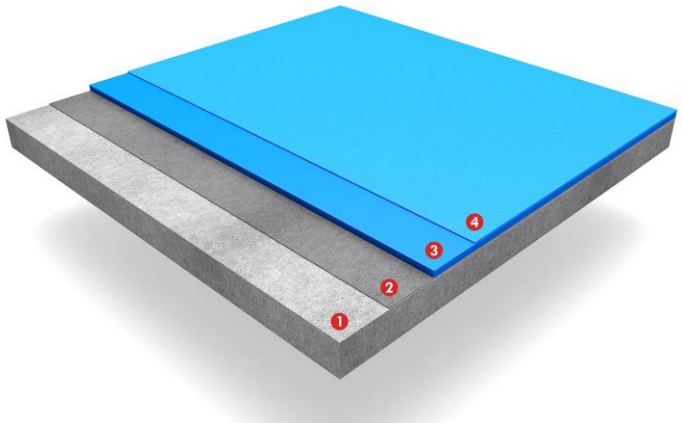
Mass-pigmented, flexible polyurethane system for car parks

Description of the system	SICONOFLOOR CAR PARK is a thick layer, flexible system for car parks based on polyurethane coloured resin. The floor is characterised by increased flexibility and anti-slip or smooth surface finish, very high mechanical resistance and high chemical resistance as well as aesthetic and original appearance. **The ability to bridge cracks is an advantage of the system.** It is a durable finish on mineral surfaces such as concrete and cement screeds, effectively preventing the substrate from dusting and protecting it from liquid spills or mechanical damage.
Scope of application	SICONOFLOOR CAR PARK is used for the production of durable surface layers in: • Multi-storey car parks and garages according to the German standards OS 11a and OS 11b, • In public utility buildings and wherever high surface flexibility and the ability to transfer stresses are required.
System Properties	• High flexibility and ability to bridge and transfer scratches, • Good resistance to abrasion, • Very high scratch and impact resistance, • Very good chemical resistance including to petrol, oil, engine oil and brake fluid, • Adjustable layer thickness, elasticity and anti-slip properties, • Reduction of noise related to vehicle traffic, • Total thickness of the system 3.0-5.0 mm.
Approvals / Standards	• Hygiene approval No. HK/B/0757/02/2015, • Meets standard 13813 • Meets standard 1504-2



System design

1. Concrete base.
2. Priming layer, Siconofloor GF-E/GW-E or any other primer from the Siconofloor line, depending on the requirements of the substrate, e.g. G13-E, GLV-E.
   Sprinkled with quartz aggregate with granulation of 0.8-1.2 mm
3. Siconofloor structural (wear) layer, PU-SB sprinkled with 0.8-1.2 mm quartz aggregates
4. Siconofloor PU-SB sealing layer (additionally, possible to apply varnish: Siconofloor PU-Matin, PU-Satin or Siconofloor PU Matin Colourless)

Technical characteristics of SICONOFLOOR CAR PARK	
Adhesion	> 3.0 N/mm^2
ShA hardness (after 7 days)	80^o
ShA hardness (after 7 days)	50^o
Pull off adhesion according to EN 1542	≥ 1.5 MPa
Abrasion resistance compliant with EN 13892-4	AR 0.5
Curing time (at 20°C):	
Pedestrian traffic	24 h
Full load	7 days

Application	
Preparation of the substrate	The concrete substrate should be strong, dry (with a moisture content of up to 4%, in the case of a humidity of 5-15%, it is recommended to use Siconofloor GW-E priming resin), clean, slightly rough, with open pores, and made in accordance with construction standards. All impurities such as: cement milk, dust, oil, grease marks, fragments that are loose, unbound or poorly attached to the substrate, and old coatings should be removed. The average tensile strength of the concrete, measured by the "pull-off" method, should not be less than 1.5 MPa. The mature concrete must be ground. The required time for maturing of concrete, cement, and repair materials must be observed.
Material preparation	Particular materials included in the SICONOFLOOR CAR PARK systems should be prepared for application in accordance with the data contained in their Technical Data Sheets.

SICONOFLOOR CAR PARK application conditions	
The substrate temperature must be min. 3°C from the dew-point temperature.	
Minimum ambient temperature	+10^{0}C
Minimum substrate temperature	+10^{0}C
Maximum substrate and ambient temperature	+25^{0}C
Maximum relative humidity	75%

Application data/ Consumption

Anti-slip system (thickness approx. 2.5-3mm) indoor, only roofed, car parks. Coatings not exposed to atmospheric agents. Compliant with OS 11 b

Order of application	Number of layers	Layer type	Material name	Consumption kg/m^2

