

# MAXSEAL<sup>®</sup> FLEX

**A FLEXIBLE WATERPROOF COATING AGAINST POSITIVE AND NEGATIVE PRESSURE FOR CONCRETE, MASONRY, BLOCKS, PRE-FABRICATED PANELS AND BRICK**



## Description

**MAXSEAL FLEX** is a two component product: Component A is a mortar based on a mixture of special cements, additives and well-graded fillers and Component B is a liquid based on special synthetic resin. MAXSEAL FLEX is a coating with flexible and waterproofing properties that adheres to practically every surface such as concrete, natural and artificial stone, mortar plasters, bricks, concrete blocks, etc.

Once applied and cured, **MAXSEAL FLEX** provides a non-toxic, flexible and waterproof coating that adheres to those common substrates in construction such as concrete, natural and artificial stone, traditional mortar plasters, bricks, concrete blocks.

## 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 jardinières, 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<sub>2</sub> and 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 than other coatings, avoiding maintenance costs.
- Environmentally friendly
- Specially recommended to complement other products of **DRIZORO** system as **MAXSEAL** or **MAXSEAL SUPER**.

#### 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 n° 4) up to 1 cm. minimum thickness. If it is needed, treat steel bars with the oxide converter **MAXREST PASSIVE** (Technical Bulletin n° 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 whole surface is covered completely. Apply two coats, using 1 – 1,5 kg/m<sup>2</sup> 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<sup>2</sup>. 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 °C. Do not apply below 5 °C 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 20°C 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. 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

#### Mixing Maxseal Flex

**MAXSEAL FLEX** is supplied as two pre-weighted components. Pour powder, component B, into a pail containing the resin, component A, mix with a low speed mixing drill until a homogeneous mixture is achieved. Do not add water.

Apply two coats, using 1 - 1,5 Kg/m<sup>2</sup> of maxseal flex per coat and allow a minimum of 16 hours and a maximum of 3 days between applications. It takes 7 days for the product to cure completely. It is then ready to withstand permanent contact with water. The pot-life of the mixture depends on the temperature, from 30 minutes to 2 hours.

**IT IS THE RESPONSIBILITY** of the applicator to determine whether a structure contains any form of efflorescence **PRIOR TO APPLICATION** . Any traces of efflorescence in negative waterproofing should be high pressure water blasted and **SILOXANE CLEAR** introduced with two coats of **MAXSEAL FLEX**.

#### Consumption

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

#### Surface Preparation



The surface to be coated must be sound, clean, free of all traces of paint, dust, grease, efflorescence, loose particles, form-stripping oils, gypsum plaster and curing compounds.

Spilled concrete should be cut to approximately 2 cm depth. Any exposed reinforcement cleaned and cut under. Apply a slurry coat of maxrest and then shape up with maxrest mortar.

Similarly patch all holes, voids and honeycombs with maxrest.

Thoroughly wash down and saturate surface with water, but leave no free standing water.

### Tools

**MAXSEAL FLEX** is applied with a fibre type brush such as maxbrush, broom or roller. For large areas maxseal flex can also be power sprayed. It is recommended that the first coat be applied by brush in order to cover the surface completely. On horizontal surfaces maxseal flex can also be spread using a trowel. Use water to clean tools after the work is finished.

### Storage

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

### 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.

Pre-weighed sets of 35 kg (10 kg component A + 25 kg component B) and 7 kg (2 kg component A + 5 kg component B) for standard texture and pre-weighed sets of 32 kg (10 kg component A + 22 kg component B) and 7 kg (2 kg component A + 5 kg component B) for smooth texture.



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

### 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.

### 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.

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

### Technical Data

External appearance component A :	Milky like liquid
External appearance component B :	Powder form

Density liquid component (A) :	1,03 g/cm,,
Density powder component (B) :	1,15 g/cm,,
Density (A) + (B) :	1,56 g/cm,,
Waterproofing performance under direct pressure condition :	20 ATM
Waterproofing performance under hydrostatic pressure condition :	4 ATM
After 30 freeze/thaw cycles :	No physical change.

Adherence on different substrates:

Substrate	N/mm <sup>3/4</sup>	Breakage
Wood	1,8	Mortar
Plywood	0,4	Substrate
Asphalt	1,2	Substrate
Asphaltic board	0,4	Substrate
Concrete	2,0	Mortar
Tile-to-tile	0,5	Mortar (of the lower tile)

Hairline cracks absorption

Test done applying 1 mm thickness of **MAXSEAL FLEX** over cement sample.

Temperature of the sample	The cracks absorption (mm)
23° C	2,00
0° C	2,00
-25° C	0,70

Toxicity. Suitable for waterproofing of potable reservoirs. UNE-53330-83

### Technical Info

<b>Waterproofing against direct pressure condition</b>	> 9 atm (Maximum pressure of testing equipment)		
<b>Resistance to freeze – thaw cycles and de-icing salts</b> After 56 freeze – thaw cycles in the presence of salt (3% NaCl) . Swedish Standard SS 137242	Complies with requirements of Bridge Code 94 and document 1994:2 of Sweden Scaling < 0,03 kg/m <sup>2</sup>		
<b>Adhesion to different substrates</b> ASTM D-4541			
	<b>Substrates</b>	<b>N/mm<sup>2</sup></b>	<b>Breakage</b>
	Steel panel HKHA MTS 97/99	1,73	Mortar
	Concrete ASTM D-4541	2,0	Mortar

	Previous MAXSEAL FLEX D-4541	1,8	Mortar
<b>Suitability for contact with drinking water</b> UNE 53330 - 83 Y BS 6920			Approved for drinking water reservoirs
<b>Resistance to CO diffusion</b> Prof. H. Klöpfer method			$d_{CO_2} = 0,43 * 10^{-7}$ m/s R = 346 mts. (R>50 mts. by Prof. H. Klöpfer)
<b>Resistance to water vapour diffusion</b> SS 021582			$d_{H_2O} = 0,131 * 10^{-4}$ m/s S = 1,9 mts., equivalent air barrier
<b>Bending test on a re-bar 8 mm.</b> ASTM A 615			20% elongation without cracks

#### 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.

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