DRIZORO® Construction Products

MAXSEAL® FLEX-M

CE

ONE-COMPONENT FLEXIBLE WATERPROOF COATING AGAINST POSITIVE AND NEGATIVE PRESSURE FOR CONCRETE AND MASONRY

DESCRIPTION

MAXSEAL® FLEX-M is a one-component cement-based mortar. Once mixed only with water, it provides a high-performance flexible coating, for waterproofing and protection of concrete against positive and negative pressure.

APPLICATION FIELDS

- Waterproofing and protection of water retaining structures, such as water tanks, reservoirs, dams, water channels, fountains and swimming pools.
- Waterproofing and coating potable water tanks.
- Waterproofing of below-grade structures like basements, retaining walls, foundations, tunnels, galleries subject to high negative water pressure.
- Waterproofing and protection of concrete in wastewater treatment plants, settlement tanks, etc.
- Waterproofing and protection from the outside against aggressive water and/or ground salts in foundations, retaining walls and, in general, structures below the water table, subjected to indirect and/or direct pressure.
- Waterproofing and protection against weathering, carbonation process, freeze/thaw cycles, de-icing salts, marine environment, etc.
- Waterproofing of roofs, terraces, balconies in the open or under pavements, and window boxes, gardens and other surfaces subject to root penetration.
- Internal waterproofing of bathrooms, kitchens and other wet areas in hotels, hospitals, offices, residential buildings, etc.

ADVANTAGES

- Provides a fully flexible coating which ensures complete waterproofing even in the most severe conditions, with good crack-bridging capability of the concrete (> 0,5 mm).
- Acts as an anti-fracture membrane between the substrate and other finishing coats if applied.
- Excellent protection of concrete against CO2 ingress, chlorides (Cl), sulphates, air pollution and freeze-thaw cycles.
- Allows water vapour diffusion and the breathability of the concrete.
- Resistant to abrasion and UV rays.
- Resistant to aggressive media; marine environment, wastewater, salt water, etc.
- Excellent adhesion. Do not require primer and can be applied on wet surfaces.
- Non-toxic, suitable for contact with potable water.
- Excellent waterproofing properties. Withstands both high positive and negative hydrostatic pressures.
- Longer lasting that other coatings, avoiding maintenance costs.
- Withstands the root penetration.
- Easy to apply by brush, broom, roller, or spraying means.
- Environmentally friendly: cement-based product and solvent-free formula.

APPLICATION INSTRUCTION

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.

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.

Holes, voids, honeycombs and cracks, once opened to a minimum 2 cm in depth, should be repair with structural repair mortar ***MAXREST*** ®. 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® FLEX-M***, without forming puddles, and apply once the surface has taken on a matt appearance.

Mixing
A 22 kg bag of ***MAXSEAL® FLEX-M*** requires from 4,4-5,3 litres of water (22 % ± 2 %), depending on application temperature and substrate conditions. Pour the required amount of water in a clean container and then slowly add ***MAXSEAL® FLEX-M***, 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 2 to 3 minutes to fully wet out all the powder and then remix briefly before applying. Do not mix product that cannot be applied within 20-30 minutes. To keep the workability of the fresh mortar, remix again briefly, but do not add more water.

Application
Apply ***MAXSEAL® FLEX-M*** by a fibre type brush ***MAXBRUSH®*** or broom ***MAXBROOM®***, spreading a homogeneous and continuous coating of 1 mm approximately. Once applied, do not overwork the surface and do not apply as if it was paint. Apply two coats in perpendicular direction, with 1-1,5 kg/m^2 per coat, for a total consumption of 2-3 kg/m^2.

Allow a drying time of minimum 6-8 hours and maximum of 24 hours between coats. Second coat can be applied by roller for a textured finish.
For large areas ***MAXSEAL® FLEX-M*** can also be sprayed, being the recommended nozzle size 3-4 mm and spraying pressure between 3,5 and 5,0 bar. When sprayed, it is recommended to comb the fresh coat with a broom to make sure that the whole surface is covered homogeneously.

