PRODUCT TECHNICAL DATA

IMPRE-FIX STE

Waterproofing additive for normal-setting mortars

MADE IN ITALY

Description: Normal-setting water-repellent for making waterproof plasters.
Impre-Fix STE is a water-repellent mass which, by significantly reducing porosity, makes it possible to obtain compact cement mortars that are highly impermeable to water, even from backpressure, thanks to specific laying technologies. The product comes as a yellow liquid, to be diluted beforehand in the mixing water.

Advantages:
- Impre-Fix STE normal-setting water repellent does not alter the normal setting times of the cement.
- It also exerts a fluidifying effect which allows for reductions in the w/c ratio with the same consistency and therefore improves the characteristics and in particular the mechanical resistance of the cement mortar.
- It helps to reduce the formation of efflorescence and mould.
- It can be applied by hand or by machine.
- It is applied inside underground structures and therefore is always accessible for any repairs.

Applications: Specific product for the preparation of cement mortars for the execution of:
- rigid waterproofing of underground structures in concrete or reinforced concrete, subject to positive and/or negative water pressures
- underground or above ground structures in brick masonry, stone masonry, concrete blocks, bricks in general.
- packaging of small cement products with high waterproofing and weather resistance characteristics.

Consumption: Dose Impre-Fix STE at 3% on the weight of the cement (3 kg for every 100 kg of cement or 1 kg for every 8-10 L of water) corresponding to:
- 600 g/m^2 on wall (thickness 25 mm).
- 850 g/m^2 on floor (thickness 40 mm).

Application: The structures must be perfectly stable, i.e., capable of resisting the forces caused by hydrostatic thrust without damage.

Surface preparation
- Remove any existing plaster.
- Roughen the surface by hammering the concrete with suitable chipping hammers; in the case of new castings, the roughening of the vertical walls can be carried out immediately after stripping the formwork. On the other hand, rake the slab before the concrete is completely hardened;
- Carefully clean the surface by washing with a pressurised water jet until it is completely damp.

Execution of the wall/floor joint
- The wall plaster must turn up on the horizontal plane as follows:

a) Spread with a broom or mop on the floor close to the vertical walls, in a 30 cm wide strip, a fluid mortar mixed with Impre-Fix STE solution and packaged with aggregates with particle size up to 3 mm and cement:inert ratio of 1:1 by volume;

b) Over this treatment, wet on wet, spread a layer of mortar with a plastic/fluid consistency, mixed with an Impre-Fix STE solution, mixed with aggregates with a particle size of up to 5 mm, aggregate:cement ratio of 1:2 by volume, and total thickness of 10 mm.

The vertical layers of plaster must be turned up on the connection shell described above and end staggered from each other.

Execution of the plaster on walls

c) Create a 4-5 mm thick splash cast with Impre-Fix STE fluid mortar, cement:aggregate ratio 1:1 by volume, aggregate with particle size of up to 3 mm;

d) when wet, create a rough coat 7-8 mm thick with Impre-Fix STE mortar, cement:aggregate ratio of 1:2.5 by volume, and aggregate with particle size of up to 5 mm;

- make a second splash cast as in point c)
- make a second rough coat as in point d)
- finish with a trowel with a final layer having the compositional characteristics referred to in point d).

The latter can be made in different ways depending on the desired finish:

- with a fine trowel, reducing the particle size of the aggregate up to 3 mm max.
- smoothed with a dusting of cement by adding 1/3 of fine sand to the mix (typical for internal smoothing of tanks).
- with fine trowel with gauged mortar, aggregate 0-3 mm with binder:aggregate ratio of 1:2-3, lime:cement ratio of 1:9, without the addition of Impre-Fix STE to limit the formation of condensation in rooms subject to high ambient humidity or poor ventilation.
- Total thickness of the plaster on the vertical walls of 25-30 mm. The various coats of plaster must always be performed by staggering the various layers.

Execution of the waterproof screed

- spread a mortar with the characteristics described in point a) with a broom or mop
- when wet, apply a layer of mortar with a damp earth consistency, mixed with an Impre-Fix STE solution, made with aggregates with a particle size of up to 5 mm, aggregate:cement ratio of 1:2.5 by volume, layer thickness of 35-40 mm.
- The layer must be beaten with a trowel until the mixing water emerges, always finishing it with a trowel.

