BUILDING TRUST

PRODUCT DATA SHEET

Sikalastic®-6100 FX

(formerly MasterSeal® 6100FX)

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

DESCRIPTION

Sikalastic®-6100 FX is a one-component, cement based, elastic and flexible, lightweight and fast curing membrane for waterproofing and protection of concrete structures, masonry and asphalt covered slabs.
When mixed with water, Sikalastic®-6100 FX obtains a fluid consistency so that it can be easily hand applied or sprayed. It creates a membrane resistant to positive and negative hydrostatic with high crack bridging characteristics.
Structures waterproofed with Sikalastic®-6100 FX can be filled with water (including potable water) after 72 hours of curing.
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, including drinking water, swimming pools (below tiles), pipes, basins, etc.
- To provide foundation protection.
- External waterproofing of small roofs and balconies.
- Waterproofing of bathrooms and shower trays.
- Bridge deck waterproofing.
- To protect concrete surfaces from carbonation and chloride attack.
- For areas constantly submerged in water.
- Suitable as a blow hole filler prior to overcoating.

FEATURES

- One-component product: only needs water to be added.
- High elastic properties: high crack bridging abilities static and dynamic, maintains elasticity in immersion and down to -10 °C. High durability and protection without cracking.
- Low density/Lightweight formulation: Low consumption providing high yield and time saving in application.
- Rapid curing: Allows early service ability. After 2 hours can be applied the second layer. Tanks and reservoirs can be filled after only 3 days of curing. Also after 3 days can be covered with asphalt.
- Waterproof at 2 mm thickness: Resists up to 5 bars of water pressure.
- Excellent adhesion
- Breathable: Water vapour permeable
- High resistance to carbon dioxide diffusion: Protects concrete from rebar corrosion. A 2 mm coating provides anti-carbonation cover equivalent up to 18 cm of concrete.
- Sulphate resistant
- No ammonia smell: Can be applied in closed spaces.
- Reduced efflorescence appearance risk
- UV resistant: can be used as final coating in exterior applications without compromising its mechanical properties.
- Suitable for contact with drinking water: Complies with Directive (EU) 2020/2184 and WRAS approval certificate.
- Compatible with contact with asphalt up to 180 °C.
- 2 mm thickness can be applied in a single layer, by spraying or trowelling.
- High thickness range: possibility to apply 5 mm in one coat on rough substrates (spray).
- Barrier to radon gas (radon gas diffusion length 0.23 mm).
- Classification CM 01-P according to EN 14891 (for use as a waterproofing under cementitious adhesive).

SUSTAINABILITY

- Specific EPD in accordance with EN 15804+A2 & ISO 14025 / ISO 21930.
- 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)

CERTIFICATES AND TEST REPORTS

- 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 (subject to local regulation):

- WRAS approval
- Directive (EU) 2020/2184 - [RD 3/2023]

PRODUCT INFORMATION

Composition	Mix of special lightweight cements and selected aggregates with powdered polymers
Packaging	15 kg bags
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.
Appearance and colour	Available in light grey and white colour.

TECHNICAL INFORMATION

Abrasion resistance	AR1 (50-100 µm)	(BS EN 13892-4)
Resistance to impact	5 Nm (Class I)	(EN ISO 6272-1)
Crack bridging ability	Static crack bridging: ▪ Class A4 (23 °C) ▪ Class A3 (-10 °C) ▪ Class A4 (after contact with asphalt at 160°C) Dynamic crack bridging: ▪ Class B3.1 (23 °C) ▪ Class B3.1 (-10 °C)	(EN 1062-7)

Tensile adhesion strength	Adhesion strength	>1.5 MPa	(EN 1542)
	Adhesion strength after thunder shower cycling (10x) with freeze cycling sand de-icing salts (50x)	>1.5 MPa No bubbles, no cracks, no delamination	(EN 13687-2) (EN 13687-1)
	Initial tensile adhesion strength	> 0.5 N/mm²	A.6.2. (EN 14891)
	Tensile adhesion strength after water contact	> 0.5 N/mm²	A.6.3. (EN 14891)
	Tensile adhesion strength after heat ageing	> 0.5 N/mm²	A.6.5. (EN 14891)
	Tensile adhesion strength after freeze-thaw cycle	> 0.5 N/mm²	A.6.6. (EN 14891)
	Tensile adhesion strength after contact with lime water	> 0.5 N/mm²	A.6.9. (EN 14891)
	Tensile adhesion strength after contact with chlorinated water	> 0.5 N/mm²	A.6.7. (EN 14891)

Capillary absorption	<0.1 $kg \cdot m^{-2} \cdot h^{-0.5}$	(EN 1062-3)
Water penetration under pressure	Up to 5 bar (2mm thickness)	(EN 12390-8)
Water penetration under negative pressure	Up to 2.5 bar (2 mm thickness)	(UNI 8298-8)
Permeability to water vapour	Class I (S_D< 5 m)	(EN ISO 7783)
Permeability to carbon dioxide	S_D: 104 m (S_D > 50m)	(EN 1062-6)
Chemical 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-Guideline ▪ KI (potassium iodide) solution (10 g/l) ▪ NaSO4 solution, based on Wittekindt-process ▪ Tap water	
Behaviour after artificial weathering	After 2000h in UV chamber was not observed changes in appearance such as cale, blistering or peeling	(EN 1062-11)
Reaction to fire	Class C-s1, d0	(EN 13501-1)
Permeability to radon	▪ Radon diffusion: 1,12 $E^{-13} \cdot m^2 \cdot s^{-1}$ ▪ Radon diffusion length: 0.23 mm	

