BUILDING TRUST

PRODUCT DATA SHEET

Sikalastic®-6100 FX

(formerly MSeal 6100FX)

One component elastic and flexible lightweight membrane for waterproofing and concrete protection

PRODUCT DESCRIPTION

Sikalastic®-6100 FX is a one-component, cement based, elastic and flexible lightweight membrane for waterproofing and concrete protection.
When mixed with water, Sikalastic®-6100 FX obtains a fluid consistency so that it can be easily hand applied or sprayed.
Sikalastic®-6100 FX is composed of specially selected cements, lightweight fillers, sand and special polymers in powder form.

USES

- For interior and exterior application
- As a waterproof lining for water retaining structures
- External waterproof lining for reservoir roof applications
- To provide foundation protection
- To protect concrete surfaces from carbonation and chloride attack
- For areas constantly submerged in water
- Suitable as a blow hole filler prior to overcoating

CHARACTERISTICS / ADVANTAGES

- One-component product, only needs water to be added
- High elastic properties down to -10 °C
- High durability and protection with reduced cracking due to embrittlement
- Low density/Lightweight formulation: Low consumption providing high yield
- Rapid curing: Allows early service ability. Tanks can be filled after only 3 days
- Waterproof at 2 mm thickness: Resists up to 5 bars (50 meter head) of water pressure.
- Excellent adhesion
- Elasticity maintained in immersion
- Breathable: Water vapor permeable
- High resistance to carbon dioxide diffusion: Protects concrete from rebar corrosion. A 1 mm coating provides anti-carbonation cover equivalent up to 40 cm of concrete.
- Sulphate resistant
- No ammonia smell: Can be applied in closed spaces.
- Reduced efflorescence appearance risk
- UV resistant, light grey and white versions available: can be used as final coating in exterior applications.

ENVIRONMENTAL INFORMATION

- Specific EPD in accordance with EN 15804+A2 & ISO 14025 / ISO 21930.
- Low T.V.O.C. according to French DECRET 2011-321, classification of Class A+ of interior air emission.
- Low ammonia concentration according to DIN EN 10204
- Conformity with LEED v4 MRc 2 – Environmental Product Declarations (Option 1).
- Conformity with LEED v4 MRc 3 – Sourcing of Raw Materials
- Conformity with LEED v4 MRc 4 – Material Ingredients (Option 2)
- Conformity with LEED v4 EQc2 – Low emitting materials.

APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 1504-2 - Surface protection product for concrete - Coating
- CE Marking and Declaration of Performance to EN 14891 - Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives

Suitable for contact with drinking water:
- RD 3/2023 (EU 2020/2184)

PRODUCT INFORMATION

Packaging	15 kg bags
Appearance / Colour	Available in light grey and white colour.
Shelf Life	12 months from date of production if stored properly in undamaged and unopened original sealed packaging in dry and cool conditions
Storage Conditions	Store properly in undamaged and unopened original packaging in cool and dry conditions, under cover and clear off the ground. Protect from water, moisture and weather inclemencies and do not store at temperatures over +30 °C.

TECHNICAL INFORMATION

Abrasion Resistance	1150 mg	(EN ISO 5470 -1)
Resistance to Impact	5 Nm (Class I)	(EN ISO 6272 -1)
Tensile Strength	1.6 MPa (28 days)	(EN ISO 527-1/-2)
Tensile adhesion strength	2 N/mm²	(EN 1542)
	Adhesion strength after freeze-thaw cycles (50) with de-icing salts and Thunder Shower cycling (10): 1.7 N/mm²	(EN 13687-1) (EN 13687-2)

Crack Bridging Ability (EN 1062-7) (EN 1062-11)

	20 °C	-10 °C
Static crack bridging	up to 2 mm	up to 0.6 mm
Static crack bridging with conditioning	A4	A3
Dynamic crack bridging with conditioning	B 3.1	B 3.1

Behaviour after Artificial Weathering	After 2000h in UV chamber was not observed changes in appearance such as cale, blistering or peeling UVA 340, Irridation: 0,65 W/m2, Cycles: 4 h UV-Tª 60ºC / 4 h moisture at 50ºC		(EN 1062-11:2003 4.2)
Permeability to Water Vapour	Class I (S_D < 5 m)	S_D: 1.3 m	(EN ISO 7783-1/2)
Capillary Absorption	0.02 kg·m^{-2}·h$^{-0.5}$		(EN 1062-3)
Water Penetration under Pressure	< 5 bar Value obtained with a total layer thickness of 2 mm		(EN 12390-8)
Water Penetration under Negative Pressure	< 2.5 bar Value obtained with a total layer thickness of 2 mm		(based on UNI 8298-8)
Permeability to CO2	S_D > 50m	S_D: 104 m	(EN 1062-6)

Permeability to radon

- Radon diffusion: 1,12 E-13·m2·s-1
- Radon diffusion length: 0.23 mm

Salt resistance

No change observed in the product after 175 days of permanent immersion in:

