SILIKAL® R 71 / R 71 re resin

Reactive, hard, low-viscosity top coat resin for dry areas

Expect more from your floor.

SILIKAL® R 71 resin (SILIKAL® R 71 re resin) is a reactive, solvent-free, low-viscosity and almost non-yellowing 2-component methacrylic resin offering high hardness and good resistance to chemicals.

The extremely low viscosity enhances the penetrative capacity of the resin in sand-sprinkled surfaces. Its high hardness guarantees outstanding resistance to chemicals.

Application

SILIKAL® R 71 resin (SILIKAL® R 71 re resin) is employed primarily as a colourless, scratch-resistant top coat for decorative coloured flakes and coloured sand surfaces.

Compared with SILIKAL® R 71 resin, SILIKAL® R 71 re resin is characterized by a reduced blue fraction. SILIKAL® R 81 resin must be used for surfaces which are used wet in the food industry.

Advice on application

Once moderately sized batches (5 – 10 kg) have been mixed with the necessary quantity of hardener as laid down in the **"Hardener dosages"** table, the resin is immediately poured onto the surface and applied crosswise, preferably by means of a paint roller. Although it is possible to spread it roughly with a rubber blade first, the dwell time of the still liquid resin until final levelling on a coloured flake surface must not be too long, as this may partly dissolve and leave colour tracks behind.

To ensure the best possible properties, the minimum and maximum coating thickness must be observed. Material consumption for smooth coatings is approx. 400 g/m² per application and on areas sprinkled with SILIKAL® Filler QS 0.7 – 1.2 mm approx. 500 g/m². If the coating thickness is exceeded (more than 800 g/m²), the resin will tend to flake and yellow. If the thickness is too low, excessively high monomer loss may occur, leading to insufficient hardness or lower resistance.

Under braking strains the thermoplastic character of the surface may lead to tyre marks which in many cases can be removed again using suitable cleaning agents. It makes sense for the user to protect the surface against damage through careful use and care. In many cases it would be advisable to ensure that fork-lift trucks are driven appropriately, black tyres are exchanged for white ones and/or a surface care agent (e. g. SILIKAL® Protect) is used.

Special advice

Hard top coats must never be applied directly on very elastic coatings, e. g. SILIKAL® RV 368 or R 61 HW resin. In these cases a moderately elasticized intermediate coat made from SILIKAL® R 61, R 62 or R 81 resin must be applied, as otherwise movement caused by temperature will lead to hairline cracks forming in the top coat.

Pigmenting

Pigmenting is possible, but SILIKAL® R 72 has the better properties in this regard. If pigmentation is nevertheless essential, 10 % pbw. of SILIKAL® Pigment Powder is usually added. To avoid lumps in the pigment, it must first be dispersed with the same quantity of resin by means of a dissolver to eliminate lumps. After the dispersion process the residual quantity of resin is added to the new pigment paste until the total content of the mix is again 10 %. You must make particularly sure that pigments which are not made by Silikal are properly tested for their compatibility and storage stability.

1. Colourless top coat

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 10 litre bucket	
1	SILIKAL® R 71 resin / SILIKAL® R 71 re resin	100 %		10 kg	10 litres
	Total:	**100 %**	**Average consumption: 400 – 500 g/m²**	**10 kg**	**10 litres**
2	SILIKAL® Hardening Powder	1 – 5 % related to item 1	See "Hardener dosages" table for quantities	100 – 500 g	

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2. Pigmented top coat

(Use in systems A, E)

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 10 litre bucket	
1	SILIKAL® R 71 resin / SILIKAL® R 71 re resin	90 %		9 kg	9 litres
2	SILIKAL® Pigment Powder	10 %		1 kg	
	Total:	**100 %**	**Average consumption: 400 – 500 g/m²**	**10 kg**	**approx. 9.5 litres**
3	SILIKAL® Hardening Powder	1 – 5 % related to item 1	See "Hardener dosages" table for quantities	90 – 450 g	

Characteristics of R 71 as delivered

Property	Measuring method	Approx. value
Viscosity at +20 °C	DIN 53 015	approx. 60 – 80 mPa · s
Flow time at +20 °C, 4 mm cup	DIN 53 211	18 – 21 sec.
Density D_4^{20}	DIN 51 757	0.99 g/cm³
Flash point	DIN 51 755	+10 °C
Pot life at +20 °C (100 g, 2 % pbw. hardening powder)	approx. 15 min.	
Application temperature	-5 °C to +35 °C	

Characteristics of R 71 in the hardened state

Property	Measuring method	Approx. value
Density	DIN 53 479	1.18 g/cm³
Ultimate elongation	DIN 53 455	4 %
Shore-D	DIN 53 505	78 – 80 units
Water absorption, 4 days	DIN 53 495	125 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.
-5 °C	5.0	25	60
0 °C	4.0	17	40
+10 °C	3.0	15	30
+20 °C	2.0	15	30
+30 °C	1.0	8	15

* 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"**.

Other applicable documents	Data sheet	Page
SILIKAL® Hardening Powder	SILIKAL® Hardening Powder	86 – 87
General processing information	AVH	89 – 92
Chemical resistance	CBK	100 – 101
Information on safety and protection	SUS	102 – 103
Storage and transport	LUT	104 – 106
General cleaning advice	ARH	107 – 108

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