pay close attention to the sealing of the critical points such as corners, drains, pipe passages and expansion joints. Litokol offers a wide range of sealing elements that must be placed between the first and the second coating of the Elastocem waterproofing membrane. The following products form part of this range:

LITOBAND SK Tape: sealing tape with a double layer of woven polypropylene and an internal waterproof thermoplastic elastomer film for corner and expansion joints.

LITOBAND SK for internal corners (IC) and external corners (EC): preformed parts to waterproof angles in non-woven fabric coated with waterproof rubber.

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

LITOBAND SK Pipes Collar: special gaskets for piping made of non-woven fabric with a flexible membrane in the centre, for waterproofing pipes of different diameters.

Substrates

Before laying, check that the substrates are clean, free of loose particles, thoroughly dry and mature, flat and level, and have sufficient mechanical strength in accordance with the intended use of the tiling. In the case of exposed surfaces that are wet often, such as balconies, terraces, shower floors, etc., make sure that the gradient and the sizing of the drain systems are adequate to allow proper water drainage according to the amplitude of the exposed surface and the expected maximum wet conditions. Generally, a gradient of 1-1.5% is sufficient to guarantee proper water disposal. Possible adjustment of cement surfaces or applying the gradient can be implemented with the quick levelling Litoplan Smart.

Site conditions

Make sure the conditions for temperature, humidity, lighting, etc. are adequate when the product is applied. Avoid applying products outdoors if rain is expected in the following 24 hours after application. Implement the installation in hot climates (T>35°C) in the early hours of the morning.

Materials

Verify that all materials involved in the tiling (ceramics, levellers, adhesives, sealants, waterproofing products, etc.) are suitable for the intended use and properly stored.

Expansion joints

Verify that the perimeter flexible expansion, fraction and structural joints are properly designed and prepared. Generally, fraction joints must be provided for 20/25 m^2 partitions indoors and 9-15 m^2 outdoors. For outdoors, verify that these joints are properly waterproofed and sealed. Waterproofing expansion joints must be carried out by inserting the omega-shaped sealing tape Litoband SK Tape inside the joint, burying the edges between the first and second coating of Elastocem. Reduce the thickness by allowing the silicone sealant to adhere only to the sides of the tiles and before sealing insert the cord of compressible Litogap of appropriate diameter for the width of the joint. Litokol offers neutral curing silicone sealant Ottoseal S70 to seal expansion joints on terraces, balconies and swimming pools. To ensure greater durability of the sealing, it is recommended 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.

Double coating

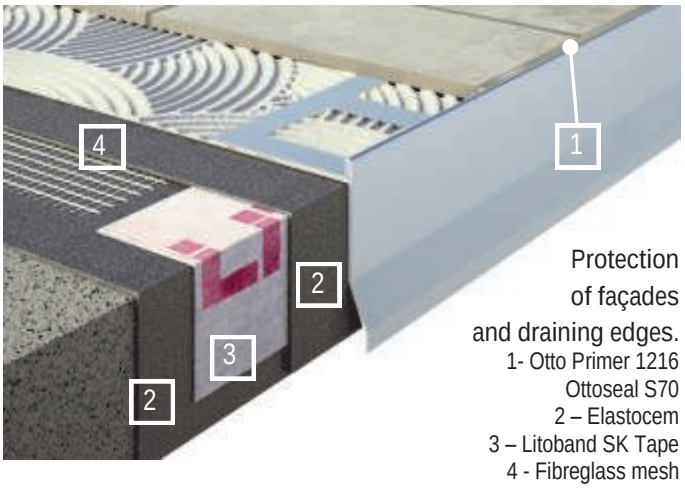
When laying outdoors, swimming pools, large formats, floors subject to heavy or intense traffic, thin slabs, vibrating substrates and situations where there are large changes in temperature, you need to apply the adhesive mortar on both the substrate and the back of the tiles in order to obtain a full bed of adhesive free from voids.