1	1	Primer	5. Siconofloor GF – E; Siconofloor GW-E or any other primer from the Siconofloor line, depending on the requirements of the substrate, e.g. G13-E, GLV-E.	0.3 - 0.5
2	1	Quartz aggregate	Kiln dried quartz sand of 0.8-1.2 mm fraction	1.0- 1.5
3	1	Wear layer	Siconofloor PU-SB sprinkled to full refusal with aggregate of granulation 0.8-1.2 mm	Resin: 1.2 to 1.3, quartz aggregate: 3.5- 4.0
4	1	Sealing layer	Siconofloor PU- SB	1.2- 1.3

Application data/ Consumption

Anti-slip system (thickness approx. 4.5-5.0 mm) outdoor car parks. Ceiling surfaces exposed to atmospheric agents. Compatible with OS 11 a

Order of application	Number of layers	Layer type	Material name	Consumption kg/m²
1	1	Primer	Siconofloor GF – E; optionally Siconofloor GW-E or any other primer from the Siconofloor line, depending on the requirements of the substrate, e.g. G13-E, GLV-E.	0.3- 0.5
2	1	Quartz aggregate	Kiln dried quartz sand of 0.8-1.2 mm fraction	1.0- 1.5
3	1	Interlayer	Siconofloor Elastan	2.0- 2.2
4	1	Wear layer	Siconofloor PU-SB sprinkled to full refusal with aggregate of granulation 0.8-1.2 mm	Resin: 1.5 to 1.55, quartz aggregate: 4.0- 5.0
5	1	Sealing layer resistant to UV radiation	Siconofloor PU- SB UV	1.2- 1.3

Application data/ Consumption

Anti-slip (thickness approx. 4.5-5.0 mm) indoor or outdoor exit ramps

Order of application	Number of layers	Layer type	Material name	Consumption kg/m²
1	1	Primer	Siconofloor GF – E; optionally Siconofloor GW-E or any other primer from the Siconofloor line, depending on the requirements of the substrate, e.g. G13-E, GLV-E.	0.3- 0.5
2	1	Quartz aggregate	Kiln dried quartz sand of 0.8-1.2 mm fraction	1.0- 1.5
3	2	Wear layer	Siconofloor PU-SB* sprinkled to full refusal with aggregate of granulation 0.8-1.2 mm	Resin: 1.2 to 1.3, quartz aggregate: 3.5- 4.0
		Wear layer	Siconofloor PU-SB* sprinkled to full refusal with aggregate of granulation 0.8-1.2 mm	Resin: 1.2 to 1.3, quartz aggregate: 3.5- 4.0
4	1	Sealing layer resistant to UV radiation	Siconofloor PU-SB UV or Siconofloor PU SB (in the case of indoor ramps)	1.2- 1.3

*In the case of application on sloping and steep surfaces, it is recommended to add a thickener of max 0.2% by weight.

Application method – indoor system	The concrete substrate should be primed in accordance with the instructions contained in the Technical Data Sheet of Siconofloor GF-E/GW-E priming material or another primer from the Siconofloor line, depending on the requirements of the substrate, e.g. G13-E or GLV-E. Immediately after laying, the primer should be loosely sprinkled with kiln dried quartz sand with a fraction of 0.8-1.2 mm. Remove excess sand after the priming layer has hardened. The Siconofloor PU-SB material must be prepared according to the instructions in the Technical Data Sheet of the product. After mixing the components A and B, the material should be poured in portions on a primed concrete substrate and spread evenly with a metal trowel. Then, the still uncured layer of material should be sprinkled to “full refusal” with kiln dried quartz sand (preferably sand of the same colour as the resin) with granulation of 0.8-1.2 mm. Allow the layer to cure for at least 24 hours (at +20°C). After this time, the excess sand should be carefully removed with a brush and/or industrial vacuum cleaner, and then sanded depending on the expected anti-slip effect and vacuumed. Sealing layer - prepared in accordance with the Technical Data Sheet of the Siconofloor PU-SB material. The material should be poured in portions onto a hardened and prepared resin layer with quartz sprinkles. After the final layer has been applied, the drying temperature must be maintained above +15°C for at least 24 hours.
Application method – outdoor system	The concrete substrate should be primed in accordance with the instructions contained in the Technical Data Sheet of Siconofloor GF-E/GW-E priming material or another primer from the Siconofloor line, depending on the requirements of the substrate, e.g. G13-E or GLV-E. Immediately after laying, the primer should be loosely sprinkled with kiln dried quartz sand with a fraction of 0.8-1.2 mm. Remove excess sand after the priming layer has hardened. The Siconofloor Elastan material must be prepared according to the instructions in the product Technical Data Sheet. After components A and B are mixed, the material should be poured in portions onto a primed concrete substrate, spread evenly and deaerated. Next, pour the thoroughly mixed Siconofloor PU-SB material onto the hardened surface of the substrate and spread it with a serrated trowel. Deaerate the material and sprinkle it with an excess of 0.8-1.2 mm quartz sand. Allow the layer to cure for at least 24 hours (at +20°C). After this time, the excess sand should be carefully removed with a brush and/or industrial vacuum cleaner, and the operation with the Siconofloor resin and aggregate sprinkling should be performed again. Allow the layer to cure for at least 24 hours (at +20°C). After this time, the excess sand should be carefully removed again with a brush and/or an industrial vacuum

