

Mineral curing topping for concrete medium-duty floorings

Product description	SICON S1 is a ready to use dry shake topping for hardening of new concrete floor surfaces. It consists of selected hard quartz aggregates (SiO ₂ over 99.8%), very hard silicon carbides and fused alumina, modified cement binder, pigments and other additives. When applied dry to the surface of concrete floor during finishing operations, it forms a smooth, hard, wear resistant, marbled structure layer. Thanks to optimally chosen ingredients, reinforced surface of the floor (compacted and consolidated) forms a durable, monolithic structure with the concrete.
Use	SICON S1 is intended for making floated, hard, durable industrial floors. It is designed to application in warehouses, production plants, workshops, shopping centers and anywhere else where a durable floor is needed. Our product offers improved resistance to abrasion, slipping and oil, water and grease penetration, as well as offering a harder, more appealing surface to your floors. SICON S1 may be used in areas lacking chemical agents that corrode hardened cement matrices.
Properties of the flooring with the use of SICON S1	<ul style="list-style-type: none"> • Quick and inexpensive to use • Easy to clean • Long lasting and esthetically appealing • Resistant to oil and grease penetration • Increased resistance to impact and wear • Suitable for indoor use • Dust-proofing
Technical data according to EN 13813	
BCA abrasion	AR 1,0
BOEHME abrasion	A6
Compression strength	C70
Bending strength	F7
SICON S1 Product Data	
Form	Dry mortar (topping)
Package	25 kg paper bags with foil, 1000 kg net pallet
Performance	Approx. 4 to 6 kg/m ² with the coating thickness of 3 mm.
Available colors	Natural / gray / green, yellow, red, graphite, possibility of obtaining color according to individual order
Storage	9 months sealed in the original containers in a cool and dry place (temp. 5°C to 40°C)
Certifications	PZH HK/B/0538/01/2014
Control	According to PN-EN 13813
Method of use	
Substrate	Hardening Sicon S1 topping is distributed on the surface made of freshly distributed and compacted low shrinkage concrete, according to the following guidelines: min. blend class C20/25 according to PN-EN 206-1:2003; w/c ratio less than or equal to 0.50; fraction of the used aggregates less than or equal to 16 mm; minimum 5% participation of the fraction less than 0.25 mm; sand point of the blend about 33%; only low alkaline cement, minimum proportion of cement 300 kg; maximum proportion of cement 350 kg; types of cement CEM I, CEMII/A-S, CEMII/B-S. Consistency of concrete distributed on the construction site S3. Concrete substrate prior to the application of Sicon S1 should be leveled and moist. The surfaces should be cleaned of residues of release agents, cement paste and excess water. Note: An important factor in the concrete blend can be the ashes presence, which have a negative impact on the targeted technical parameters of the concrete slab surface and further reduce the adhesion of the topping hardening layer leading to dusting or loosening.
Implementation	The works should be started with guaranteeing the below optimal working factors in the course of the execution process implementation, and for the next few days after its completion: <ul style="list-style-type: none"> • Suitable temperature, equal to min. 5°C, • Protection from excessive sunlight, drafts, high temperatures, • Protection against precipitation, dust, particles of polystyrene and other contaminants.
Application	
"Wet on dry" method	The commencement of the application is dependent on many factors, e.g. temperature, humidity, used cement and other additives. Therefore, it should be considered individually, depending on the specific needs and capabilities of the contractor. SICON S1 preparation should be evenly spilled on compacted, and yet not bound concrete. Experimentally it can be assumed that the optimum time of application of the preparation is when the concrete blend of the flooring slab is so rigid that it is possible to step on it leaving a trace of imprinted shoe to a depth of 3-6 mm. The material is most efficiently applied in two stages "crosswise" in a total amount of 4-6 kg/m ² . In the first stage the material should uniformly cover the treated surface in quantity equal to 2/3. In the second stage the remaining part of the material should be sprinkled, i.e. 1/3 and should be trowelled until an appropriate structure of the flooring smoothness. Start of the mechanical trowelling process depends on rapidity of the applied material moistening. The blend must uniformly absorb the moisture from the concrete substrate, resulting in the preparation color change into a darker color. Immediately after executing the flooring, it must be protected against external influences, especially against the evaporation of moisture from the concrete. It is advisable to use impregnation and/or coating preparations applied to the

	<p>given Sicon system. In order to achieve proper maturation and expected parameters it is recommended to use MELAXIL care and sealing product. In the case of expansion joints floorings, within 24 hours after finishing (using standard Portland cement) the expansion joints should be notched according to the design, which, depending on the use and the subsequent operating conditions of the flooring areas filled with appropriate expansion joint compounds. Moreover, please note that the hardener application to standing water and use of water during the surface trowelling reduces the flooring parameters.</p>								
"Wet on wet" method	<p>Material consumption as shown in Table 1. Substrate made of concrete of min. C25/30 class, properly distributed, leveled and vibrated. The work starting point is similar to the one of the method described above. The mix of Sicon S1 aggregates must be done with water in w/c ratio of 0.32 – 0.36. Then the preparation is distributed using a template and leveled with either traditional or vibrating batten. Then, at the appropriate time, the process of mechanical trowelling should be started. After the surface processing work, it is recommended to use MELAXIL care and sealing impregnation.</p> <p>Tab.1. Demand for the material for "wet on wet" implementation /1m²/:</p> <table border="1"> <thead> <tr> <th>SICON S1 coating thickness</th><th>Demand for SICON S1</th></tr> </thead> <tbody> <tr> <td>15 mm</td><td>30.0 kg</td></tr> <tr> <td>10 mm</td><td>20.0 kg</td></tr> <tr> <td>8 mm</td><td>16.0 kg</td></tr> </tbody> </table> <p>Technological process of the flooring execution should be performed by trained and skilled workers. Moreover, please note that the use of water during the surface trowelling reduces the flooring parameters.</p>	SICON S1 coating thickness	Demand for SICON S1	15 mm	30.0 kg	10 mm	20.0 kg	8 mm	16.0 kg
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Comments and recommendations									
Health and safety conditions	<p>During application of SICON S1 use protective clothing, gloves, helmets and goggles and face masks. Detailed information concerning health and material toxicological properties is available in the preparation safety data sheet, available upon request.</p> <p>Information on the physicochemical properties and the detailed rules for use of the product can be obtained from the manufacturer.</p>								
Final remarks	<p>The included technical specifications are based on laboratory tests. Actual measurements results may vary from the enclosed ones, due to circumstances beyond the control of Sicon LTD. All information is provided in good faith, taking into account the current state of the art and the experience gained. The manufacturer advises that the color of the executed flooring may vary. The resulting phenomenon does not indicate any defect or reduced technical parameters of the flooring. Any discoloration may occur due to the working or drying methods, used care agents and inhomogeneous concrete substrate. It is recommended to execute certain surfaces with materials originating from one production run only. The surface of the executed flooring can be covered with microcracks networks, so-called hairline cracks. The above phenomenon is typical for concrete floorings and does not result in negative technical and performance features. The product documentation provides for general information applicable under certain conditions. It is recommended that before using the product on a large scale, the purchaser tests it under specific construction environment conditions. The supplier has no control over the use, methods of application and execution conditions occurring at the construction site, and therefore no responsibility of the supplier for the final effect of the application may arise from these instructions. Recommendations of Sicon partners that differ from the information included in the Safety Data Sheet shall apply only in the case of their written confirmation.</p> <p>Date of issue: 01/2016</p> <p>All previously issued Sicon S1 safety data sheets shall expire on the date of issue of this sheet.</p>								