

# IDROSILEX

Powdered or liquid waterproofer for cementitious mortars



## WHERE TO USE

Waterproofing concrete basements, cisterns, and canals, as well as concrete, brick, or stone walls exposed to atmospheric agents.

### Some application examples

- Waterproof screeds and renders in basements, garages and underground areas in general.
- Waterproof rendering for canals, swimming pools, etc.
- Waterproof rendering on building façades.
- Waterproofing of lift wells and underpasses.

## TECHNICAL CHARACTERISTICS

**Idrosilex** is an admixture with a base of special waterproofing agents manufactured from a formula developed in MAPEI Research Laboratories.

**Idrosilex** is available in both powder and liquid form.

When mixed with cement, sand, and water, **Idrosilex** produces an extremely compact mortar that is easy to apply with a trowel or rendering machine even on vertical walls.

Mortar prepared with **Idrosilex** has less capillary porosity than conventional cement mortars or lime and cement mortars.

The combination of the product's waterproofing properties with an effective rendering system applied in several layers prevents continuity between pores and ensures thorough waterproofing even in the presence of counter-pressure.

## RECOMMENDATIONS

Mortar prepared with **Idrosilex** forms a rigid waterproofing system and is therefore not recommended for:

- replacing flexible waterproof membranes;
- waterproofing structures subject to severe deformation under stress that may cause cracks to form;
- waterproofing fresh concrete, or concrete still subject to plastic shrinkage.

## APPLICATION PROCEDURE

### Preparing the substrate

The substrate should be prepared carefully to ensure thorough bonding of **Idrosilex** to the rendering or screed.

The surface must be thoroughly clean and solid. Remove old render, degraded or loose material, encrusted salts, organic residues, oils and grease.

Roughen concrete surfaces with a bush hammer.

Wet the substrate thoroughly, then remove excess water with compressed air or a cloth so that the substrate is saturated but the surface is dry.

## Preparing mortar for renders

### Scratch coat (first and third coat)

Blend the mix as follows:

- 45 litres of sand, screened and washed, graded from 0 to 2 mm (the equivalent of 4.5 bricklayer's pails);
- 1 50-kg bag of CEM II/A-L 32.5 Portland cement;
- **Idrosilex Powder**: from 1 to 2 kg, the equivalent of a dosage of 2 to 4% by weight of cement. Coverage: approx. 16 m<sup>2</sup> in thicknesses of 4 to 5 mm.

**Idrosilex Powder** should preferably be dry-blended with the cement and sand to facilitate its dispersion. However, to simplify preparation of the mortar, the powder can be poured into the mixer together with the other ingredients (cement, sand and water).

When using sand containing a large percentage of fine-graded aggregate, **Idrosilex Powder** should be admixed at a ratio of 4%. For sand with less fine-graded aggregate, the ratio can be reduced to 2%.

Or

- **Idrosilex Liquid**: from 1.5 to 2.5 kg (1.2 to 2 litres), the equivalent of a dosage of 3 to 5% by weight of cement. Coverage: approx. 16 m<sup>2</sup> in thicknesses of 4 to 5 mm.

Pour **Idrosilex Liquid** into the mixer together with the other ingredients (cement, sand and water). The dosage varies from 3 to 5 kg every 100 kg of cement, depending on the grading of the sand.

When using sand containing a large percentage of fine-graded aggregate, **Idrosilex Liquid** should be admixed in a dosage of 5%. For sand with less fine-graded aggregate, the ratio can be reduced to 3%.

Mix the mortar for at least 5 minutes to obtain the best results. The mortar should have a fluid consistency so it can be applied in thin layers with a trowel or with a rendering machine.

### Brown coat (second and fourth coat)

Prepare the mix as follows:

- 150 litres of sand, screened and washed, graded from 0 to 5 mm (the equivalent of 15 bricklayer's pails);
- 1 50-kg bag of CEM II/A-L 32.5 Portland cement;
- **Idrosilex Powder**: from 1 to 2 kg, the equivalent of a dosage of 2 to 4% by weight of cement. Coverage: approx. 18 m<sup>2</sup> in thicknesses of 7 to 8 mm.

Or

- **Idrosilex Liquid**: from 1.5 to 2.5 kg (1.2 to 2 litres), the equivalent of a dosage of 3 to 5% by weight of cement. Coverage: approx. 18 m<sup>2</sup> for thicknesses of 7 to 8 mm.

