

TECHNICAL DATA SHEET

ECO SIL

Silicate waterproofing. A division of ETS Europe.




Date 25/02/2020

PRODUCT INFORMATION

DESCRIPTION:

ECO SIL is an innovative waterproofing with high chemical resistance for canal and industrial construction, it is waterproof up to 1.5 bar at a layer thickness of 4 mm.

PROPERTIES AND BENEFITS

- Silicate-technology
- High chemical resistance at the range of pH 0 – 14
- Salt water resistant
- Environmentally friendly
- Mineral
- VOC- and APEO-free
- Extreme high adhesion on substrate
- High surface hardness and abrasion resistance
- Sulfate resistant according to DIN 4030
- Suitable for drinking water according to KTW-criteria
- Suitable for bathing pool water according to KSW-criteria
- Fulfils the requirements for discharge capability according to  BGR 132
- Waterproof up to 1.5 bar
- Easy application even on wet substrates.

RANGE OF USAGE

- for indoor and outdoor use
- as waterproofing for building constructions against ground moisture and seeping or pressing water
- surface protection against aggressive chemicals in acid-proof installations, pipelines and waste water pipes, laboratories, sewage plants, breweries, agricultural installations

TECHNICAL INFORMATION

Mixing ratio	0.75 – 0.85 l water per 5 kg powder	Resistance	
Slurry	0.85 L	Salt water	after 7 days
Creamy	0.75 – 0.8 L	Chemicals	after 7 days
Compressive strength	≥ 35 N/mm ²	Flexural strength	approx. 4.5 N/mm ²

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Processing temperature	min. +10 °C max +35 °C	Processing time at 20°C	approx. 35 min
Relative humidity	Max. 80%		
Single layer thickness	2 mm	Consumption per mm layer thickness	approx. 2 kg/m ²
Total application thickness	max. 4 mm (2 layers necessary)		
Loadability*	Curing at 20°C	Density	
Walkable	1 day	Bulk density	approx. 1.3 kg/dm ³
Water load	2 days	Fresh mortar density	approx. 2.0 kg/dm ³
Fully loadable	3 days		
Chemical load	7 days		

The information above is given based on our experiences. Adjustment may be required in case of object specific fluctuations.

PREPARATION OF SUBSTRATE

For the preparation of the substrate, all wall or floor substrates must be matt moist, sound, capable of load-bearing and free from loose or soft materials & substances. ECO SIL can only be applied on structures which stay free from cracks. Suitable substrates are concrete, masonry work and Class P III render. On light absorbent surfaces like concrete, bricks and heavy concrete no pretreatment process is necessary. On highly absorbent surfaces like rendering, calcareous sandstone and hollow brick masonry you have to do a test on a little test area before apply to the structure. You have to moisten the substrate of the test area before the test.

Note: In case of pressing water or acute leakages, the underground has to be pre-waterproofed before application of ECO SIL.

MIXING AND APPLICATION

Pour 0.75 – 0.85 liters of water into a clean container followed by 5 kg **ECO SIL**. Use an electric drill with attached stirrer to mix until lump-free, about 1 minute. ECO SIL must not be mixed with cement-based products. After a setting time of 4 minutes mix up again to a smooth consistency. Mix only as much material as can be applied within 15 or 35 minutes. Do not mix ECO SIL with any other liquid component except water.

Apply the first layer with a soft brush or pump for better adhesion. The subsequent layers may be leveled out with a flat ladle. Apply a minimum of 2 layers. Do not moisten the surface between layer applications.

Each layer must have the minimum thickness across all points (2 mm). The maximum thickness of the whole coating is 4 mm. In specific cases (very uneven substrate) it is possible to increase the maximum thickness up to 6 mm. A third layer of ECO SIL has to be applied if necessary. If smoothing of the surface is necessary after the processing time, then only without water.

