SILIKAL® R 51 (-25 °C) resin

Reactive, low-viscosity primer for cement substrates at low temperatures

Expect more from your floor.

SILIKAL® R 51 (-25 °C) resin is a low-viscosity, transparent, solvent-free 2-component methacrylic resin with good penetrating power which cures rapidly even at low temperatures.

Application

SILIKAL® R 51 (-25 °C) resin is used as an adherent primer on concrete and cement substrates at processing temperatures from 0 to -25 °C.

Advice on application

Once the substrate has been inspected, it normally needs to be pre-treated.

Before being applied, SILIKAL® R 51 (-25 °C) resin must be chilled to 0 °C or lower.

The necessary quantity of hardener is 7 percent by weight of the quantity of resin.

You must not dose less than the given quantity of hardening powder, as this will jeopardize the curing process. You must also avoid overdosing the hardening powder, as this can likewise lead to serious curing problems.

If the pot life, within which good penetration of the substrate is guaranteed, is to be observed, appropriate batch quantities should be estimated. The material must be applied as soon as the hardening powder has finished dissolving in the resin components.

SILIKAL® R 51 (-25 °C) resin must be applied evenly without leaving puddles by means of a paint roller or brush. If rubber blades are used, the surface must always be rolled with a paint roller afterwards. Matt and heavily absorbent patches must be reprimed wet in wet before hardening until the pores are closed up. Resin consumption is about 0.4 kg/m².

SILIKAL® Filler QS 0.7 – 1.2 mm can be sprinkled loosely into the fresh primer coat.

In the case of subsequent coating with SILIKAL® R 68, RV 310 or RV 368 resin, SILIKAL® Filler QS 0.7 – 1.2 mm (0.2 – 0.5 kg/m²) must always be sprinkled in.

SILIKAL® R 51 (-25 °C) resin must be completely cured before any further coat is applied.

Special advice

If working in refrigerated rooms in which foodstuffs are stored, we recommend that you work in tents with an extraction unit so that the foodstuffs being stored cannot be contaminated with methacrylic emissions. The extracted air must be led outside. Warm air coming in from outside will lead to condensation of air humidity, which will in turn cause poor adhesion to the substrate. For that reason the incoming air should also be chilled.

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 10 litre bucket	
1	SILIKAL® R 51 (-25 °C) resin	100 %		10 kg	10 litres
	Total:	**100 %**	**Average consumption: 400 g/m²**	**10 kg**	**10 litres**
2	SILIKAL® Hardening Powder	7 % related to item 1		700 g	

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Data sheet SILIKAL® R 51 (-25 °C)

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Characteristics of R 51 (-25 °C) as delivered

Property	Measuring method	Approx. value
Viscosity at +20 °C	DIN 53 015	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	0.98 g/cm³
Flash point	DIN 51 755	+10 °C
Pot life at 0 °C (100 g, 7 % pbw. hardening powder)	approx. 12 min.	
Application temperature	0 °C to -25 °C	

Characteristics of R 51 (-25 °C) in the hardened state

Property	Measuring method	Approx. value
Density	DIN 53 479	1.16 g/cm³
Ultimate elongation	DIN 53 455	7 %
Shore-D	DIN 53 505	70 – 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.
0 °C	7.0	12	60
-25 °C	7.0	20	120

* 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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