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CONSTRUIESTE  
CORECT

## Data Sheet

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## ElastoCEM 1K

Code: 1.6.05  
Civil Construction Approval - AT 007-03/248-2008 - Incerc Cluj  
Approval regarding road and industrial infrastructure  
AT 004 - 07/988 - 2007 - Incertrans  
Approval for Elastosistem-type hydro insulation for bridges,  
viaducts and roadways - AT 004-07/1033-2008 - Incertrans

**Product type** Waterproofing mortar for the protection and waterproofing of concrete, prestressed concrete structures, of cement screed and coatings.

**Short description** ELASTOCEM 1K is a monocomponent product based on quartz sand, Portland cement, selected inert of Product: materials, synthetic polymers and specific water-soluble additives.

After its correct application in a layer of maximum 2 mm and after its proper maturation, due to high content of synthetic resins and their exceptional quality, the product has a very good stability and elasticity in any weather conditions, being resistant to very high temperature changes.

THE ELASTOCEM 1K layer correctly applied is completely waterproof up to 1.5 atm. and is totally inert to the action of: CO<sub>2</sub>, SO<sub>2</sub>, carbon anhydride, sulphatic salt solutions, calcium chloride (CaCl<sub>2</sub>) or sodium chloride (NaCl) solutions, used for de-icing.

The adherence of the ELASTOCEM 1K product is excellent on all surfaces made from concrete, mortar, ceramics (> 1.3 N/mm<sup>2</sup>) provided that these surfaces are compact, solid, sound and clean;

Its good water vapour permeability gives it a major advantage in waterproofing concrete and cement screed surfaces, in comparison with the technical solutions based on bituminous membranes which are practically resistant to water vapours, thus requiring very strict conditions for the relative humidity of the base layer.

**Areas of application:** ELASTOCEM 1K product is used for the following:

- The waterproofing protection carried out by filling reinforced concrete structures which could come into contact with salts, such as calcium or sodium chloride, sea water or sulphatic salts;
- Waterproofing and elasticity protection, carried out by filling, against aggressive atmospheric agents (CO<sub>2</sub>, SO<sub>2</sub>, carbon anhydride), of elastic structures made of reinforced concrete, beams, prestressed beams which are exposed to crazing risk caused by loads.
- Waterproofing and insulation for interior and exterior surfaces for concrete water tanks, balconies, bathrooms, terraces and pools.
- Waterproofing by filling, against aggressive atmospheric agents, of plasters and concrete types which present hardening contraction cracks
- Protection and waterproofing of the road and industrial infrastructure made of concrete, reinforced concrete / prestressed reinforced concrete, cement screeds (for example: Protection against carbonation, against the action of CO<sub>2</sub> or SO<sub>2</sub> or against the aggressive solutions used for de-icing such as CaCl<sub>2</sub> or NaCl, for de-icing piers, beams, poles, on bridges, roadways or road and train viaducts and reinforced concrete structures which have a small degree of covering iron).
- The waterproofing of tracks on bridges, viaducts and roadways or railway crossing.
- Waterproofing of flush reinforced concrete elements and structures used for foundation of bridges, viaducts, roadways and railway crossing.

Technical data:

Physical form	powder
Colour	grey
Specific consumption upon manual application	approx. 1.7 kg/m <sup>2</sup> /mm thick
Specific consumption upon machine-based application	approx. 2.2 kg/m <sup>2</sup> /mm thick
Specific density of paste, g/cm <sup>3</sup>	1.4 ...1.8
Pot life	60 minutes
Application temperature	+ 8°C - + 30°C
Bending strength per 28 days	1.96 N/mm <sup>2</sup>
Compressive strength per 28 days	13.9 N/mm <sup>2</sup>
Adherence to concrete	1.33 N/mm <sup>2</sup>
Tracking strength: - tracking deformation rate: - track depth	0.8 mm/h, 2.7 mm
Resistance to frosting-defrosting after 28 cycles	1.11 kg/m <sup>3</sup> .
Waterproofing (capillarity coefficient)	0.012 g/dm <sup>2</sup> minute <sup>1/2</sup>

Instructions for use: Application of product is carried out only by trained and skilled workers in mortar applications, in the following stages:

1. Checking the base surface:

Checking the base layer is an important stage in the process of applying the product.

