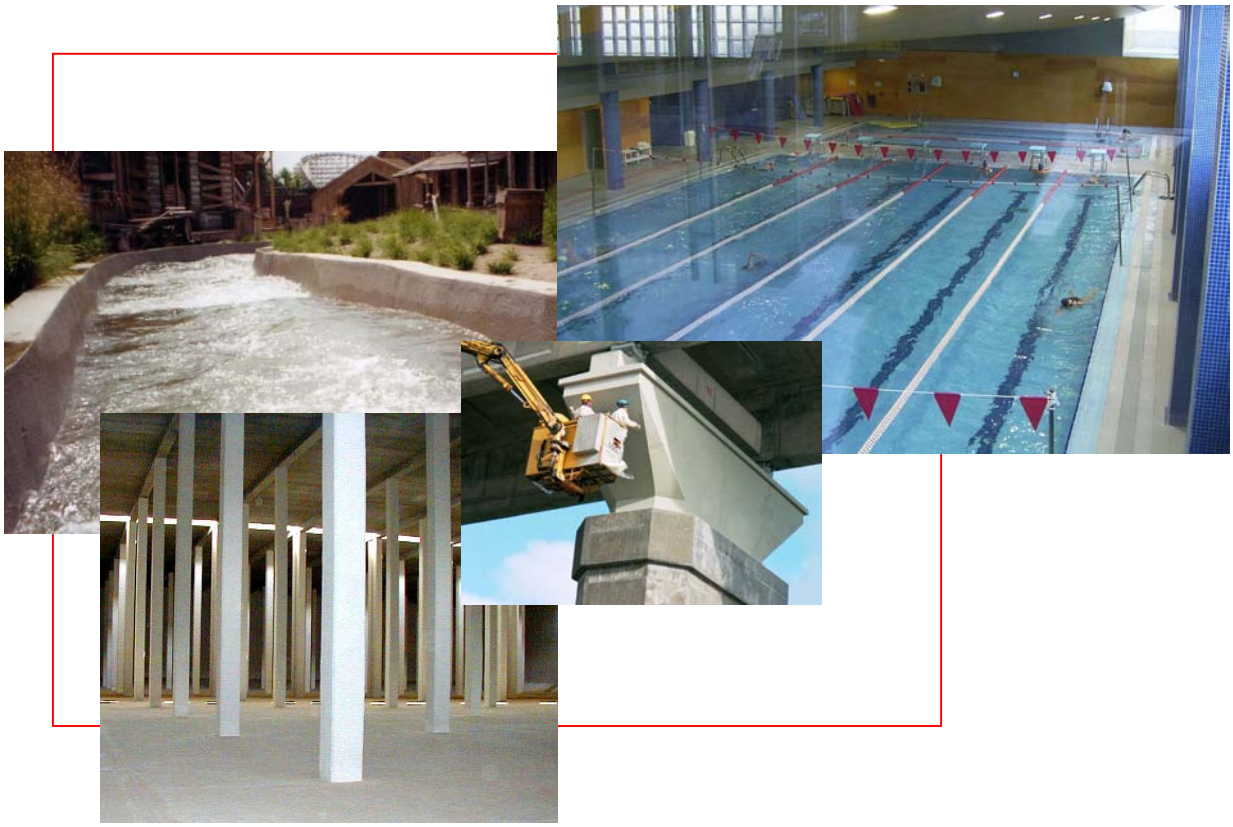
DRIZORO® Construction Products

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 water-based special acrylic resin 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 under tile and pavement in terraces, balconies, bathrooms, kitchens and other wet rooms in hotels, hospitals, offices and residential buildings, in indoor or outdoor use.
- Waterproofing of window boxes, gardens and other surfaces subject to root penetration.

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.
- Withstands the root penetration, when properly reinforced with fibber glass mesh.

APPLICATION INSTRUCTION

Surface preparation

The surface to be coated must be sound, clean, and 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 per the packaging 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^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 40-60 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 direct sunlight with 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 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. These figures may vary depending on porosity and substrate conditions, a preliminary test on-site will determine consumption exactly.

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	10 kg	2 kg	10 kg	2 kg
Component B	25 kg	5 kg	22 kg	5 kg

STORAGE

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

IMPORTANT INDICATIONS

- Do not add water, cement, admixtures, sand or any other compound.
- 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

Both components are non-toxic by themselves, but powder component is an abrasive compound. Avoid eye and skin contact for both components. Protective rubber gloves and safety goggles must be

used to mix and apply them. In case of eye contact, rinse thoroughly with clean water but do not rub. In case of skin contact, wash affected areas with water and soap. If irritation persists, seek medical assistance. Safety Data Sheet of ***MAXSEAL® FLEX*** 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

Appearance of component A/ component B	Milky white liquid / Grey or white powder	
Density of liquid component A	1,03 ± 0,05 g/cm^3	
Density of powder component B	1,35 ± 0,05 g/cm^3	
Density (A) + (B)	1,56 ± 0,05 g/cm^3	
Waterproofing against positive water pressure	> 9 kg/cm^2 (Maximum pressure of equipment)	
Waterproofing against negative water pressure	4 kg/cm^2	
Resistance to freeze – thaw cycles and salts After 56 freeze – thaw cycles in the presence of salt (3% NaCl) . Swedish Standard SS 137242	Complies requirements of Bridge Protection Code 1994 and 2004 from Sweden. Scaling < 0.03 kg/m2	
Adhesion to different substrates	**N/mm^2**	**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	Listed in the Water Regulations Advisory Scheme (WRAS) for use in contact with potable water, tested under British Standard 6920. Meets requirements under R.D. 140/2003	
Resistance to CO2 diffusion Prof. H. Klöpfer method	d_{CO2} = 0,43 * 10^{-7} m/s R = 346 mts. (R>50 mts. by Prof. H. Klöpfer)	
Resistance to water vapour diffusion Swedish Standard SS 021582	d_{H2O} = 0,131 * 10^{-4} m/s S = 1,9 mts., equivalent air barrier	
Bending test on a re-bar 8 mm. ASTM A 615	20% elongation without cracks	
Resistance to sulfates ASTM C1202	Classified as "High Resistance" Expansion 0,01% after 32 months	
Taber abrasion resistance Wheel CS17, load 1000 g. ASTM D4060	500 cycles = 0,26 1000 cycles = 0,16	
Elongation at break UNE 53510-01	59 ± 5 %	

GUARANTEE

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