Grout joints

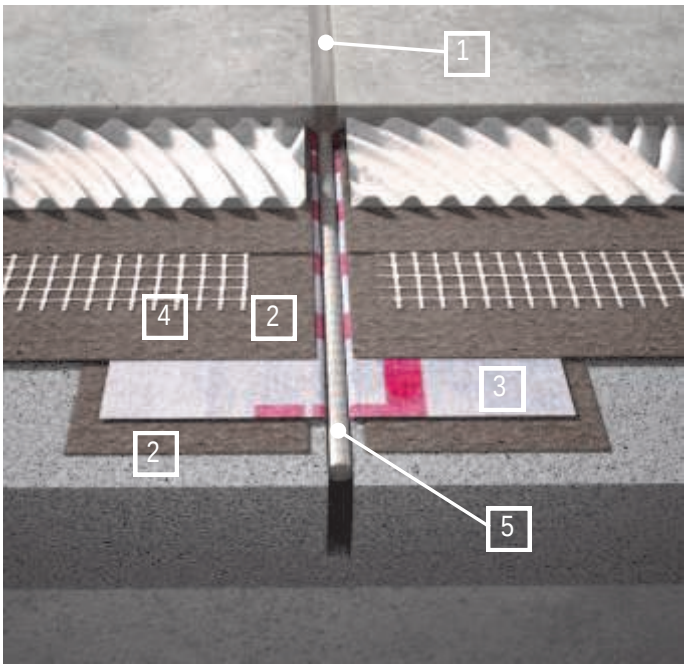
In all types of ceramic tiling the grout joints must be of suitable width in accordance with the following parameters:

- Type, format and dimensional tolerances of the tiles
- Thermal expansion coefficients of the materials constituting the tiling
- Mechanical properties of the laying materials
- Location and path of the joints
- Mechanical features of the substrate
- Target environment and planned operating conditions

Laying with closed joints IS NOT ALLOWED. Any plastic spacers are to be removed before grouting.



Protection of façades and draining edges.
1- Otto Primer 1216 Ottoseal S70
2 – Elastocem
3 – Litoband SK Tape
4 - Fibreglass mesh



Waterproofing fraction joints
1 – Otto Primer 1216 - Ottoseal S70
2 – Elastocem
3 – Litoband SK Tape
4 - Fibreglass mesh
5 - Litogap

MIXING PROPORTIONS

Component A (powder) 24 kg (1 sack) + Component B (liquid) 8 kg (1 canister)

