DRIZORO®
Construction Products

MAXSEAL® FLEX

FLEXIBLE WATERPROOF COATING AGAINST POSITIVE AND NEGATIVE PRESSURE FOR CONCRETE AND MASONRY

DESCRIPTION

MAXSEAL® FLEX is a two-component product. Component A is a liquid based on special synthetic resins and component B, is a mortar based on a mixture of special cements, additives and well-graded aggregates.

Once applied and cured, ***MAXSEAL® FLEX*** provides a non-toxic, flexible and waterproof coating with very high adhesion on those common substrates in construction such as concrete, natural and artificial stone, traditional mortar plasters, bricks, concrete blocks, etc.

APPLICATION FIELDS

- Waterproofing and protection of water retaining structures, such as drinking water tanks, reservoirs, water mains and swimming pools.
- Waterproofing of below-grade structures like basements, retaining walls, foundations, tunnels, galleries subjected to both positive or negative high water pressure.
- Internal and external waterproofing and protection of new and old buildings, façades against dampness, rain, pollution and aggressive environments.
- Waterproofing and protection of concrete against carbonation, freeze-thaw cycles, de-icing salts in highways and chlorine penetration in public works, irrigation channels, dams, retaining walls and water treatment plants, bridges, etc.
- Tile fixing and waterproofing of bathrooms, kitchens and other wet rooms in hotels, hospitals, offices and residential buildings, also suitable for exterior applications.
- Waterproofing of jardinieres, terraces and balconies under the pavement.

ADVANTAGES

- Provides a fully-flexible coating which ensures complete waterproofing even in the most severe conditions, as high negative water pressure.
- Covers shrinkage and hairline cracks of the concrete.
- Acts as an anti-fracture membrane between the substrate and other finishing coats if applied.
- Excellent protection for concrete, being both a CO_2 an chlorine (Cl-) barrier and thereby preventing carbonation and electrochemical corrosion.
- Permeable to water vapour, allows the substrate to breathe.
- Resistant to abrasion and UV rays.
- Withstands atmospheric pollution, corrosive effects of salt water and de-icing salts and freeze/thaw cycles.
- Resists hydrostatic negative pressure from ground water when used for underground interior applications.
- Excellent adhesion and easy to use. Does not require bonding agents and can be applied on wet surfaces.
- Non-toxic and chloride-free. Suitable for contact with potable water.
- Longer lasting that other coatings, avoiding maintenance costs.
- Environmentally friendly
- Specially recommended to complement other products of ***DRIZORO***® System as ***MAXSEAL***® or ***MAXSEAL***® ***SUPER***, (Technical Bulletins nº 01 and 83).

APPLICATION INSTRUCTIONS

Preparation of the surface

The surface to be coated must be sound, clean, free of all traces of paint, dust, grease, efflorescence, loose particles, gypsum, plaster and mould release compounds. Recommended cleaning methods are high pressure water cleaning and sandblasting. Other percussive methods are not recommended.

Any damage or concrete defect should be repaired in advance. Patch all holes, voids and honeycombs. Cracks opened to approximately 2 cm in depth. Exposed steel bars must be cleaned and patched with ***MAXREST***® (Technical Bulletin nº 4) up to 1 cm minimum thickness. If it is needed, treat steel bars with the oxide converter ***MAXREST***® ***PASSIVE*** (Technical Bulletin nº 12).

Mixing

MAXSEAL® ***FLEX*** is supplied as two pre-weighed components. Pour the resin, component A, into a clean container and add the powder gradually, component B, while mixing with a low speed mixing drill (400 - 600 rpm). Mix until a homogeneous mixture free of lumps is achieved. Do not add water and keep liquid/ powder ratio as the package supplied. Depending on existing temperature and R.H. climate conditions, pot life expected will be between 30 minutes and one hour.

Application

MAXSEAL® ***FLEX*** is applied with a fibre type brush or broom such as ***MAXBRUSH*** or ***MAXBROOM*** respectively, or by trowel when a smooth finish is required.
For large areas ***MAXSEAL***® ***FLEX*** 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 finish the fresh coat with a broom to make sure that the hole surface is covered completely.

Apply two coats, using 1 - 1,5 kg/m^2 of ***MAXSEAL*** ® ***FLEX*** per coat and allow a minimum of 16 hours and a maximum of 3 days between applications. Prior to application thoroughly wash down and saturate the surface, but do not leave free standing water. Thickness per layer should be 1 mm. approximately, thereby being important to avoid very thin application or, on the opposite, a much thicker one.