APPLICATION INFORMATION

Fresh mortar density	~ 1.2 g/cm3
Consumption	~ 1.2 Kg/m²/mm of mixed product. ~ 0.9 Kg/m²/mm of powder product. For a 2 mm thickness application (reccomended minimum thickness) one bag of 15 Kg covers approx. 8.3 m². For bridge deck slabs covered with asphalt (minimum thickness 2.2 mm) consumption should be 2.5 kg/m². Consumption is influenced by the roughness of the substrate. On rough substrates the quantities required will increase significantly. In these cases, to obtain real consumption calculation based on in-situ tests might be required.
Layer thickness	0.5 - 1,5 mm (up to 5 mm for reprofiling) For waterproofing minimum total thickness is 2 mm. For bridge deck waterproofing minimum 2.2 mm.
Material temperature	+5 °C min. / +35 °C max.
Ambient air temperature	+5 °C min. / +35 °C max. Do not apply if the ambient temperature will fall below +5°C during the following 24 hours. Avoid the application during direct sunlight.
Mixing ratio	5.6-6.2 litres of water per 15 kg bag (38-41%)
Substrate temperature	+ 5 ºC min. / + 35 ºC max. Do not apply on frozen surfaces.
Maturing time	1–2 minutes
Pot Life	~ 45 minutes at 20 °C ambient and substrate temperature. ~ 30 minutes at 30 °C ambient and substrate temperature.
Waiting time	Second coat after 2 - 5 hours. Cover with tiles after 4-8 hours. Exposure to water pressure / mechanical loads after 3 days. In case of waterproofing in enclosed areas with high humidity, the hardening and commissioning times are considerably longer. Curing time may vary according to environmental conditions: temperature, wind and humidity.

BASIS OF PRODUCT DATA

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

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

It can be applied on concrete and mortar substrates. Surfaces must be clean, sound (recommended tensile strength > 1N/mm²) free of oil, grease or any other contaminant . Carefully remove all loose particles and dust. All substrate coatings, defective renders, release agents and other previously applied materials that may reduce the adherence of the product should be removed. The substrate must have a certain roughness to allow mechanical adhesion as well as chemical adhesion. Smooth and not very absorbent substrates should be treated mechanically.
In case of active leaks, these must be plugged using a suitable fast setting mortar (i.e. Sika Monotop®-108 Water Plug).

Concrete, cementitious substrates: Prepare the surface by grinding, sandblasting, hidrocleaning, wire brushing or any other appropriate method. For the removal of the remaining dust and particles it is recommended to clean the substrate by means of compressed air.
Repair any damaged concrete with a suitable Sika-Monotop® mortar.
Masonry: Prepare the surface by wire brushing or other appropriate mechanical methods. For the removal of the remaining dust and particles it is recommended to clean the substrate by means of compressed air.
All mortar joints must be properly cleaned and coated with a suitable mortar.

MIXING

Sikalastic®-6100 FX should be mixed on site in clean containers.
Pour 5.6 litres of water (maximum 6.2 l for brush applications) into a clean container, then slowly pour in the 15kg of Sikalastic®-6100 FX . Mix with a low-speed drill mixer (400 – 600 rpm) for approximatelly 3 minutes, until a thick, batter-like consistency is obtained.
Allow the mixture to stand for approximately 1 – 2 minutes to ensure full saturation of the cement. Remix, 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 0.6 litre of water per bag can be added to the mixture. Do not exceed 6.2 litres water addition per bag.

APPLICATION

Sikalastic®-6100 FX can be applied by brush, trowel or sprayed with suitable equipment. Roller application is possible, but not recommended.
Always apply the mix to a pre-dampened surface. Carefully wet the surface until saturation before application of Sikalastic®-6100 FX. High suction substrates require more dampening than dense substrates. However, make sure there is no freestanding water.
First coat: Must be applied to the still damp substrate to ensure adhesion. Care must be taken not to spread the material too thinly. First layer as a bonding slurry with approximately 0,5 mm thickness.
If the material does not adhere correctly (without exceeding the pot-life), or if the material begins to drag or “ball”, do not add more water, the substrate must be re-wetted.
Allow at least 2 hours of curing before applying a second coat (this curing time may vary according to environmental conditions: temperature, wind and humidity; can be up to 5 hours).

Second coat: Slightly dampen the first coat and remove excess moisture. Apply a second coat perpendicular to the previous coat. Second layer with approximately 1,5 mm thickness. Ensure a total thickness of material of minimum 2 mm.
Finishing: The aesthetic finish of the membrane can be improved by applying a damp sponge floated to the surface of the membrane to give a uniform surface.
In the case of swimming pool waterproofing, the product shall be covered with tiles or protective coating.

CURING TREATMENT

Under hot or excessive drying conditions prevent the product from drying out by spraying lightly with water. Fog-spray after the initial set has taken place for as long as practicable.
In cold, humid or poorly ventilated environments, curing times may be longer. It may be necessary to leave the application for a longer curing period or to introduce forced air movement.
In case of waterproofing in enclosed areas with high humidity, the hardening and commissioning times are considerably longer.
Do not use dehumidifiers during curing process. Do not use film-forming curing agents under any circumstances.
Avoid rain or direct contact with liquid water during curing.

CLEANING OF EQUIPMENT

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

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

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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