

## MOSHE 3000 CONCRETE

Waterproofing admixture in powder for application in cement-based mixtures, whether concrete and mortar

### ► Description

MOSHE 3000 CONCRETE is an additive to fully waterproof concrete or mortar when the substrate requires protection against water penetration. After correct homogenization, it will make the mixture remarkably hydrophobic and impermeable at the end of curing.

Quartz is the basic material for this product's production. The molecular structure of organo-modified quartz is compatible with the silicate (cement) matrix of the mineral substrate. This accounts for the extraordinary efficiency of the product and its hydrophobic impregnation. The organic groups are oriented towards the center of capillaries and pores. The active ingredient reacts with the silicate matrix (cement) and reduces the surface tension within the capillaries and pores to stop the capillary activity. The results are hydrophobicity and greater durability of the concrete, due to these characteristics the product offers performance throughout the useful life of the concrete used.

### ► Recommended for

As a barrier to the capillary movement of water in various types of structural projects, mortars, underground works, retaining walls, foundations, foundation beams, slabs, shotcrete, floors and walls in contact with soil moisture, swimming pools, reservoirs, water treatment station, sewage treatment station, rigid pavements, injections with cement cream, recovery of facades in structural concrete, heavy and/or maritime works in general, among others, as long as the base contains cement, following the recommended dosages for the product.

### ► Advantages

- Low water absorption
- High permeability to water vapor
- Barrier against harmful water-soluble salts
- Extraordinary durability
- High hydrophobic power
- Resistance to ultraviolet radiation and extreme temperatures (cold and heat)
- It becomes an intrinsic part of the concrete structure, providing superior resistance and durability when compared to structures without the product
- Prevents the formation of primary efflorescence
- Extremely easy to mix with foundation
- Does not change the color of the structure
- Increases concrete compressive strength

Warranty for an indefinite period, according to performance reports proven by third-party laboratories, with a minimum of 20 years, except for design flaws, structural flaws, or misuse of the material, if the application recommendations below are met:

► **Technical Data**

<b>Characteristics</b>	
<b>Density</b>	0,93 g/cm <sup>3</sup>
<b>Composition</b>	Mineral compounds, CIMSA cement, and special quartz-based additives
<b>Material properties</b>	
<b>Product type</b>	Thin powder
<b>Color</b>	Gray
<b>Storage</b>	It must be stored in a dry place, away from direct sunlight, at temperatures equal to or lower than 45°C and in its original closed packaging
<b>Shelf life</b>	Packaged product shelf life, 2 years from the manufacture date
<b>Packaging</b>	4 kg Bucket / 20 kg Bucket
<b>Moisture</b>	0 %
<b>Odor</b>	Characteristic

► **Application Method**

MOSHE 3000 CONCRETE should be added to concrete during preparation, preferably when dry ingredients are being mixed.

As it is a powdered product, homogenization with the other powdered ingredients occurs quickly and uniformly, as opposed to adding it to the ready-made mixture, fluidized with water, which delays its correct mixing.

**To mix the product with dry aggregates, mix for 5-10 minutes.**

In the case of adding the product to the base already fluidized with water, it is enough to increase the time of mechanical agitation of the substrate to avoid lumps and consequent reduction of performance.

**To mix the product in the already fluidized base, mix for 10-15 minutes.**

**Concrete application standards must be followed according to ABNT.**

For better performance, apply MOSHE 3000 CONCRETE in concrete with a recommended minimum thickness of 6 cm.

For use in mortars, it is necessary to use the 1:4 ratio of cement-sand with 2% of MOSHE 3000 CONCRETE, that is, 2 cans of cement, 8 cans of natural sand, 1 kg of MOSHE 3000 CONCRETE and 1 can of water, with a minimum thickness of 3 cm for plastering the wall or 6 cm for leveling the floor with a 3% slope.

Not recommended for use on plasters with ready-made mortars.

► Dosage

The recommended dosage is described in the table below, ranging from 1% to 2% of the amount of cement used in the concrete mix. Do not use on concrete with less than 300kg of cement per m<sup>3</sup>. If you have this need, please contact the Moshe 3000 team.