On fissures, concrete joints, corners and cracks, once repaired and sealed, apply a first coat of ***MAXSEAL® FLEX-M*** with 1,5 kg/m^2 and while it is still fresh, place a fibre glass mesh ***DRIZORO MESH-58*** with at least 20 cm wide of strip. Then apply a second coat of ***MAXSEAL® FLEX-M*** with 1,5 kg/m^2.

Application conditions
Do not apply below 5°C or if lower temperatures are expected within 24 hours after application. Do not apply on frozen surfaces or if rain is expected 24 hours after application.

For applications at high temperatures, strong wind and/or low relative humidity, the substrate must be thoroughly wet with water. Avoid direct exposure to sunlight/extreme heat.

Curing
Avoid a quick drying by strong wind and/or hot temperatures, keeping its moisture curing at least the first 24 hours, by protecting with wet burlaps and plastic sheets.

MAXSEAL® FLEX-M can be covered with ceramic tile, plaster, or earth/gravel within 3 days of application. Curing time for putting into service and water immersion is 5 days, at 20°C and 50% R.H. Applications at lower temperatures or higher R.H. will increase curing time.

Cleaning
All tools must be cleaned with water after use. Once it cures can only be removed by mechanical methods.

CONSUMPTION

MAXSEAL® FLEX-M is applied in two coats of 1-1,5 kg/m^2 per coat, for a total consumption of 2-3 kg/m^2 in two coats.

These figures may vary depending on porosity, substrate conditions and application method, a preliminary test on-site will determine consumption exactly.

IMPORTANT INDICATIONS

- Do not add cement, admixtures, sand or any other compound.
- 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 apply to water-repellent substrates, bituminous materials, plasters, or paints.
- In case of doubt related to the kind of water to be in contact with ***MAXSEAL® FLEX-M*** or other uses not specified on this Technical Bulletin, consult Technical Department.

PACKAGING

MAXSEAL® FLEX-M is supplied in 22 kg bags, available in grey and white colours.

STORAGE

Twelve months in its original unopened packaging, in a dry and covered place protected from humidity, frost and direct sunlight, at temperatures above 5°C.

SAFETY AND HEALTH

MAXSEAL® FLEX-M is an abrasive compound so protective rubber gloves and goggles must be used during application. 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.

Safety Data Sheet of ***MAXSEAL® FLEX-M*** 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

Product characteristics	
CE Marking, EN 1504-2 Description. Mortar for protection of concrete. Coating (C). 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 / 8.2)	
General appearance and colour	White or grey powder
Density, (g/cm^3)	1,12 ± 0,1
Mixing water, (%)	20-24
Application and curing conditions	
Minimum application temperature for substrate and ambient, (°C)	> 5
Pot life at 20°C & 50 % R.H., (min)	20 - 30
Minimum / Maximum drying-time between coats at 20°C & 50 % R.H., (h)	6-8 / 24
Curing time at 20°C & 50 % R.H.(d): - Mechanical load: covering with gravel, renders, plasters, tiles - Water immersion	 3 5
Cured product characteristics	
Waterproofing maximum positive/direct water pressure, EN 12390-8 (bar)	11
Waterproofing maximum negative/indirect water pressure, EN 12390-8 (bar)	5
Permeability to water vapour, EN ISO 7783-1/-2. Classification V (g/m^2·day) / S_D (m)	Class I: Permeable to water vapour 13,7 / 1,6
Permeability to water and capillary absorption, EN 1062-3. w (kg/m^2·h^{0,5})	0,005
Permeability to CO_2, EN 1062-6. S_D (m)	64
Crack-bridging capability, UNE-EN 1062-7	Class A3 (>0,5 mm)
Adhesion on concrete at 28 days, EN 1542 (MPa)	3,4
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 per coat/total application, (kg/m^2)	1-1,5 / 2-3

* These figures are for guidance only and may vary depending on porosity, substrate conditions 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.

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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 Web site: drizoro.com