



MAXSEAL[®]

FLEX-M

TECHNICAL BULLETIN No. 394.02



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

- **James Hardie SecuraTM**. Flooring, total adhesion, Easy to apply waterproofing -CSRIO tested.
- Waterproofing and protection of water retaining structures, such as potable water tanks, reservoirs, dams, water channels, fountains and swimming pools.
- Waterproofing of below-grade structures like basements, retaining walls, foundations, tunnels, galleries subject to high negative water pressure.
- Waterproofing/protection of concrete in waste water treatment plants, settlement tanks, etc.
- Waterproofing and protection of concrete structures against carbonation.
- Waterproofing and protection of concrete against soil salts and aggressive ground water, in underground jobs, foundations, etc.
- Waterproofing roofs, terraces, balconies, etc. -
- 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, or high negative water pressure. Good crack-bridging capability (> 0,5 mm). Acts as an anti-fracture membrane between the substrate and other finishing coats if applied.

Excellent barrier effect against CO₂ and Chlorine, preventing carbonation and corrosion of steel rebars.

Allows water vapour diffusion and the breathability of the concrete.

Resistant to abrasion and UV rays.

Withstands atmospheric pollution, corrosive effects of salt water or de-icing salts.

Excellent adhesion. Do not require primer and can be applied on wet surfaces.

Non-toxic, suitable for contact with potable water.

Longer lasting than other coatings, avoiding maintenance costs.

Environmentally friendly and suitable for application in poor ventilation areas.

Shore "A" hardness 85(23mpa)

APPLICATION INSTRUCTION

Surface preparation

The surface to be coated must be sound, clean, with 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.

Holes, voids, honeycombs and cracks, once opened to a minimum 2 cm in depth, should be repair with structural repair mortar **MAXREST[®]**. Exposed steel bars must be cleaned and patched with **MAXREST[®]** (Technical Bulletin no. 4) with 1 cm. minimum thickness. If steel bar is corroded, treat with the oxide converter **MAXREST**

PASSIVE

(Technical Bulletin no. 12).

Thoroughly wash down and saturate the substrate with plenty of water. Remove all free standing water before application.

Mixing

A 22 kg bag of **MAXSEAL® FLEX-M** requires from 4,4 – 5,3 litres of water ($22 \pm 2 \%$), depending on application temperature and substrate conditions. Pour the required amount of water in a clean container, 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. Mixture is to rest for 2 to 3 minutes to fully wet out all the powder, and then remix briefly before applying.

To keep the workability of the fresh mortar, remix again briefly, but do not add more water. Do not mix product that cannot be applied within 20 – 30 minutes.

APPLICATION INSTRUCTION

IMPORTANT NOTICE:

Surface preparation: The surface to be coated must be sound, clean, free of traces of paint, loose particles, dust, grease, mould, release compounds, gypsum, efflorescence. IT IS THE APPLICATORS RESPONSIBILITY to determine the presence of (salt)

efflorescence prior to application. Remove efflorescence using EFFLORESCENCE RID and apply SEALTIGHT to the affected areas to block salt from penetrating.

IMPORTANT: Maxseal Flex-M can only be applied to a wet surface, **NO** other primer or **OTHER** product is required **except** in areas where salt treatment has been carried out.

Apply Maxseal Flex in these areas while surface is still wet with **SEALTIGHT**.

Any damage or concrete defect should be repaired in advance. Patch all holes, voids and honeycombs. Open cracks to approximately 2 cm. in depths.

Application

Apply **MAXSEAL® FLEX-M** by a fibre type brush **MAXBRUSH** or **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/m² per coat, for a total consumption of 2 – 3 kg/m². Allow a drying time of minimum 6 hours and maximum of 24 hours between coats. Second coat can be rolled over for a textured finish.

For large areas **MAXSEAL® FLEX-M** can also be sprayed, **WAGNER Plastcoat 1030 with 3-6mm tip**, spraying pressure between 3,5 and 5,0 bar. **When sprayed, it is recommended to finish the fresh coat with a broom.**

On fissures, concrete joints, corners and cracks, once repaired, apply a first coat of **MAXSEAL® FLEX-M** at 1,0 kg/m² and while it is still fresh, place **MAX MESH** either 50 mm or 200 mm strip. Then apply a second coat of **MAXSEAL® FLEX-M** at 1,0 kg/m²/min.

***DO NOT apply Maxsealflex over Polyurethane**

Curing

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.

Once **MAXSEAL® FLEX-M** is cured, wash surface with water pressure before water immersion service,

Cleaning

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

CONSUMPTION: For extreme situations

Requiring full 11 bar positive and 5 bar

Negative waterproofing Apply two coats, using 1–1,5 kg/m² of **MAXSEAL FLEX-M** per coat and allow a minimum of 6 hours and a maximum of 24 hours 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, **it is very important to avoid very thin or, thick application. WET surface again prior to application of second coat.**

For all other waterproofing both positive or negative an application achieving a yield of 2 coats finish at 11m2 per pack is recommended.

