



# MAXSEAL<sup>®</sup> SUPER

## CEMENT- BASED WATERPROOF COATING WITH CRYSTALLISATION AND OSMOTIC PROPERTIES



### DESCRIPTION

**MAXSEAL<sup>®</sup> SUPER** is a special waterproofing coating made of a mixture of cements, carefully controlled aggregates and special organic and inorganic additives. Its special formula improves the osmotic effect of the application allowing the penetration in the concrete through its capillary system.

The product crystallises inside sealing, waterproofing and protecting the concrete structure. It has been designed to be applied on fresh or cured concrete, pre-cast concrete, concrete blocks, cement plasters but also suitable on bricks and masonry.

### APPLICATION FIELDS

- Waterproofing and protection of structures for water retention: dams, channels, pipes, swimming pools, tanks, fountains, etc.
- Waterproofing and coating drinking water tanks.
- Waterproofing and protection inside tunnels, galleries, basements, elevator shafts and, in general, buried structures subjected to indirect hydrostatic pressure conditions.
- Waterproofing and protection of concrete in water treatment plants: water processing units, setting tanks, etc.
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- Waterproofing and protection against weathering, carbonation process, freeze/thaw cycles, de-icing salts and chloride attack on concrete, mortar and masonry in buildings, civil, hydraulic, and industrial works.
- Waterproofing of bathrooms, changing rooms, kitchens and other indoor wet areas in hotels, residential buildings, offices, health centres, etc.

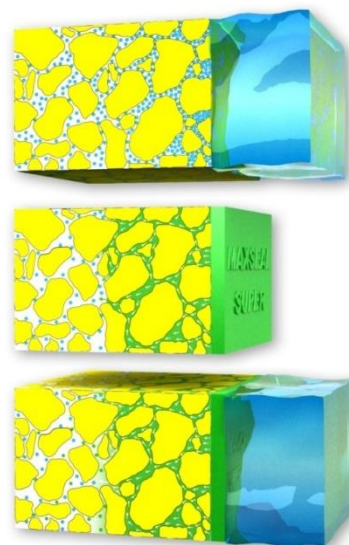
## ADVANTAGES

- The penetration inside concrete provides internal sealing and protective effect. It seals cracks up to 0,4 mm.
- Excellent waterproofing properties. Withstands both high positive and negative hydrostatic pressures.
- Permeable to water vapour, allows the substrate to breathe and thereby it does not form a water vapour barrier.
- Applicable on wet substrates.
- Suitable for use in contact with drinking water. Non-toxic and chloride-free.
- Excellent protection of concrete against CO<sub>2</sub> ingress, i.e. carbonation process, chlorides (Cl), i.e., electrochemical corrosion, sulphates that degrade concrete, air pollution and freeze-thaw cycles.
- Excellent adhesion to substrates, no primer/bonding agent required. It becomes part of substrate by filling and sealing the pores.
- High durability with zero maintenance.
- Resistant to aggressive media; marine environment, air pollution, etc.
- UV resistant.
- Once cured, it can be coated with protective mortars/decorative finish such as; **CONCRESEAL® PLASTERING** (Technical Bulletin No. 06) or with ceramics, mosaic tiles, stone, etc., with adhesives such as **MAXKOLA® FLEX** (Technical Bulletin No. 81) in swimming pools, decorative murals, kitchens, bathrooms, etc.
- Easy to apply by brush, broom, roller, or spraying means.
- Environmentally friendly: cement-based product and solvent-free formula.

## APPLICATION INSTRUCTIONS

### Surface preparation

Surface to be waterproofed must be solid, sound, rough, and without poorly adhered parts, superficial grouts and as uniform as possible.



Likewise, it must be clean, free of paints, efflorescence, loose particles, greases, release oils, dust, plaster, etc., or other substances that could affect the adhesion of the product. If the surface has previously been coated with lime or acrylic treatments, etc., these must be removed, leaving only the remains strongly adhered. For cleaning and preparing the substrate, preferably in smooth and/or poorly absorbent ones, use sandblasting or high-pressure water to provide an open texture surface. Aggressive mechanical means are not advisable.