Execution of the joints

- In any cracks in the structure due to settling, plastic joints will be made by filling the grooves, suitably prepared and coated with waterproof mortar, with suitable polyurethane sealants. In the structural expansion joints, a suitable PVC profile must be inserted into the structure during the execution of the concrete casting. A suitable covered with Impre-Fix STE mortar will be created flush with the surface, in correspondence with the profile, and a perfect seal will subsequently be made, using suitable elastic polyurethane sealants.

Blocking cramp-irons and through pipes

- In the presence of elements, such as pipes, anchors, etc., which cross and interrupt the continuity of the plaster, suitable collars are to be made with polyurethane sealants, always after preparing suitable recesses covered with waterproof mortar.
- *Façade cladding plaster*
- Make a 4-5 mm thick splash layer with Impre-Fix STE mortar, aggregate:binder ratio of 1:1 by volume, sand 0-3 mm; the binder must be composed of 70% by weight of hydraulic lime and 30% by weight of cement; for areas particularly exposed to weathering, increase the added cement up to 50%;
- while still wet, make a 7-8 mm thick rough cast with Impre-Fix STE mortar, binder:aggregate ratio of 1:2-3 by volume, sand 0-5 mm; the binder must be composed of 85% by weight of hydraulic lime and 15% by weight of cement;
- this is followed by a splash cast approximately 4 mm thick with Impre-Fix STE mortar, aggregate:binder ratio of 1:2-3 by volume, sand 0-3 mm; the binder must be composed only of hydraulic lime

- the final coat carried out fresh on the splash cast is made up of normal hydraulic lime mortar, also coloured, to be finished with a fine trowel or spray, in any case without the addition of Impre-Fix STE. Binding:aggregate ratio of 1:2.5, particle size 0-3 mm.

Warnings:

- The execution of the mortar with the addition of Impre-Fix STE normally involves the use of an Impre-Fix STE:water solution equal to 1:8-10 by volume;
- cement-sand dosages are expressed in volume: a mortar dosed at 1:2 means a volume of cement to be mixed with two volumes of sand;
- use portland cement or recently produced pozzolanic cement dosed at 600 kg/m^3 and sieved live sand with well-matched particle size of up to 5 mm, unless otherwise indicated;
- before starting the execution of a plaster or a screed, the concrete bed must have matured for at least 14 days;
- lay each layer before the previous one has completely set;
- first plaster the walls and then coat the horizontal floor surface;
- repeatedly moisten the plaster or the screed for at least 10 days during the summer or in environments with excessive ventilation, in order to obtain a slow and uniform setting;
- use the mixtures within 3-4 hours of their preparation;
- The absolute guarantee of impermeability can only be obtained by working on concrete or reinforced concrete underground structures, cast with the aid of formworks.
- Plaster with Impre-Fix STE additive cannot be guaranteed if applied on: a) underground structures in concrete or reinforced concrete cast without the aid of formwork (e.g., bulkheads), above ground structures in reinforced concrete or concrete; b) tunnel vaults; c) ceilings in general.
- when executing the screed (slash cut side finish to ensure correct overlap between the strips), treat strips 1 m wide to prevent them from being trampled on before setting;
- the various layers on the vertical walls must end staggered to ensure absolute waterproofing of the plaster
- in the event of long interruptions to work, the layers already poured must be cleaned, wetted and covered with a new layer of fluid mortar to ensure a good bond with the subsequent layers.
- Consult the information at the bottom of this document.
- Protect from frost, do not expose the package to temperatures below +5 °C; once frozen, the product can no longer be recovered.
  For further information, request the safety data sheet.

Packaging:

5 and 25 kg plastic cans.
200 kg metal drums.
1000 kg IBC.

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Technical data:

MAIN CHARACTERISTICS		
Appearance		Liquid
Colour		Amber
Shelf life in closed original packaging		12 months
Density *(at 20 °C)*	EN ISO 2811-1	(0.97-1.03) kg/L
pH		8.0-8.5
Solid content *(m/m at 130 °C)*	EN ISO 3251	(2.6-2.8)%
Viscosity *(Flow time at 20 °C, DIN/4 mm cup)*	EN ISO 2431	9 - 13 seconds

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