

SILIKAL® R 68 resin

Reactive, impact-resistant resin with good flexibility for self-levelling coatings and membrans



SILIKAL® R 68 resin is a solvent-free, 2-component methacrylic resin of high impact resistance and good flexibility whose highly-molecular structure makes it outstandingly suitable for self-levelling coatings subject to extreme stresses, predominantly outdoors or for cold stores. Coatings made from SILIKAL® R 68 resin are durably elastic and able to crack bridging.

SILIKAL® R 68 resin is characterized by outstanding impact resistance. Its high elasticity ensures lasting crack bridging, so that substrate movements can be better absorbed. The good flexibility improves its behaviour outdoors in the event of changes in climate or load stresses on bridge roadways or in cold stores. Because of the high viscosity, the coarse particles of the filler remains longer in the self-levelling recipe suspension, so that no separation between fine and coarse particles occurs within the flooring (particle homogeneity). This has a further beneficial effect on crack bridging.

When combined with fine filler, SILIKAL® R 68 resin can also be used as a 1 – 1.5 mm membrane underneath normal flooring systems of SILIKAL® R 61, SILIKAL® R 62 or SILIKAL® R 68 resin in order to improve impact resistance and crack bridging (tight to liquids).

Application

SILIKAL® R 68 resin is used as a binder in manufacturing various coating types and recipes. Indoors it can be coated on the following substrates: concrete, screed, ceramic tiles, asphalt and steel.

Outdoors SILIKAL® R 68 resin, like all other SILIKAL® resins, must not be laid on asphalt surfaces because otherwise cracks may be expected to form, particularly on large surfaces. The various substrates must be primed in accordance with our general recommendations (see literature on substrates).

Membrane coat

SILIKAL® R 68 resin must always be applied to a minimum thickness of 1 mm. Mixtures in a ratio of 2 : 1 to 3 : 1 with SILIKAL® Filler QM have proven to be most suitable. Membrane coats must not be sanded over their full area before being covered with SILIKAL® R 61, SILIKAL® R 62 or SILIKAL® R 68 resin self-levelling coatings. Membrane coats are advisable e. g. on blasted sheet steel, critical substrates or if there are particular mechanical stresses.

Main coat

For the main coat, a differentiation must be made between two filler recipes. The finer is used in the manufacture of thinner toppings of 2 – 4 mm, the coarser for thicker coats of 4 – 7 mm. The recommended sand sprinkling of SILIKAL® Filler QS 0.7 – 1.2 mm is absolutely essential, as this ensures the surface straining point stress. Dried basalt chippings or coarse quartz sand is also suitable for sprinkling over areas subject to traffic.

1. Scratch slurry

(Use in systems B, C, D)

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 30 litre bucket	
1	SILIKAL® R 68 resin	35 %		13.5 kg	13.5 litres
2	SILIKAL® SL filler	65 %	1 sack	25.0 kg	approx. 18 litres
	Total:	100 %	Average consumption: 1.6 kg/m² per mm thickness	38.5 kg	approx. 24 litres
3	SILIKAL® Hardening Powder	2 – 6 % related to item 1	See “Hardener dosages” table for quantities	270 – 810 g	

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Silikal product information

Issue 2.02.A

March 2012

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2. Self-levelling coating 2 – 4 mm

(Use in system D or as scratch slurry)

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 30 litre bucket	
1	SILIKAL® R 68 resin	35 %		14 kg	14 litres
2	SILIKAL® Filler SL	65 %	1 sack	25 kg	approx. 22 litres
	Total:	100 %	Average consumption: 1.6 kg/m² per mm thickness	39 kg	approx. 24 litres
3	SILIKAL® Hardening Powder	2 – 6 % related to item 1	See “Hardener dosages” table for quantities	280 – 840 g	

3. Self-levelling coating 4 – 7 mm

(Use in system D)

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 30 litre bucket	
1	SILIKAL® R 68 resin	30 %		16 kg	16 litres
2	SILIKAL® Filler QM	20 %		10 kg	approx. 11 litres
3	SILIKAL® Filler SL	50 %	1 sack	25 kg	approx. 18 litres
	Total:	100 %	Average consumption: 1.7 kg/m² per mm thickness	51 kg	approx. 30 litres
4	SILIKAL® Hardening Powder	2 – 6 % related to item 1	See “Hardener dosages” table for quantities	320 – 960 g	

Special advice:

Because of the elasticity, no hard materials may be used as the overcoat. If a hard top coat is nevertheless required for reasons of resistance to chemicals, e. g. SILIKAL® R 72 resin, the surface must be pre-sealed with a semi-elastic intermediate sealant (e. g. SILIKAL® R 62 resin).

Extremely high spot stresses may result in slight indentations in the surface, but these are largely reversible.

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Characteristics of R 68 as delivered

Property	Measuring method	Approx. value
Viscosity at +20 °C	DIN 53 015	260 – 320 mPa · s
Flow time at +20 °C, 4 mm cup	DIN 53 211	50 – 60 sec.
Density D ₄ ²⁰	DIN 51 757	0.973 g/cm ³
Flash point	DIN 51 755	+19 °C
Pot life at +20 °C (100 g, 2 % pbw. hardening powder)	approx. 15 min.	
Application temperature	+5 °C to +35 °C	

Characteristics of the self-levelling coating 4 – 7 mm

Property	Measuring method	Approx. value
Compressive strength	DIN 1164	25 N/mm ²
Tensile strength in bending	DIN 1164	15 N/mm ²
Specific weight		1.7 g/cm ³

Hardener dosages

Temperature	Hardening powder % pbw. *	Pot life approx. min.	Hardening time approx. min.
+5 °C	6.0	20	60
+10 °C	4.0	15	40
+15 °C	3.0	15	40
+20 °C	3.0	15	40
+25 °C	2.0	12	30
+30 °C	2.0	10	25

* The quantity of hardening powder is always related to the quantity of resin.

👁 For further information, please refer to the separate product information sheet "SILIKAL® Hardening Powder".



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