Before the application of **MAXSEAL® SUPER**, all holes and cracks must be opened at least 2,0 cm and then, patched with **MAXREST®** (Technical Bulletin No. 02). If water leaks are present, **MAXPLUG®** (Technical Bulletin No. 04) should be used. Reinforcement bars and other metal elements exposed during the substrate preparation must be cleaned and passivated with **MAXREST® PASSIVE** (Technical Bulletin No. 12), while surface and non-structural irons must be cut to a depth of 2 cm and subsequently covered with a suitable structural repair mortar.

To minimise the any possible damage caused by the crystallisation of salts from the substrate, apply an anti-efflorescence treatment such as **MAXCLEAR® SULFALT** (Technical Bulletin No. 163).

Thoroughly saturate the surface with water prior to applying **MAXSEAL® SUPER**, without forming puddles, and apply once the surface has taken on a matt appearance. If it dries out, saturate it again with water.

### Mixing

A 22 kg bag or drum of **MAXSEAL® SUPER** requires from 6,0-7,0 litres of water (26 % ± 2 %). Pour the required amount of water in a clean container and



then slowly add **MAXSEAL® SUPER**, mixing by a slow speed electric drill (400-600 rpm) fitted with a disc mixer for about 2-3 minutes until achieving a lump-free and homogeneous. Allow the mixture to rest for 5 minutes and then remix briefly before applying.

## Application by brush, broom or spray

For standard applications, **MAXSEAL® SUPER** can be applied with a fibre type brush or broom such as our **MAXBRUSH®** or **MAXBROOM®**. Apply a thick layer to form a continuous and uniform coating; do not spread as if it were paint, apply only in one direction, the second coat should be spread in cross direction. Consumption is between 1 and 1,5 kg/m<sup>2</sup> per coat, for a total consumption of about 2,0-3,0 kg/m<sup>2</sup>. Waiting time between coats is from 6-8 hours minimum to 12-16 hours maximum. The second coat can be applied and finished by roller.

It can be also sprayed by means of a shotcreting equipment. For applications made by spray which will be later subjected to water pressure, and in order to ensure a complete coverage of the surface, it is recommended to slide the broom over the material which has just been sprayed.

## Application by dusting and power trowel

**MAXSEAL® SUPER** can also be dusted on the lean concrete and the steel reinforcements. This procedure will not only protect the reinforcement itself but will prevent the rising dampness into the foundation slab. The lean concrete should be dampened until saturation and **MAXSEAL® SUPER** will be dusted using between 1,5 to 2,5 kg/m<sup>2</sup>. The concrete of the foundation slab can be poured after one hour, once **MAXSEAL® SUPER** has hardened and adhered to the lean concrete, endeavouring not to damage the previous application.

Once the concrete has been poured and before proceeding to trowel it, the second dusting is applied, after levelling, and has enough strength to be walked over, but still fresh enough to dampen the surface when trowelled. The product is spread in powder form as supplied, endeavouring to achieve a complete and uniform coverage. After

that, it is watered to prevent the surface of the slab from drying out and to ensure that the trowelling is not too rough. The trowelling will provide a monolithic waterproof layer, which can be slightly dampened during this operation to improve the penetration and to prevent an excessively quick drying, which would prevent the proper hydration of **MAXSEAL® SUPER**. Singular spots such as columns, penetrating pipes, corners, concrete joints, and expansion joints should be treated and sealed accordingly. The total application rate of **MAXSEAL® SUPER** in its two dusts is 1,5 to 2,5 kg/m<sup>2</sup>.

Optionally, if the slab is not to be trowelled, the procedure and consumption is the same, but the second dusting of **MAXSEAL® SUPER** is carried out at the moment when the concrete reaches the level of the reinforcement, before the pouring where the total thickness of the concrete slab is reached.

## Application conditions

Avoid applications if rain, and/or contact with water, humidity, condensation, dew, etc., is expected within 24 hours after application. Optimum application temperature is 10°C-30°C. Do not apply when temperature is below 5°C or if such temperatures are expected within 24 hours after application. Do not apply on frozen or frosted surfaces. For applications at high temperatures (>30°C), strong winds and/or low relative humidity, thoroughly dampen the substrate with water. Avoid direct exposure to the sun in extreme heat. You can water surface even after **MAXSEAL® SUPER** has been applied if it is noticed that the drying process is too fast.