The surfaces upon which ELASTOCEM 1K is applied should have the following features:

- they should be made of concrete, reinforced concrete, precast concrete, prestressed concrete, cement screeds or cement plasters with corresponding maturity;
- they should be flat and smooth.
- they should be clean, with no dust and salts, with no anti-adhesive substances (grease, bitumen, dust, gypsum, dye, old wall painting etc.), with no traces of grout or substances which remove forms from concrete, with a normal water absorption;
- crack free. Capillary cracks are allowed; they occur due to hydraulic intake, drying and hardening of the base layer. Other cracks caused by incorrect application of the base layer and which are major (> 0.5-0.6 mm), moving and which worsen simultaneously with the process of hardening are not allowed.
- resistant, compact and free of any brittle parts.

2. Preparing the product:

The paste is obtained by mixing 20 kg of product with approx. 3.2-3.6 l of clear and cold water, by pouring the product into the water (and not the other way around!).

It is essential that the mixing procedure be carried out without creating too much air bubbles in the paste and comply with the stages and moments of mixing, in order to allow the chemical reactions to take place.

For these to take place, the mixture is created only with a specialized rotating mechanical device (hydraulic or pneumatic), with low revolutions (maximum: 500 rev/min) and high power (minimum: 1,200 W), fitted with a mixing rod specially designed for mortars. Mixing is carried out for about 2-4 minutes, until a homogeneous paste is obtained and mixing shall be carried out again after 10 minutes, for 1-2 minutes; afterwards, the paste can be applied provided that the moments of using the product are observed.

The non-observance of the mixing stages implicitly causes the product to lose its properties and, thus, failures in using it may occur.

An easy-to-apply paste is obtained; it can be applied up to a maximum thickness of 2 mm. The hardened product is waterproof up to a pressure of + 1.5 atmospheres.

### 3. Product application:

#### a. Manual application of ELASTOCEM 1K:

The ELASTOCEM 1K product can be used within maximum 60 minutes from its preparation. On the surface prepared according to point 1, with the help of a grouter, a levelling of the surface is carried out, for the purpose of obtaining a paste adherence to 100% of the base. Then, the first layer (maximum 2 mm thick) is applied. For large surfaces and for surfaces which undergo high mechanical stresses, the layer is reinforced with a glass fiber net with a density of 145 – 165 gr/m<sup>2</sup>. In this sense, the product is spread out with the hawk, then, the net is applied and levelled gently with the hawk until the reinforcing net becomes part of the applied layer. At the joint between the reinforcing nets, the nets will overlap for at least 10 cm. It is extremely important that the layer of product applied should not be more than 2 mm thick, otherwise, cracks may occur. For surfaces exceeding 20 m<sup>2</sup>, expansion joints will be created. In this sense, ELASTOBAND rubber bands are used. If the base has structural joints or expansion joints, then the joints made using ELASTOBAND will be superimposed over these. At the joints between two elements (wall/wall, wall/floor etc.), reinforcement with ELASTOBAND shall obligatorily be carried out. If necessary, the second layer is applied taking into account the weather conditions, 5-8 hours after applying the first layer, so that a maximum thickness of 2 mm/layer is obtained. In case the product is used on structural elements which undergo hydrostatic counterpressures, the surface shall be treated with RENOVA ANTISARE and RENOVA APA STOP. In case the base layer has cracks which will not endanger its stability in the future, the cracks will be filled. For cracks with a maximum width of 5 mm, the crack place shall be cut in a V shape all along its length, the eventual dust will be cleaned, and a type of adhesive mortar with additives and synthetic resins of flexible type, GLASSKOL (C2TE), shall be applied. In case the cracks are more than 5 mm wide, the filling of the cracks shall be carried out with a screed mortar type M100. The mortar shall be improved by replacing 20% of the mixture water with HIDROFLEX. For old surfaces to which there is a risk that the repair mortar could have low adherence (old concrete structures, carbonated, coring structures), before the mortar to which HIDROFLEX has been added is applied, the surfaces will be treated with HIDROCEM, a mortar with osmotic permeation. For surfaces having high absorption features, the base layer shall be watered and be left to dry before applying the ELASTOCEM 1K product. It is forbidden to apply this product on a layer of water.

