SILIKAL® R 81 resin

Reactive, low-viscosity elasticized top coat resin for wet areas

Expect more from your floor.

SILIKAL® R 81 resin is a reactive, solvent-free, low-viscosity, virtually non-yellowing 2-component methacrylic resin offering good resistance to water interaction. It serves primarily as a slightly elasticized and colourless top coat on sprinkled coatings in wet areas.

The low viscosity enhances the penetrative capacity of the resin in sand-coated surfaces.

Hot water stress is limited to +60 °C. The temperature stress may be increased to +80 °C for short periods, e. g. to allow cleaning, provided that the coating is not thoroughly warmed through to the substrate.

Application

SILIKAL® R 81 is used primarily as a colourless top coat for decorative SILIKAL® Coloured Flakes and SILIKAL® Coloured Quartz surfaces.

It is possible to apply two coats to the thickness envisaged.

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. It is essential that no puddles form!

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 coat 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 water 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. Often it would be advisable to ensure that fork-lift trucks are driven appropriately, black tyres are exchanged for white ones or a surface care agent (e. g. SILIKAL® Protect) is used.

Pigmenting

If pigmentation is nevertheless essential, 10 % 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

(Use in systems B, D)

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 10 litre bucket	
1	SILIKAL® R 81 resin	100 %		10 kg	10 litres
	Total:	**100 %**	**Average consumption: 400 – 500 g/m²**	**10 kg**	**10 litres**
2	SILIKAL® Hardening Powder	1 – 3 % related to item 1	See "Hardener dosages" table for quantities	100 – 300 g	

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2. Pigmented top coat

(Use in system B)

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 10 litre bucket	
1	SILIKAL® R 81 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 – 3 % related to item 1	See "Hardener dosages" table for quantities	90 – 270 g	

Characteristics of R 81 as delivered

Property	Measuring method	Approx. value
Viscosity at +20 °C	DIN 53 015	approx. 120 mPa · s
Flow time at +20 °C, 4 mm cup	DIN 53 211	28 – 32 sec.
Density D_4^{20}	DIN 51 757	0.98 g/cm³
Flash point	DIN 51 755	+10 °C
Pot life at +20 °C (100 g, 1 % pbw. hardening powder)	approx. 15 min.	
Application temperature	0 °C to +30 °C	

Characteristics of R 81 in the hardened state

Property	Measuring method	Approx. value
Density	DIN 53 479	1.14 g/cm³
Ultimate elongation	DIN 53 455	2,7 %
Shore-D	DIN 53 505	75 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.
0 °C	3.0	20	40
+10 °C	2.0	20	40
+20 °C	1.0	15	30
+30 °C	1.0	8	20

* 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
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