## Curing

Protect application at hot temperatures from a quick drying by high winds or direct sunlight. If it is noticed that the drying process of **MAXSEAL® SUPER** is too quick, wet surface by spraying a fine mist of water or using wet burlap or polyethylene sheets for the first 24 hours of curing. **MAXSEAL® SUPER** can be covered with ceramic tile, plaster, or earth/gravel within 3 days of application. Allow a minimum cure of 10 days (20°C and 50 % R.H.) before putting it to permanent immersion conditions. Applications at lower temperatures with higher humidity and/or sites without ventilation will need longer curing periods.



After **MAXSEAL® SUPER** has cured and before putting into service or permanent contact with water, the surface must be pre-cleaned with a water jet.

## Cleaning

Tools and equipment must be cleaned with water immediately after use. Once **MAXSEAL® SUPER** hardens, only product can be removed by mechanical methods.

## CONSUMPTION

Estimated consumption applied by brush, broom or spray is between 1,0 and 1,5 kg/m<sup>2</sup> per coat, for a total consumption of about 2,0-3,0 kg/m<sup>2</sup> in two coats. Applied by dusting on fresh concrete, estimated consumption of **MAXSEAL® SUPER** is about 1,5-2,5 kg/ m<sup>2</sup>.

Congested reinforced slabs can increase consumption up to 20-25 %. Porous surfaces, substrate conditions and application method can vary this estimated consumption. A preliminary test on-site will determine consumption exactly.

## IMPORTANT INDICATIONS

- Do not add cement, admixtures, sand or any other compound.
- Use the recommended mixing ratios.
- Observe the minimum and maximum recommended consumptions.
- To recover the workability of the material, proceed to remix it but in no case add more water. Do not knead more material than can be applied in 20-30 minutes.
- Do not apply to water-repellent substrates, bituminous materials, plasters, or paints.
- Do not use **MAXSEAL® SUPER** in contact with very soft water, acid water and/or carbonic water. If sulfates are present, i.e. groundwater, seawater or wastewater, use the version **MAXSEAL® SUPER ANTISULFAT**.
- In case of doubt related to the kind of water to be in contact with **MAXSEAL® SUPER**, or further information, consult the Technical Department.

## PACKAGING AND COLORS

**MAXSEAL® SUPER** is supplied in 25 kg bags and drums. It is available in grey and white colour.



## STORAGE

Twelve to twenty-four months in bags and drums respectively, in its original unopened packaging. Store in a dry covered place protected from damp, frost and direct sunlight, with temperatures above 5°C.

## SAFETY AND HEALTH

**MAXSEAL® SUPER** is an abrasive compound, so protective rubber gloves and safety goggles must be used to prepare the mixture and apply it. In case of skin contact, wash affected areas with water and soap. In case of eye contact, rinse thoroughly with clean water, but do not rub. If irritation persists, seek medical attention.

For further information, Safety Data Sheet of **MAXSEAL® SUPER** is available by request.

Disposal of the product and its empty packaging must be done by and according to official regulations.