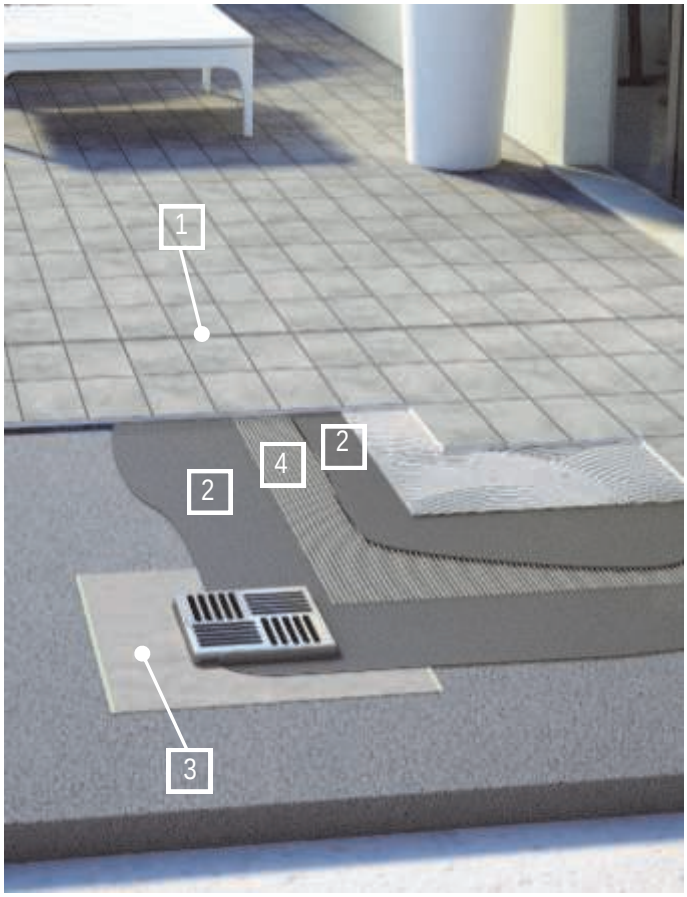
PREPARING THE MIXTURE

Pour component B (liquid) into a clean container and add component A (powder) while stirring.

Mix with an electric drill equipped with a mixing blade at low speed to avoid trapping excessive air until a homogeneous mixture, free of lumps, is obtained.
Hand mixing or partial mixing of the two components is not recommended. Let the mixture rest for at least 5 minutes and mix again for a few seconds.

APPLICATION

Where there are any leaks, place the seal for leaks made of butyl Litoband SK Self-Adhesive Drains Collar directly on the surface that is not waterproof and create a central hole of suitable diameter.
Elastocem must be applied within 60 minutes after mixing.
First level directly on the surface using a steel smooth trowel and at the same time apply the reinforcement anti-alkali fibre glass mesh on the fresh product, avoiding the formation of folds and overlap the rolls by at least 10 cm.
At the corners, expansion joints and pipe passages insert sealing elements Litoband SK Tape, Litoband SK indoor and outdoor corners and Litoband SK Pipes Collar on the fresh layer of Elastocem.
After the first layer of Elastocem hardens (about 3-4 hours at T=+23°C), apply a second layer of product with a final thickness of not less than 2 mm, completely the mesh completely and all the sealing elements. After applying the second coating, wait 5 days of ageing before proceeding with the installation of ceramics, natural stone or mosaics.
In the presence of favourable climatic conditions the ageing time can be reduced to 24 hours.



Waterproofing terraces and balconies
1 – Fraction joint
2 – Elastocem
3 – Litoband SK Self-Adhesive Drains Collar / Litoband P
4 – Fibreglass mesh