In those areas such as fissures, concrete joints and active cracks, once repaired and sealed, ***MAXSEAL*** ® ***FLEX*** will be applied with a fibre glass mesh of 40 g/m^2. Place the mesh on a first coat of ***MAXSEAL***® ***FLEX***, with at least 20 cm wide of strip, and then apply a second coat of ***MAXSEAL***® ***FLEX***.

Application conditions
Optimum application temperature is between 10 - 25 ºC. Do not apply below 5 ºC or if lower temperatures are expected within the following 24 hours after application. Do not apply on frozen surfaces or if rain is expected 24 hours after application.

Protect against quick drying by winds and high temperatures, by fog-spraying with water for two hours after application.

Curing
Curing time required to put the product into service or to immerse it in water will depend on temperature and relative humidity conditions on site. Conditions in the range of 20ºC and 50% R.H. will require a minimum of 14 days to ensure that the product has cured enough to be in permanent contact with water. Applications made at lower temperatures or sites without ventilation will require longer curing periods. After curing, wash the surface of ***MAXSEAL® FLEX*** with water before putting into service in permanent contact with water.

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

CONSUMPTION

MAXSEAL® FLEX is applied in two coats of 1 - 1,5 kg/m^2 approximately per coat, achieving a total consumption of 2 - 3 kg/m^2.This consumption must be kept to ensure the performances.

IMPORTANT INDICATIONS

- Do not add water, cement, admixtures, sand or any other compound.
- Do not apply on frozen or frosted surfaces.
- In case of doubt related to the kind of water to be in contact with ***MAXSEAL® FLEX*** or other uses not specified in this Technical Bulletin, consult our Technical Department.

PACKAGING

MAXSEAL® FLEX is supplied in grey and white colour, both available in standard and smooth textures. Pigmented version ***MAXSEAL® FLEX DECOR*** is available in light colours by especial request.

Components	Standard texture		Smooth texture	
	Set 35 kg / Set 7 kg		Set 32 kg / Set 7 kg	
Component A	25 kg	5 kg	22 kg	5 kg
Component B	10 l	2 l	10 l	2 l

STORAGE

Twelve months in its original unopened packaging, in a dry and covered place protected from frost, with temperatures above 5 ºC.

SAFETY AND HEALTH

The components are non-toxic by themselves, but powder component is abrasive as any other cement-based material. Protective rubber gloves and safety goggles must be used to mix and apply both components. If any of the mixture gets in contact with skin, wash affected areas with water and soap. In case of eye contact, rinse thoroughly with clean water but do not rub. If irritation continues consult a doctor. Safety Data Sheet of ***MAXSEAL® FLEX*** is available by request.

The final user is responsible for the disposal of the product and its empty containers, disposal must be made according to official regulations.

GUARANTEE

The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. ***DRIZORO®*** reserves the right to introduce changes without prior price. Any use of this data beyond the purposes expressly specified in the leaflet will not be the Company´s responsibility unless authorised by us. 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.

TECHNICAL DATA

Appearance of component A	Milky white liquid.
Appearance of component B	Powder form.
Density of liquid component (A)	1,03 g/cm^3
Density of powder component B	1,35 g/cm^3
Density (A) + (B)	1,56 g/cm^3
Waterproofing against direct pressure condition	> 9 atm (Maximum pressure of testing equipment).
Waterproofing performance under hydrostatic pressure condition	4 atm
Resistance to freeze - thaw cycles and de-icing salts After 56 freeze - thaw cycles in the presence of salt (3% NaCl) SS 137242	Complies with requirements of Bridge Code 94 and document 1994:2 Scaling < 0,03 kg/m^2

Adhesion to different substrates

Substrate	MPa	Breakage
Concrete ASTM D 4541	2,0	Mortar
Previous ***MAXSEAL FLEX*** ASTM D 4541	1,8	Mortar
Steel panel HKHA MTS 97/99	1,73	Mortar

Suitability for contact with drinking water UNE 53330-83 y BS 6920	Approved for drinking water reservoirs.
Resistance to CO_2 diffusion H. Klöpfer method	$d_{CO_2} = 0,43 * 10^{-7}$ m/s R = 346 m (R>50 m by Prof. H. Klöpfer).
Resistance to water vapour diffusion SS 02 15 82	$d_{H_2O} = 0,131 * 10^{-4}$ m/s S = 1,9 m, equivalent air barrier
Bending test on a re-bar 8 mm ASTM A 615	20% elongation without cracks.

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