#### b. Machine-based application of ELASTOCEM 1K with the help of gunite:

is carried out after the surface is prepared according to point 1.  
is carried out with the help of a spraying device or a machine capable of applying a layer with a maximum thickness of 2 mm. In case a thickness exceeding 2 mm is needed, the product shall be applied in more layers.  
The multi-layer application procedure is carried out 5-8 hours after applying the previous layer.  
In the areas affected by crazing or which are exposed to high mechanical stresses or for surfaces larger than 20m<sup>2</sup>, it is recommended to insert a glass fiber net in the first newly applied layer.



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#### 4. Final recommendations:

- Do not mix the product manually;
- Do not use the product at air or base layer temperatures lower than +8°C or exceeding + 30°C;
- The surface on which ELASTOCEM 1K has been applied has to be protected from rainfall or accidental water leaks within the first 24 hours after its application;
- During dry, extremely warm periods, or windy periods, the applied product shall be protected against accelerated drying by covering it with a damp cloth or by spraying a specific anti-evaporation agent.
- In case bathrooms or drinking water tanks are insulated, before using the area, it is necessary to wait 28 days from the date of applying the product and then to execute repeated warm water washing operations.

**Packaging:** The product is packaged in sacks weighing 20 kg; 60 sacks per pallet covered in foil.

**Storage:** The product is stored for maximum 12 months in a dry place, in its original package, placed on the pallet.

**Marking:** Each sack is marked by being stamped, on the bottom, with the following information: date of production – five groups of figures symbolizing:  
The day, the month, the year ending, production line number, production batch number.

**Warranty:** The product has a 12 month warranty beginning on the date of production marked on the package; this warranty applies only for the storage conditions mentioned above.

- WARNING!**
- The prepared product is alkaline. During handling and transport, goggles, gloves and anti-dust masks should be worn. In case the product gets accidentally into your eyes, wash immediately with lots of clean water and then quickly contact a doctor!
  - Products with damaged packaging should not be used.
  - The unused items should not be discarded into the sewerage system

**Note 1:** The present data sheet accompanies each invoice or waybill which refers to the product presented in the sheet.

**Note 2:** It is forbidden to reproduce parts or fragments from the present data sheet.

**Note 3:** The present data sheet has been drawn up to properly inform the user about the presented product. The use of this sheet for other purpose than informing you about the product and preparing the technological specifications regarding application is strictly forbidden without the written consent of ITAL-KOL.

**Note 4:** For other additional information, which you consider you should receive or you find useful, we recommend that you contact the producer in writing, before using the product. Any producer liability regarding failures in applying the product resulted from misinterpreting the text of the present data sheet or from verbal consultancy is excluded.

**Note 5:** The data presented in the product data sheet and, mainly, the instructions regarding the manner and area of application of the product are based on the skills and practical experience of the person applying the product. Due to a large variety of materials, tools or working conditions which we cannot totally control or foresee or which, even if they are clearly mentioned in the product data sheet, are not correctly assessed by the person applying the product, in each case we recommend, before use, to carry out individual tests of applying the product, so that you can be sure that the product the present data sheet is describing is suitable for your respective field of application.

Any producer liability regarding failures in applying the product resulted from the causes mentioned above in this sheet is excluded, except for the event when the damages resulted only from the poor quality of the product that the present data sheet refers to.

**Note 6:** Depending on the evolution of the technical regulations applicable, the producer preserves the right to modify the present data sheet. For the purpose of confirming the data in the sheet, we recommend you to visit the web page: web [www.italkol.ro](http://www.italkol.ro) prior to using the product