## TECHNICAL DATA

| Product characteristics                                                                                                                                                                                                                                                                                |                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| CE Marking, EN 1504-2                                                                                                                                                                                                                                                                                  |                                                     |
| Description. Mortar for protection of concrete. Coating (C).<br>Principles / Methods. Protection against ingress with coating (Principle 1-PI / 1.3), Moisture control with coating (Principle 2-MC / 2.2) and Increasing resistivity by limiting moisture content with coating (Principle 8-IR / 8.1) |                                                     |
| General appearance and colour                                                                                                                                                                                                                                                                          | White/Grey powder                                   |
| Maximum aggregate size, (mm)                                                                                                                                                                                                                                                                           | 0,63                                                |
| Density for powder, (g/cm <sup>3</sup> )                                                                                                                                                                                                                                                               | 1,15 ± 0,10                                         |
| Mixing water, (% by weight)                                                                                                                                                                                                                                                                            | 24-28                                               |
| Density for fresh mortar, (g/cm <sup>3</sup> )                                                                                                                                                                                                                                                         | 1,85 ± 0,10                                         |
| Density for cured mortar, (g/cm <sup>3</sup> )                                                                                                                                                                                                                                                         | 1,75 ± 0,10                                         |
| Application and curing conditions                                                                                                                                                                                                                                                                      |                                                     |
| Minimum application temperature for substrate and ambient, (°C)                                                                                                                                                                                                                                        | > 5                                                 |
| Pot life at 20°C & 50 % R.H., (min)                                                                                                                                                                                                                                                                    | 30-40                                               |
| Minimum / Maximum waiting time between coats at 20°C & 50 % R.H., (h)                                                                                                                                                                                                                                  | 6-8 / 12-16                                         |
| Drying time at 20°C & 50 % R.H., (h)                                                                                                                                                                                                                                                                   | 4 – 6                                               |
| Curing time at 20°C & 50 % R.H., (d)                                                                                                                                                                                                                                                                   |                                                     |
| - Mechanical load: covering with gravel, renders, plasters or tiles                                                                                                                                                                                                                                    | 3                                                   |
| - Permanent immersion                                                                                                                                                                                                                                                                                  | 7                                                   |
| Cured product characteristics                                                                                                                                                                                                                                                                          |                                                     |
| Waterproofing maximum positive/direct water pressure, EN 12390-8 (bar)                                                                                                                                                                                                                                 | 8,5                                                 |
| Waterproofing maximum negative/indirect water pressure, EN 12390-8 (bar)                                                                                                                                                                                                                               | 2,5                                                 |
| Permeability to water vapour, EN ISO 7783-1/-2. Classification<br>V (g/m <sup>2</sup> ·day) / S <sub>D</sub> (m)                                                                                                                                                                                       | Class I: Permeable to water vapour<br>340,22 / 0,06 |
| Permeability to water and capillary absorption, EN 1062-3. w (kg/m <sup>2</sup> ·h <sup>0,5</sup> )                                                                                                                                                                                                    | 0,03                                                |
| Compressive strength at 28 days, EN 13892-2 (MPa)                                                                                                                                                                                                                                                      | > 40,7                                              |
| Flexural strength at 28 days, EN 13892-2 (MPa)                                                                                                                                                                                                                                                         | > 8,0                                               |
| Adhesion on concrete at 28 days, EN 1542 (MPa)                                                                                                                                                                                                                                                         | 1,61                                                |
| Suitability for contact with potable water European Directive 2020/ 2184 and Spanish RD 03/ 2023                                                                                                                                                                                                       | Approved                                            |
| Suitability for contact with potable water British Standards BS-6920                                                                                                                                                                                                                                   | Approved                                            |
| Consumption*                                                                                                                                                                                                                                                                                           |                                                     |
| Consumption by dusting method, (kg/m <sup>2</sup> )                                                                                                                                                                                                                                                    | 1,5-2,5                                             |
| Consumption per coat/total application, (kg/m <sup>2</sup> )                                                                                                                                                                                                                                           | 1,0-1,5 / 2,0-3,0                                   |

\* These figures are for guidance only and may vary depending on porosity, texture and conditions for substrate, and application method. Perform a preliminary test on-site to ascertain the total consumption exactly under jobsite conditions

## GUARANTEE

The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. **DRIZORO®**, **S.A.U.** reserves the right to introduce changes without prior notice. Any use of this data beyond the purposes expressly specified in the leaflet will not be the Company's responsibility unless authorised by us. We shall not accept responsibility exceeding the value of the purchased product. The data shown on consumptions, measurement and yields are for guidance only and based on our experience. These data are subject to variation due to the specific atmospheric and jobsite conditions so reasonable variations from the data may be experienced. In order to know the real data, a test on the jobsite must be done, and it will be carried out under the client responsibility. We shall not accept responsibility exceeding the value of the purchased product. For any other doubt, consult our Technical Department. This version of bulletin replaces the previous one.



### DRIZORO, S.A.U.

C/ Primavera 50-52 Parque Industrial Las Monjas  
28850 TORREJON DE ARDOZ – MADRID (SPAIN)  
Phone. +34 91 676 66 76 - +34 91 677 61 75  
e-mail: [info@drizoro.com](mailto:info@drizoro.com) Web site: [drizoro.com](http://drizoro.com)