	cleaner, then the whole should be sanded according to the desired anti-slip effect and vacuumed. Sealing layer - prepared in accordance with the Technical Data Sheet of the Siconofloor PU-SB material. The material should be poured in portions onto a hardened and prepared resin layer with quartz sprinkles. After the final layer has been applied, the drying temperature must be maintained above +15°C for at least 24 hours. After the final UV resistant layer has been applied, the drying temperature must be maintained above +15 °C for at least 24 hours.
Method of application and consumption - anti-slip system, approx. 5.0 mm thick (for use on exit ramps)	The concrete substrate should be primed in accordance with the instructions contained in the Technical Data Sheet of Siconofloor GF-E/GW-E priming material or another primer from the Siconofloor line, depending on the requirements of the substrate, e.g. G13-E or GLV-E. Directly after laying, the primer should be sprinkled with kiln dried quartz sand with a fraction of 0.8-1.2 mm, in the amount of approx. 2.0 kg/m^2. Remove excess sand after the priming layer has hardened. The Siconofloor PU-SB material must be prepared according to the instructions in the Technical Data Sheet of the product. After mixing components A and B, the material should be poured in portions on a primed concrete substrate and spread evenly with a metal trowel. Consumption is approx. 1.2-1.3 kg/m^2. Then, the still uncured material layer should be sprinkled to “full refusal” with kiln dried quartz sand (preferably sand of the same colour as the resin) with granulation of 0.8-1.2 mm (consumption approx. 3.5 kg/m^2). Allow the layer to cure for at least 24 hours (at +20°C). After this time, the excess sand should be carefully removed with a brush and/or industrial vacuum cleaner, and then the last operation should be performed again, i.e. Siconofloor PU-SB material in the amount of approx. 1.2-1.3 kg/m^2 should be spread with a metal trowel and then the still uncured material layer, sprinkled to “full refusal” with kiln dried quartz sand (preferably sand of the same colour as the resin), with granulation of 0.8-1.2 mm (consumption approx. 3.5 kg/m^2). Allow the layer to cure for at least 24 hours (at +20°C). After this time, the excess sand should be carefully removed with a brush and/or industrial vacuum cleaner, and then sanded depending on the expected anti-slip effect and vacuumed. Sealing layer - prepared in accordance with the Technical Data Sheet of the Siconofloor PU-SB material. The material should be poured in portions onto a hardened and prepared resin layer with quartz sprinkles. The theoretical resin consumption is approximately 1.25 kg/m^2. The number of layers of the sealing coat can be adjusted to the target floor roughness. Optional layer increasing the mechanical parameters of the floor - prepared in accordance with the Technical Data Sheet of the Siconofloor PU-MATIN, Siconofloor PU-SATIN or Siconofloor PU Matin Colourless materials. After the final layer has been applied, the drying temperature must be maintained above +15°C for at least 18 hours.
Comments and recommendations	
Health and safety conditions	The materials included in the system should be used by trained teams of contractors. Use eye protection, respiratory protection and skin protection during work. When working in confined or enclosed spaces, and during drying, adequate ventilation must be provided. Detailed information on hazards is contained in the Material Safety Data Sheets of the individual products, available on request. ***After complete hardening, the coating is neutral to health and the environment.***
Storage conditions for system components	Unhardened products and their components should not enter the sewage system, soil or groundwater. It is essential to harden the residual materials. Hardened materials must be disposed of according to local regulations.
Technical Support	It is recommended to consult the producer's technical advisor before using the system to ensure that the material and/or system are used correctly.
Final remarks	These specifications are based on trials and laboratory tests. The practical results of measurements may differ from those provided, due to circumstances beyond the control of Sicon Sp. z o.o. All information is given in good faith and takes into account current knowledge and experience. The producer indicates that the colour of the finished floor may vary. This phenomenon does not indicate a defect in the floor or reduced technical specifications. Possible discolouration may occur due to the way the work and drying are performed. It is recommended that particular areas be covered from batches of material from one production run. The product documentation is general information, appropriate under certain conditions. It is recommended that the purchaser carry out an application test under specific construction environmental conditions prior to large-scale application of the product. The supplier has no influence on the types of application, application methods or execution conditions on the site, therefore these instructions may not be held responsible for the end result of the application Recommendations of Sicon’s associates that deviate from the information in the technical sheet are mandatory only if they are confirmed in writing. Release Date: 03/2020 All previously issued sheets of the Siconofloor Car Park system shall expire on the date of issue of this sheet.