Note: Open ECO SIL bags must be closed airtight, or must be processed within 6 hours. For further applications in higher layer thicknesses we recommend the use of Eco ALL IN ONE

Note concerning after treatment: Protect area against direct solar radiation, wind, frost and rain for 2 more days after application. If ECO SIL is applied in closed vessels without any air circulation, an additional ventilation

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or drying system is necessary. Otherwise there would be a danger of moisture condensation. In this case the loadability times of the mortar could increase by 1 – 2 days (see table). The-ready-to use mixture is applied in two steps. The consumption is approx. 50 g/m². The treated surfaces are loadable after one day.

Post-processing and coating protection

If smoothing of the surface is necessary after the end of the processing time, this step should be carried out without additional water.

The coating has to be protected from too quick drying (solar radiation, draft), frost and rain for 2 days. Do not cover the finished surface with foils or other materials. If ECO SIL is applied in closed vessels without any air circulation, an additional ventilation or drying system is necessary. Otherwise there would be a danger of moisture condensation. In this case the load ability times of the mortar could increase by 1 – 2 days (see table).

For early loading (water and acid load) of new surfaces apply a protective layer of ECO TOPCOAT 2K after one day. The-ready-to use mixture is applied in two steps. The consumption is approx. 50 g/m². The treated surfaces are loadable after one day. For further information about the application of ECO TOPCOAT MAT 2K please refer to the corresponding technical data sheet.

TOOLS AND CLEANING

Mixing device, stirrer, trowel, brush.

All equipment should be washed clean and dried before and after application.

PACKAGING AND STORAGE

Packaging: 3 x 5 kg bags of mortar in a bucket

Storage: 9 months in original packaging and in a dry and controlled temperate environment (not below 0 °C, recommended 10 – 25 °C). Reseal opened containers immediately and use within a very short time.

SAFETY, ECOLOGY AND ELIMINATION

ECO SIL reacts alkaline with moisture/water. Avoid inhaling dust when opening packaging. Protect skin and eyes during the mixing process. Please refer to the Material Safety Data Sheet (MSDS) for further information on safety during transportation, storage, handling and disposal. Follow instructions on the packaging.

Note: In case of pressing water use ECO SIL only on concrete surfaces. When internal waterproofing of a building is required (negative stress) the structure must be able to withstand the water pressure. Because of the different properties of the substrates and the environment we cannot guarantee a uniform coloring. The appearance should be tested at a separate location if required. Therefore this product is not suitable for decorative purposes. Do not mix with cement-based products. Do not use on frozen substrates or during rain or strong solar radiation. Use structural provisions such as expansion joints to avoid cracks in the coating. Sealing of joints has to be done with flexible or permanently elastic sealing materials. Waterproofing should be aligned to face the water (positive loading). The use of ECO SIL is permitted up to an acid concentration of 5%.

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ETS EUROPE BV Herentaalsebaan 406 D1 B-2160 Wommelgem Belgium Tel + 32 3 227 28 58 Fax. + 32 3 475 16 66	
EN 1504-3:2005 Concrete protection and repair product for statically non-relevant restoration. EN 1504-3: ZA.1a	
Compressive strength	Class R2
Chloride ion content	≤ 0,05 %
Adhesion	≥ 0,8 MPa
Impaired expansion	≥ 0,8 MPa
Carbonization resistance	NPD
Elastic modulus	NPD
Fire behavior	A1

The content of this technical data sheet corresponds to the latest development and our applications experience. All information is based on ideal conditions and therefore does not apply for every application purpose. Due to different materials, substrates and different actual site conditions no warranty is given for the customer's application. In particular, we assume no liability based on this information or any verbal statements.

The only exception is when we can be blamed for the case of intent or gross negligence. In that case the customer has to prove that he has transmitted all required information completely and in a timely manner for a proper and promising evaluation by ETS Europe. Any further details regarding the application of our products have to be confirmed in writing by ETS Europe. The customer must test the product's suitability for the intended application and purpose. We reserve the right to change the product specifications due to the ongoing development. Apart from that our general terms and conditions are valid. This data sheet supersedes all earlier technical data on this product. The technical data sheet can be requested on www.ets-europe.be.

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