MAXSEAL® FLEX-M is applied in two coats of 1–1,5 kg/m² per coat, for a total consumption of 2–3 kg/m² in two coats. Minimum 5 days curing before permanent contact with water depending on porosity, substrate conditions and application method, a preliminary test on-site will determine consumption exactly.

PACKAGING

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

STORAGE

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

IMPORTANT CAUTIONS: Do not add cement, admixtures, sand or any other compound.

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.

Maxsealflex cannot be used as a finish coating on swimming pools.

Apply a flick coat of 3parts cement and 1 part of sand no later than 24 hours after application of the second coat, allow to cure minimum of 3 days prior to the application of finishing surfacing.

TECHNICAL DATA

Product characteristics	
CE Marking, EN 1504-2	
Meets Australian Building Standard AS4654 - CSIRO Report 8229	
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 / 24
Curing time at 20 °C & 50 % R.H.(d)r:	
- Mechanical load: covering with gravel, renders, plasters, tiles	3
- Water immersion	5
Cured product characteristics	
Waterproofing maximum positive/direct water pressure, EN 12390-8 (ATM)	11
Waterproofing maximum negative/indirect water pressure, EN 12390-8 (ATM)	5
Permeability to water vapour, EN ISO 7783-1/-2. Classification	Class I: Permeable to water vapour
V (g/m ² ·day) / S _D (m)	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) Suitability	3,4
for contact with potable water – meets AS4020	Suitable
Consumption*	
Consumption per coat/total application, (kg/m ²)	1 - 1,5 / 2 - 3

and application method. Perform a

* These figures are for guidance only and may vary depending on porosity, substrate conditions preliminary test on-site to ascertain the total consumption exactly under jobsite conditions

	Drizoro	MAPEI	CROMMELIN	DURAM	GRIPSET	Drizoro	Drizoro	SIKA
	Maxseal	MAPELASTIC	CROMMELIN	CRYSTO	GRIPSET C-1P	Maxseal	Maxseal	SIKALASTIC
Product			Trowel on	FLEX		Foundation	FLEX M	1K (au)
Cost price Comparison To waterproof a 100 m2 block, brick, concrete surface at 3 bar negative water pressure								
Coverage per Pack - all 2 coats finish	20 m²	9.4 m²	7 m²	10 m²	5 m²	13 m²	11 m²	5 m²
Kits to Cover 100 m²	5	10.5	14.5	10	20	8	9	20
Price Per Pack	\$336.00	\$180.00	\$160.00	\$228 including primer	\$146.00	\$137.00	\$215.00	\$142.00
Cost for 100 m²	\$1,680.00	\$1,890.00	\$2,320.00	\$2,280.00	\$2,920.00	\$1,096.00	\$1,935.00	\$2,840.00

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MAXJOINT[®] ELASTIC

THE ELASTIC MORTAR FOR SEALING JOINTS SUBJECT TO MOVEMENT IN CONCRETE,

PREFABRICATED AND CERAMIC ELEMENTS THAT TICKS ALL THE BOXES - YES

- Will only adhere to wet/damp surface NO bonding agent needed
- Will adhere to wet/green concrete or other porous substrate
- Will seal active cracks in porous surfaces, pointing mortar for substrates subject to movement
- Suitable for joints in permanent negative or positive contact with water
- NON slump – Non run on vertical joints in pre-fab. panels, ceramic, concrete facades.
- NON-TOXIC, NON FLAMMABLE, ENVIRONMENTALLY FRIENDLY.
- Can be painted over using Paint or Maxseal Flex
- CLEANS UP WITH WATER

WILL OTHER JOINT SEALERS DO THE SAME - NO

Joint Size: 20x10mm: 0.25 kg/ Lin/metre - 40 lin/metre per 10 kg set: COST per Lin/metre: \$ 6.80

Optimum application temperature 5 - 30 OC

Joint unhitching None

Inservice joint movement 15%

Shore A Hardness, ISO 868 37

Elastic modulus 60%, EN 28339 0,38 MPA

Tensile strength, EN 28339 0,38 MPA

Elongation at break, EN 28339 60%

Elastic recovery, EN 27-389 78%



Approximate Consumption		
Joint size (mm)	kg / lineal metre	Lineal metre per 10 kg set
10 x 5	0,065	153
15 x 7,5	0,140	71
20 x 10	0,250	40
25 x 12,5	0,400	25
30 x 15	0,570	17

Technical Support: Phone 02 9771 0011 www.scientificwaterproofingproducts.com.au