The dosage every 100 kg of cement depends on the grading of the sand, as indicated in the instructions for the scratch coat.

Mix the mortar in the mixer for at least 5 minutes. The mortar should have a plastic consistency so it can be applied vertically in thicknesses of 7 to 8 mm.

## Preparing mortar for screeds

### First coat (primer)

Prepare the mix as follows:

- 45 litres of sand, screened and washed, graded from 0 to 2 mm (the equivalent of 4.5 bricklayer's pails);
- 1 50-kg bag of CEM II/A-L 32.5 Portland cement;
- **Idrosilex Powder**: from 1 to 2 kg, the equivalent of a dosage of 2 to 4% by weight of cement. Coverage: approx. 25 m<sup>2</sup> in thicknesses of 2 to 3 mm.

Or

- **Idrosilex Liquid**: from 1.5 to 2.5 kg (1.2 to 2 litres), the equivalent of a dosage of 3 to 5% by weight of cement. Coverage: approx. 25 m<sup>2</sup> in thicknesses of 2 to 3 mm.

Mix the mortar in a mixer for at least 5 minutes. The mortar should have a fluid consistency so it can be brushed on in thicknesses of 2 to 3 mm.

#### **Second coat**

Prepare the mix as follows:

- 45 litres of sand, screened and washed, graded from 0 to 2 mm (the equivalent of 4.5 bricklayer's pails);
- 1 50-kg bag of CEM II/A-L 32.5 Portland cement;
- **Idrosilex Powder**: from 1 to 2 kg, the equivalent of a dosage of 2 to 4% by weight of cement. Coverage: approx. 10 m<sup>2</sup> for thicknesses of 7 to 8 mm.

Or

- **Idrosilex Liquid**: from 1.5 to 2.5 kg (1.2 to 2 litres), the equivalent of a dosage of 3 to 5% by weight of cement. Coverage: approx. 10 m<sup>2</sup> in thicknesses of 7 to 8 mm.

Mix the mortar in a mixer for at least 5 minutes. The mortar should have a plastic consistency.

#### **Third coat**

Prepare the mix as follows:

- 150 litres of sand, screened and washed, graded from 0 to 5 mm (the equivalent of 15 bricklayer's pails);
- 1 50-kg bag of CEM II/A-L 32.5 Portland cement;
- **Idrosilex Powder**: from 1 to 2 kg, the equivalent of a dosage of 2 to 4% by weight of cement. Coverage: approx. 5 m<sup>2</sup> in thicknesses of 30 mm.

Or

- **Idrosilex Liquid**: from 1.5 to 2.5 kg (1.2 to 2 litres), the equivalent of a dosage of 3 to 5% by weight of cement. Coverage: approx. 5 m<sup>2</sup> in thicknesses of 30 mm.

Mix the mortar in a mixer for 6 to 7 minutes, adding only enough water to obtain mortar with a no-slump consistency.

### **Applying the mortar**

#### **Renderers**

Using a trowel or rendering machine, apply the mortar in layers as follows:

1. scratch coat, approx. 4 to 5 mm thick;
2. brown coat, approx. 7 to 8 mm thick;
3. scratch coat, approx. 4 to 5 mm thick;
4. brown coat, approx. 7 to 8 mm thick.

Total thickness: approx. 25 mm.

Each coat should be applied before the preceding one has finished setting. When there are prolonged interruptions between coats, freshen the surface by applying fresh mortar over the joint for 10 to 15 cm. To waterproof a room thoroughly, before applying the rendering, reinforce the joint between the wall and the floor (the weakest point in the structure) with a mortar composed of 1 part by volume of cement, 1 part by volume of sand graded from 0 to 2 mm mixed with a solution of 1 part **Planicrete** and 1 part water. The mortar must have a plastic consistency.

#### **Screeds**

Brush on the first coat of mortar with a fluid consistency in a thickness of 2 to 3 mm, then immediately apply the second coat of mortar with a plastic consistency in a thickness of 7 to 8 mm, giving it a rough float finish. Within approx. two hours, before the preceding coat has finished setting, apply the third (and final) coat of mortar with a no-slump consistency approx. 30 mm thick.

Tamp the fresh mortar vigorously until bleeding occurs and finish with a float.

Second pours are to be avoided.

In case of prolonged interruptions, start up again by overlapping one coat over the other for 10 to 15 cm.

Total screed thickness: approx. 40 mm.



