DRIZORO® Construction Products

MAXSEAL®

CEMENT-BASED WATERPROOF COATING FOR CONCRETE AND MASONRY

DESCRIPTION

MAXSEAL® is a cement-based mortar with special additives and controlled aggregates. Once cured, it becomes a suitable waterproof coating for use on concrete, brick, concrete block, mortar render and masonry substrates.

APPLICATIONS FIELDS

- Waterproofing and coating of drinking water tanks.
- Waterproofing of swimming pools.
- Waterproofing of tunnels, galleries, basements and elevator pits subjected to high water pressure.
- Waterproofing and protection of concrete in water treatment plants, setting tanks, etc.
- Coating for waterproofing of dams and retaining walls.
- Waterproof coating for façades and wall faces, concrete blocks and prefabricated panels.
- Restoration and waterproofing of channels.
- Waterproofing and decorative finish for silos and cooling towers in thermal power plants.

ADVANTAGES

- Suitable for use in contact with drinking water.
- Excellent waterproofing properties. Withstands both positive and negative hydrostatic pressures.
- Allows application on wet substrates.
- The coating allows the substrate to breath and thereby it does not form a water vapour barrier.
- Final layer of ***MAXSEAL***® can work as a decorative finish, saving further enhancing paint costs.
- Easy to use and no maintenance required.
- Resistant to aggressive environment such as seacoasts and zones with atmospheric pollution.
- It resists weathering and freeze/thaw cycles, longer lasting than paints and other coatings.
- Very good adherence to substrate. It fills and seals all porous of the surface and also becomes part of the structure of the surface.
- Once ***MAXSEAL***® is cured, it can be covered with protective or fixing mortars, such as ***CONCRESEAL***® ***PLASTERING*** (Technical Bulletin n° 06) and ***MAXKOLA***® (Technical Bulletin n°32).
- Environmentally friendly.

APPLICATION INSTRUCTIONS

Surface preparation

Surface to be treated must be clean, sound and free of paints, coatings, efflorescence, greases, oils, demoulding agents, dust, gypsum, etc. Remove by water pressure cleaning, sand blasting or other suitable mechanical method.

Before the application of ***MAXSEAL***®, all holes and cracks must be opened up at least 1,5 cm and then, patched with ***MAXREST***® (Technical Bulletin nº 02). If water leaks are present, ***MAXPLUG***® (Technical Bulletin nº 04) should be used. In case of superficial non-structural bars are present, these must be cut at least 2 cm and then should be patched with ***MAXREST***® or ***MAXPLUG***®.

Once surface has been repaired, the entire surface to be coated should be thoroughly saturated with clean water. Allow excess water to drain away before applying ***MAXSEAL***®. Do not leave free-standing or pooled water on the surface.

Mixing
One part of ***MAXCRYL***® and three parts of clean water are poured into a clean container in order to produce a mixing liquid to which ***MAXSEAL***® is added. Mixing is best done by mechanical means such as a slow speed mixing drill (400-600 rpm). Small quantities may be mixed manually with a trowel. When mixing manually care must be taken to ensure product is mixed thoroughly. Mix until a thick creamy paste free of lumps is achieved (mixing time about 1 to 2 minutes). Allow the mixture to rest for 5 minutes and then remix briefly prior to application.

A 25 kg bag requires from 6,25 to 7 l of mixing liquid (***MAXCRYL***®-water), while only water may be used if both the surface conditions and the temperature are optimum, i.e. porous surfaces as well as ambient temperatures in the range from 15 °C to 20 °C.

Application
In order to fill and cover properly all pores and voids, ***MAXSEAL***® should be applied by means of a fibre brush or a nylon fibre broom, such as ***MAXBRUSH***® or ***MAXBROOM***® respectively.

Apply the product to surface in a thick layer, making up a homogeneous and continuous coating. Do not spread the product as if it were paint. Once ***MAXSEAL***® has been spread, it must not be brushed again. A second layer must be applied in the perpendicular direction of the first one, with a waiting-time of 12-16 hours between layers. This second layer may be applied by either roller or trowel to achieve decorative finishes.

