

SILIKAL® R 61 HW resin is a solvent-free, medium-viscosity 2-component methacrylic resin of an elasticized character. It is employed as a binder in the manufacture of self-levelling coatings sprinkled with quartz sand or for smoothable floorings with coloured quartz, predominantly in the food industry (wet areas, cold storage cells) or even outdoors in certain conditions, in coat thickness of 2 – 3 mm or 4 – 6 mm.

Because of their higher elasticization, such coatings can be used wherever greater extensibility is important (hot water shock, gutter junctions, cold storage cells etc.).

Hot water stress is limited to +60 °C. This limit may be briefly exceeded to +80 °C for cleaning purposes, but only if the floor is not completely warmed through.

Application

Depending on the mechanical stresses, a distinction is made between a thin and a thick coating. For fork-lift truck traffic the minimum thickness of 4 mm must be observed. For application on extensive outdoor areas or in deep-freeze areas on concrete, more elasticized resin types are preferred (e. g. SILIKAL® RV 368 resin).

1. Slip-resistant self-levelling thin coating 3 mm:

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 30 litre bucket	
				kg	litres
1	SILIKAL® R 61 HW resin	33 %		12.5 kg	12.5 litres
2	SILIKAL® Filler SL	65 %	1 sack	25 kg	approx. 18 litres
3	SILIKAL® Pigment Powder	2 %		1 kg	
	Total:	100 %	Average consumption: 5 kg/m²	38.5 kg	approx. 23 litres
4	SILIKAL® Hardening Powder	2 – 6 % related to item 1	See “Hardener dosages” for quantities	250 – 750 g	

Following pre-treatment of the concrete and priming, the above mixture is stirred until there are no lumps, mixed with hardener and applied directly on the surface to the recommended thickness by means of a stripper doctor blade, smoothing trowel or toothed comb.

Before the surface gels/hardens, SILIKAL® Filler QS, FM or FS 0.7 – 1.2 mm is sprinkled in until saturation. A finer sand, e. g. of particle size 0.3 – 0.8 mm, can lead to minor hardening problems in unfavourable conditions. After hardening, the excess sand is completely removed by brushing and/or vacuuming and the surface is worked by means of a top coat. Because of its elasticity adjustment, SILIKAL® R 81 resin is preferred for use outdoors or on surfaces exposed to water stress.

Characteristics of the 3-mm topping

Property	Measuring method	Approx. value
Compressive strength	DIN 1164	21 N/mm ²
Tensile strength in bending	DIN 1164	17.5 N/mm ²
Modulus of elasticity	DIN 53 457	770 N/mm ²

2. Slip-resistant self-levelling thick coating 5 mm

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 30 litre bucket	
1	SILIKAL® R 61 HW resin	28 %		10 kg	10 litres
2	SILIKAL® Filler SL	70 %	1 sack	25 kg	approx. 18 litres
3	SILIKAL® Pigment Powder	2 %		1 kg	
	Total:	100 %	Average consumption: 9 kg/m²	36 kg	approx. 20 litres
4	SILIKAL® Hardening Powder	2 – 6 % related to item 1	See “Hardener dosages” table for quantities	200 – 600 g	

This mixture contains a higher proportion of SILIKAL® Filler SL.

It is applied in the same way as the thin coating.

Characteristics of the 5-mm topping

Property	Measuring method	Approx. value
Compressive strength	DIN 1164	24.6 N/mm ²
Tensile strength in bending	DIN 1164	18.8 N/mm ²
Modulus of elasticity	DIN 53 457	1590 N/mm ²

3. Decorative coloured quartz coating 4 – 6 mm (screed)

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 30 litre bucket	
1	SILIKAL® R 61 HW resin	21 – 23 %		e.g. 6.5 kg	6.5 litres
2	SILIKAL® Filler FM	77 – 79 %	1 sack	25 kg	approx. 16 litres
	Total:	100 %	Average consumption: 2 kg/m² per mm thickness	31.5 kg	approx. 18 litres
3	SILIKAL® Hardening Powder	2 – 6 % related to item 1	See “Hardener dosages” table for quantities	130 – 390 g	

Characteristics of the coloured quartz coating (screed)

Property	Measuring method	Approx. value
Compressive strength	DIN 1164	22.5 N/mm ²
Tensile strength in bending	DIN 1164	15.5 N/mm ²

This smoothable coloured quartz coating represents an alternative to the self-levelling formulations. The mixture of resin and filler is applied to the primed and loosely sanded surface and initially spread coarsely to the desired thickness by means of a doctor blade. The mortar must then be compressed and smoothed using the large smoothing trowel so that no pores and trowel marks remain in the floor (danger of hardening problems). Since the smoothable coating does not flow by itself, it is particularly suitable for areas with higher inclinations.

The application of the system requires special skills and practice (the prevention of puddles, good compaction of the mortar) to avoid pores and air bubbles within the mentioned tolerance of fillers and resin with dependence on the thickness.

After hardening, the surface must be applied by top coat again (e. g. with SILIKAL® R 71, R 71 re, R 72 or R 81 resin).

Characteristics of R 61 HW 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	0.98 g/cm ³
Flash point	DIN 51 755	+10 °C
Pot life at +20 °C (100 g, 3 % pbw. hardening powder)		approx. 15 min.
Application temperature		0 °C to +35 °C

Characteristics of R 61 HW in the hardened state

Property	Measuring method	Approx. value
Density	DIN 53 479	1.12 g/cm ³
Ultimate elongation	DIN 53 455	43 %
Shore-D	DIN 53 505	40 – 42 units
Water absorption, 4 days	DIN 53 495	90 mg (50 · 50 · 4 mm)
Water vapour permeability	DIN 53 122	1.05 · 10 ⁻¹¹ g/cm · h · Pa

Hardener dosages

Temperature	Hardening powder % pbw. *	Pot life approx. min.	Hardening time approx. min.
0 °C	6.0	25	70
+10 °C	4.0	20	50
+20 °C	3.0	15	40
+30 °C	2.0	10	30

* 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".

CE	
SILIKAL GmbH · Ostring 23 · 63533 Mainhausen · Germany	
10 ¹⁾	
R 61 HW - 001	
EN 13813 SR-AR1-B1,5-IR4	
Synthetic resins for internal uses (Application in accordance with the newest technical information)	
Reaction to fire:	E _{fl}
Release of corrosive substances (Synthetic Resin Screed):	SR
Water permeability:	NPD ²⁾
Wear resistance (Abrasion Resistance):	AR 1 ³⁾
Bond strength:	B 1,5
Impact resistance:	IR 4
Sound insulation:	NPD ²⁾
Sound absorption:	NPD ²⁾
Thermal resistance:	NPD ²⁾
Chemical resistance:	NPD ²⁾

CE-labelling

¹⁾ Last two digits of the year in which the ce marking was affixed.

²⁾ NPD = No performance determined.

³⁾ Refers to a smooth surface without broadcasting.

👁	Other applicable documents	Data sheet	Page
	SILIKAL® Hardening Powder	SILIKAL® Hardening Powder	94 – 95
	General processing information	AVH	97 – 100
	The substrate	DUG	101 – 103
	Fillers and pigments	FUP	104 – 107
	Chemical resistance	CBK	108 – 109
	Information on safety and protection	SUS	110 – 111
	Storage and transport	LUT	112 – 114
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Silikal product information

Issue MMA 3.00.A

November 2014

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