MOSHE 3000 CONCRETE: HOW TO USE

**Concrete plant application**

- Cement
- Aggregates
- Moshe 3000
- Mix until homogeneous
- Water
- Mix until homogeneous
- Normal use

**On-site application (already fluidized)**

- Cement
- Aggregates
- Water
- Mix until homogeneous
- Moshe 3000
- Mix for 10 to 15 min
- Normal use

**Moshe 3000 Concrete Consumption**

what is your application?	How much MOSHE 3000 you should use:	
Application purposes	Moshe 3000 per cement (kg)	Moshe 3000 min. consumption
Foundations, piles, footings and foundation blocks	1%	3,5 kg/m <sup>3</sup>
Sill plate, grade beam, concrete walls, slabs, swimming pools, reservoirs, retaining walls, tunnels, marine or structures in permanent contact with humidity	2%	7,0 kg/m <sup>3</sup>

- (1) dosage of 1% for foundations, footings, piles, and foundation blocks
- (2) 2% dosage for Radier, foundations, concrete walls, slabs, swimming pools, reservoirs, retaining walls, tunnels, marine structures, submerged or in contact with excessive humidity, bare slabs;
- (3) Due to the variation of concrete mixes, with different cement volumes per cubic meter of concrete, **under no circumstances** should the amount of MOSHE 3000 be less than 3.00 kg per m<sup>3</sup> of concrete for foundations, footings, piles and foundation blocks;
- (4) Due to the variation of concrete mixes, with different cement volumes per cubic meter of concrete, **under no circumstances** should the amount of MOSHE 3000 be less than 6.0 kg per m<sup>3</sup> of concrete, for the other locations;

► Personal protective equipment

Wear a personal protective mask, natural rubber gloves, goggles or face protection, suitable clothing, and protective boots. If any symptoms of allergy, skin irritation, or eye contact, seek medical attention immediately.

Do not reuse packaging for food purposes. Care should be taken with opened packages in the presence of children, whether there's still product inside them.

► Transport Limitations

Maximum stacking of 10 bags of 20kg with weights of 5 bags or 20 bags of 10kg with weights of 10 bags, or 1,000kg per pallet.

► Storage

Store under cover, protected from rain, and keep containers tightly closed and protected from damage.

#### ► Certification and Technical Reports

**Product certified by the HBC (Healthy Building Certificate)** qualified and certified product, as a product that does not cause any risk to human health and the environment, therefore, a healthy and sustainable product. The HBC grants the MOSHE 3000 product the title of Qualified and Certified Product registered under Code PROD20221121BRASP0038 with validity until 11/21/2023.

**According to the Guarantee Seal 00120 issued by Alphageos,** it was verified that in the durability tests, we noticed that the use of the additive MOSHE 3000 WATERPROOFING AND WATERPROOFING, presented significant improvements on all fronts, that is, we had following the test NBR5739 of 05 /2018 of Compression test of cylindrical specimens an average increase of 15% in the final compressive strength. According to test NBR9778 of 07/2005 of Determination of water absorption, voids index, and specific mass, a reduction of voids index, of around 14%, water absorption was reduced by around 15%. According to test NBR10787 of 09/2011 Tests to determine the penetration of water under pressure, the penetration of water by pressure was reduced by an average of 35%. According to the test NBR9779 of 12/2012 of Determination of water absorption by capillarity, the absorption by capillarity in approximately 20%, we also evidenced the reduction of the height of the capillary rise by approximately 500%.

**According to the SGS USA Report:** Final Report for Moshe 3000 Testing SGS TEC Services Laboratory No: 22-527, it was verified that there was a reduction in the water absorption of the concrete at the same time that the final resistance to compression of the concrete increased, with the addition of Moshe in 2%, 4%, and 8% to the consumption of cement in the concrete mix.

#### ► Observations

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The information contained in this document is based on our knowledge for your help and guidance. We point out that the performance of the products depends on the conditions of site preparation, application, and storage, which are not under the responsibility of Moshe 3000. The performance depends on the application technique, equipment conditions, and aggregates. We, therefore, assume no responsibility for the performance of any nature as a result of misuse of the product and misapplication. This product requires specialized labor for application. For more information, consult the technical department.