MAXSEAL® can be applied also by spray equipment. However, in order to ensure complete and uniform coverage and proper sealing of all voids etc, the freshly sprayed product should be brushed or broomed.

If ***MAXSEAL***® is going to be rendered on vertical surfaces, it is advisable to apply the second layer horizontally. For pipelines, a second layer should be applied in the direction of the water flow.

Application conditions
The optimum temperature range for application is from 15 ºC to 20 ºC. Do not apply ***MAXSEAL***® below 5 °C or if such temperatures are expected within 24 h after application. Do not apply ***MAXSEAL***® if rain is expected within 24 h after the application. Do not apply the coating on frozen or frosted surfaces.
For applications during hot temperatures and windy conditions, i.e. summer time, the surface must be wet with plenty of water and ***MAXCRYL***® as mixing liquid must be used. Once ***MAXSEAL***® has been applied, if product appears to be drying out too quickly spray the surface lightly with a fine mist of water.

Curing
Allow ***MAXSEAL***® to cure for at least for 7 days at 20 ºC and 50% of relative humidity prior to immersion in water. Lower temperatures and higher relative humidity increase the curing time.

Cleaning
Before product hardens, all tools and equipment must be cleaned immediately with water. Cured product only can be cleaned by mechanical means.

CONSUMPTION

MAXSEAL® is applied in two layers. The recommended coverage is 1-1,5 kg/m^2 per layer with a total coverage of 2-3 kg/m^2 approximately.

IMPORTANT INDICATIONS

- Do not add cements, additives or aggregates to ***MAXSEAL***®.
- Do not use ***MAXSEAL***® in contact with very soft water, acid water and/or carbonic water. If sulphates are present in water, use the type ***MAXSEAL***® ***ANTISULFAT***.
- In case of doubt related to the kind of water to be in contact with ***MAXSEAL***® or further information, consult our Technical Department.

PACKAGING

MAXSEAL® is supplied in 25 kg bags and drums, and 5 kg cans.
MAXSEAL® is available in standard grey, white and pearl grey. Other special light colours, ***MAXSEAL***® ***DECOR*** are manufactured by request.

STORAGE

Twelve months or twenty four months, in its original unopened bag or drums, respectively. It must be stored in a dry and covered place, protected from humidity and freezing, at temperatures above 5 °C.

SAFETY AND HEALTH

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

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

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

TECHNICAL DATA

Characteristics of product	
Mixing liquid (liquid weight/product weight, %)	25-28
Optimum application conditions T(°C)	15-20
Time between layers at 20°C (h)	12-16
Total curing time at 20 °C and 50% R.H. (days)	7
Characteristics of hardened product	
Flexural Strength, EN 1015-11 (MPa) 7 days 28 days	 4,90 7,55
Compressive Strength, EN 1015-11 (MPa) 7 days 28 days	 33,0 40,7
Adhesion on concrete, EN 1015-12, (MPa)	2,47
Waterproofing behaviour: Pressure negative condition (180 min with 35 MPa) Permeability to rainwater (120 l/m^2 with wind, 4 h)	 No passage of water No water or dampness
Water vapour transmission, Swedish standard SS 02 15 82 d_{H2O} (m/s) / S (m, air barrier)	 $0{,}1578 \cdot 10^{-3}$ / 0,16
Frost resistance. Freeze-thaw and heat-ice cycles test. Swedish standard SS 1372 44 method IVB (after 56 cycles)	Classified “Very good resistance” Scaling: 0,02 kg/m^2
Suitability for direct contact with drinking water	Approved according to British Standard 6920 and RD 140/2003
Resistance to sulphates, ASTM C1202 (Exposure 32 months)	Classified as “High Resistance” Expansion 0,048 %
Taber abrasion resistance, ASTM D4060 (Wear index)	500 cycles = 0,26 1000 cycles = 0,16
Flammability rating, UNE 23727:1990	M0
Consumption	
Consumption per layer/ total application (kg/m^2)	1-1,5 / 2-3

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.*** 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.

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