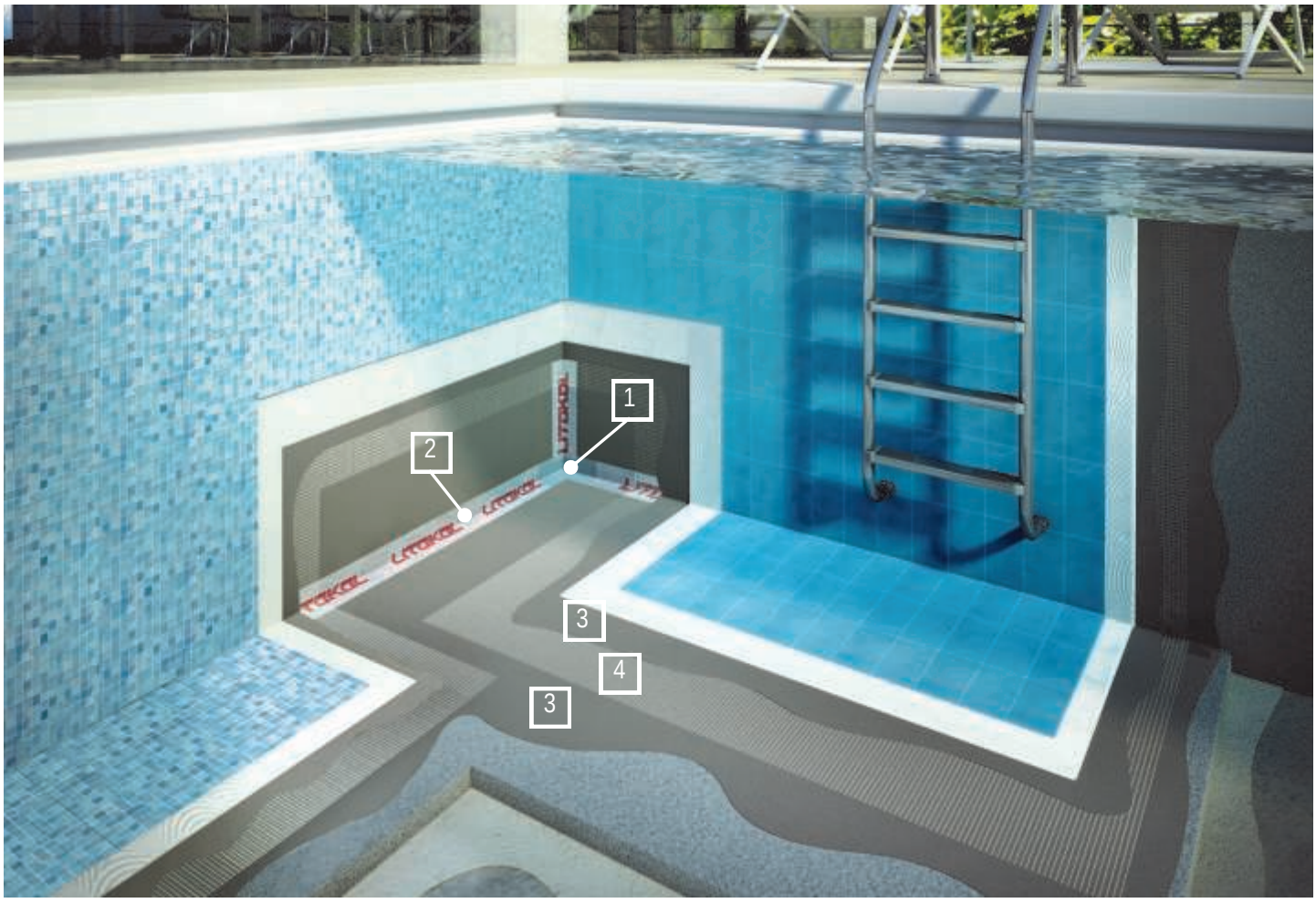
INSTALLATION OF THE TILES
Ceramics, natural stone or mosaics can be installed with C2 class or R2 Reactive cementitious adhesives, in accordance with EN 12004 such as:
Litoflex K80: class C2E improved white or grey long setting time cementitious adhesive.
Superflex K77: class C2TE-S1 improved white or grey cementitious adhesive with no vertical slip and deformable extended setting time.
Cementkol K21/K22 + 30% Latexkol: class C2-S2 improved white or grey highly deformable cementitious adhesive.
Litoplus K55: class C2TE improved super-white cementitious adhesive with no vertical slip and extended setting time specifically for glass mosaics and ceramics. Suitable for laying in pools mixed with elastic latex Latexkol diluted 1:1 with water.
Litoelastic: class R2T two component improved white epoxy polyurethane reactive adhesive with with no vertical slip.
The choice of adhesive depends on the size of the tiles and the expected working conditions.
In the case of large-sized tiles (side > 60 cm), class S1 deformable adhesives or class S2 highly deformable are preferred. The tiles can be laid in "full bed" using the double coating technique and grouting joints of adequate width for their size.
Side-by-side laying IS NOT ALLOWED.
Comply with any structural joints, fraction joints, expansion joints and perimeter joints.

GROUTING
Any plastic spacers are to be removed before grouting. The joints between the tiles may be sealed 24 hours after laying the ceramics. Cementitious grouts such as Litochrom 1-6, Litochrom 3-15 can be used for grouting or with two-component epoxy mortars Epoxystuk X90 and Starlike®. Epoxy mortar is particularly recommended for swimming pools, hammam baths or in areas that are particularly stressed by changes in temperature or corrosive substances.