- Synthetic seawater, based on DIN 50905-4
- Salt mix solution 30 g/l NaCl, $NaNO_3$, and NA_2SO_4, based on WTA-Merkblatt
- KJ solution (10 g/l)
- NaSO4 solution, based on Wittekindt-process

	▪ Tap water	
Reaction to Fire	Class B-s1, d0	(EN 13501-1)
Elongation at break	29 % (28 days)	(EN ISO 527-1/-2)

APPLICATION INFORMATION

Mixing Ratio	5.6-6.2 litres of water per 15 kg bag
Consumption	~ 1.2 Kg of mixed product (approx. 0.9 Kg of powder product) per m^2 and mm of thickness. For a 2 mm thickness application, one bag of 15 Kg covers approx. 8 m^2. Consumption is influenced by the roughness of the substrate. Apply a scratch coat to fill in all voids and pinholes to give a closed surface then apply a 2mm coating of Sikalastic 6100 FX. On rough substrates the quantities required for the scratch coat may increase significantly. In these cases, to obtain real consumption calculation based on in-situ tests might be required.
Layer Thickness	2 mm (up to 5 mm for reprofiling)
Product Temperature	+5 °C min. / +35 °C max.
Ambient Air Temperature	+5 °C min. / +35 °C max.
Substrate Temperature	+ 5 ºC min. / + 35 ºC max.
Pot Life	~ 45 minutes at 20 °C ambient and substrate temperature. ~ 30 minutes at 30 °C ambient and substrate temperature.
Waiting time	Exposure to mechanical loads after 3 days. Exposure to water pressure after 3 days.
Fresh mortar density	~ 1.2 kg/L

VALUE BASE

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

USES

- Do not apply at temperatures below +5 °C nor above +35 °C.
- Do not apply Sikalastic®-6100 FX to frozen substrates or if the ambient temperature is below +5 °C or expected to fall below +5 °C within 24 hours.
- Avoid application in direct sunlight.
- Do not mix with cement, sand or other materials that can alter product performance.
- Under no circumstances should Sikalastic®-6100 FX be re-tempered by the later addition of water.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Surfaces must be clean, sound and free of oil, grease and other contaminants. Carefully remove all loose particles and dust. All substrate coatings, defective renders, formwork treatments and other previously applied materials that may affect the bond adversely should be removed.
In case of active leaks, use a suitable water plug mortar (i.e. Sika®-4a mixed with cement).

Concrete, cementitious substrates
Prepare the surface by grinding, sandblasting, or wire brushing. Remove remaining dust and particles by suitable measures such as the use of compressed air. Repair any damaged concrete with a suitable Sika-Monotop® mortar.

Masonry
Prepare the surface by wire brushing. Remove remaining dust and particles by suitable measures such as the use of compressed air. All mortar joints to be flush-pointed with a suitable Sika® cosmetic mortar.

MIXING

Sikalastic®-6100 FX should be mixed on site in clean containers.
Blend 15 kg of powder into approximately 5.6 litres (maximum 6.2 l) of water using a paddle mixer attachment in a slow-speed drill (400 – 600 rpm). Mix for 3 minutes approximately until a thick, batter-like consistency is obtained.
Leave Sikalastic®-6100 FX to stand for 1 – 2 minutes to allow full saturation to take place. Re-mix, adding a small quantity of water, if required to restore the consistency.
Do not mix more material than the quantity which can be used in 45 minutes.
For the first coat, additional 0.5 litre per bag can be added to the mixture. Do not exceed 6.4 litres water addition per bag.

APPLICATION

Sikalastic®-6100 FX can be applied by brush, trowel or spray. Roller application is not recommended.
Always apply the mix to a pre-dampened surface. High suction substrates require more dampening then dense substrates. However, make sure there is no freestanding water.

First coat

The first coat must be worked into the substrate with a stiff brush or spray, while still wet, to ensure an intimate bond to the substrate.
Care must be taken not to spread the material too thinly.
When the material begins to drag or “ball”, do not add more water, but dampen the substrate again.
Allow at least 2 hours (can be up to 5 hours, depending on application conditions) to cure before applying a second coat.

Second coat

Dampen the first coat and remove excess moisture.
Brush,,t rowel or spay the mix onto the surface, finishing in the opposite direction to the previous coat to give a uniform thicknes of 2 mm.

Finishing

To improve the aesthetic appearance an additional layer can be applied by spray, eventually sponge floated to give a uniform surface.

CURING TREATMENT

Under hot or excessive drying conditions fog-spray after the initial set has taken place for as long as practicable.
In cold, humid or unventilated areas it may be necessary to leave the application for a longer curing period or to introduce forced air movement.
Do not use dehumidifiers during curing periods.

CLEANING OF TOOLS

Clean all tools and application equipment with clean water immediately after use.
Hardened / cured material can only be removed mechanically.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product’s suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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