Preparing waterproof mortar admixed with Idrosilex Powder



Spraying on the first coat of mortar admixed with Idrosilex Liquid



Screeding with mortar admixed with Idrosilex Liquid



Applying mortar admixed with Idrosilex over concrete roughened with a bush hammer



Pillar waterproofed with Idrosilex



Screed admixed with Idrosilex

## CLEANING

Fresh mortar admixed with **Idrosilex** can be cleaned from tools with water. After setting, cleaning can only be done mechanically.

## CONSUMPTION

### Renders 25 mm thick

Dosage 2%: 250 g/m<sup>2</sup>.

Dosage 3%: 350 g/m<sup>2</sup>.

Dosage 4%: 500 g/m<sup>2</sup>.

Dosage 5%: 600 g/m<sup>2</sup>.

### Screeds 40 mm thick

Dosage 2%: 400 g/m<sup>2</sup>.

Dosage 3%: 500 g/m<sup>2</sup>.

Dosage 4%: 700 g/m<sup>2</sup>.

Dosage 5%: 850 g/m<sup>2</sup>.

## PACKAGING

### Idrosilex Powder

25x1 kg boxes.

### Idrosilex Liquid

6 kg and 25 kg drums.

## STORAGE

Store in closed containers. Protect from frost and sunlight.

- **Idrosilex Powder:** 12 months.
- **Idrosilex Liquid:** 24 months.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website [www.mapei.com](http://www.mapei.com).

PRODUCT FOR PROFESSIONAL USE.

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

<b>Consistency:</b>	powder	liquid
<b>Colour:</b>	white	transparent green
<b>Density:</b>	0.50 kg/l	1.20 ± 0.02 kg/l at +20°C
<b>Dry solids content:</b>	100%	25%
<b>Inflammability:</b>	no	no

### APPLICATION DATA

<b>MIX FOR RENDERS</b> <b>Scratch coat:</b>	45 litres of screened and washed sand graded from 0 to 2 mm (4.5 bricklayer's pails), 50 kg of cement, 1 to 2 kg of <b>Idrosilex Powder</b>	45 litres of sand 0 to 2 mm (4.5 bricklayer's pails), 50 kg of cement, 1.5 to 2.5 kg of <b>Idrosilex Liquid</b>
<b>Consistency:</b>	fluid	fluid
<b>Brown coat:</b>	150 litres of sand 0 to 5 mm (15 bricklayer's pails), 50 kg of cement, 1 to 2 kg of <b>Idrosilex Powder</b>	150 litres of sand 0 to 5 mm (15 bricklayer's pails), 50 kg of cement, 1.5 to 2.5 kg of <b>Idrosilex Liquid</b>
<b>Consistency:</b>	plastic	plastic
<b>MIX FOR SCREEDS</b> <b>First coat:</b>	45 litres of sand 0 to 2 mm (4.5 bricklayer's pails), 50 kg of cement, 1 to 2 kg of <b>Idrosilex Powder</b>	45 litres of sand 0 to 2 mm (4.5 bricklayer's pails), 50 kg of cement, 1.5 to 2.5 kg of <b>Idrosilex Liquid</b>
<b>Consistency:</b>	fluid	fluid
<b>Second coat:</b>	45 litres of sand 0 to 2 mm (4.5 bricklayer's pails), 50 kg of cement, 1 to 2 kg of <b>Idrosilex Powder</b>	45 litres of sand 0 to 2 mm (4.5 bricklayer's pails), 50 kg of cement, 1.5 to 2.5 kg of <b>Idrosilex Liquid</b>
<b>Consistency:</b>	plastic	plastic
<b>Third coat:</b>	150 litres of sand 0 to 2 mm (15 bricklayer's pails), 50 kg of cement, 1 to 2 kg of <b>Idrosilex Powder</b>	150 litres of sand 0 to 2 mm (15 bricklayer's pails), 50 kg of cement, 1.5 to 2.5 kg of <b>Idrosilex Liquid</b>
<b>Consistency:</b>	no-slump	no-slump
<b>Application temperature range:</b>	from +5°C to +35°C	from +5°C to +35°C
<b>Density of the mixes:</b>	2.2 ± 0.02 kg/l	2.2 ± 0.02 kg/l
<b>Workability of the mixes:</b>	not more than one hour at +23°C	not more than one hour at +23°C

## WARNING

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*Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.*

**Please refer to the current version of the Technical Data Sheet, available from our website [www.mapei.com](http://www.mapei.com)**

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