WARNINGS
- Do not add lime, cement or other foreign materials to the product.
- Do not dilute the product with water
- Apply at temperatures between +5°C and +35°C.
- Comply with the mixing proportions.
- Do not use the product for significant thicknesses (> 2 mm per coating).
- Do not apply the product on plastic or metal materials.
- Do not apply the product on surfaces subject to rising humidity.
- Protect the waterproofing from the rain in the first 24 hours after application with Elastocem.
- The product should not be left exposed. Always provide a coating of ceramics, natural stone or mosaics.
- Do not use the product for applications not found in this technical data sheet.
- In case of doubt, contact the Litokol Technical Assistance.

INFORMATION ON SAFETY
Refer to the product's safety sheets available upon request.
PRODUCT FOR PROFESSIONAL USE

SPECIFICATIONS
Waterproofing wet indoor areas such as bathrooms and showers and outdoors such as balconies, terraces, tanks and swimming pools, where ceramics, natural stone and mosaics will be subsequently laid, must be implemented with a CMO2P class elastic waterproof, fibre-reinforced two-component cementitious mortar, in accordance with EN 14891, Elastocem type produced by Litokol S.p.A



Waterproofing swimming pools, hammam baths and thermal baths
1 – Litoband SK for indoor corners (IC)
2 – Litoband SK Tape
3 – Elastocem
4 – Fibreglass mesh

IDENTIFICATION DATA

Appearance	Component A: Grey powder - Component B: white liquid.
Classification in accordance with EN 14891	CMO2P - a product that is waterproof to the applied cement liquid polymer-modified with improved crack-bridging ability at very low temperature (-20°C) and resistant to contact with chlorinated water.
Custom classification	3824 5090
Storage time	12 months in original packaging in a dry place at a temperature not less than +5°C. Protect component B (liquid) from frost.

APPLICATION DATA

Mixing proportions	Component A (powder): 3 parts (1 x 24 kg sack) - Component B (liquid): 1 part (1 x 8 kg canister)
Colour of the mixture	Dark grey
Ageing time	5 minutes
Consistency of the mix	Fluid paste
Mixture life	Approximately 60 minutes
Admitted application temperatures	From +5°C to +35°C
Thickness	Not less than 2 mm in two subsequent coats
Maximum thickness applicable	2 mm per coat
Application	Smooth steel trowel
Cleaning	The equipment and surfaces of the ceramics must be cleaned from residue with water before the product hardens.
Consumption	1.7 kg/m² for each mm of thickness
Waiting time between the first and second layer	Approx. 3-4 hours at T=+23°C
Waiting time to apply the ceramics	5 days. In good weather 24 hours

PERFORMANCE

Resistant to water under positive pressure in accordance with EN 14891-A7 (150 kPa for 7 days)	No penetration and weight gain < 20 grams
Initial tensile strength adhesion in accordance with EN 14891-A.6.2	≥ 0.5 N/mm²
Tensile strength adhesion after immersion in water in accordance with EN 14891-A.6.3	≥ 0.5 N/mm²
Tensile strength adhesion after thermal ageing in accordance with EN 14891-A.6.5	≥ 0.5 N/mm²
Tensile strength adhesion after frost-melting cycles in accordance with EN 14891-A.6.6	≥ 0.5 N/mm²
Tensile strength adhesion after contact with lime water in accordance with EN 14891-A.6.9	≥ 0.5 N/mm²
Crack-bridging capacity under normal conditions in accordance with EN 14891-A8.2	≥ 0.75 mm
Tensile adhesion strength after contact with chlorinated water in accordance with EN 14891-A.6.7	≥ 0.5 N/mm²
Crack-bridging capacity at very low temperature (-20°C) in accordance with EN 14891-A.8.3	≥ 0.75 mm
Application temperatures	From -20°C to +90°C

The adhesion values were determined with class C2 Elastocem and cementitious adhesive in accordance with EN 12004.
The crack-bridging capacity under normal conditions and very low temperature (-20°C) was determined by inserting 4 x 4.5 mm anti-alkali links in the fibreglass mesh 150 g/m².

Although the information in this technical chart is from our best experience, it is merely indicative.
Each specific case must be subjected to practical preliminary tests by the user who undertakes the responsibility for the final work result.
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