

SILIKAL® R 54 resin is a medium-viscosity, transparent, solvent-free 2-component methacrylic resin with good penetration properties and optimised bonding on damp concrete.

Application

SILIKAL® R 54 resin is used as an adherent primer on concrete and cement substrates.

Advice on application

Once the substrate has been inspected, it normally needs to be pre-treated. As a minimum requirement a pull-off strength of 25 N/mm² is needed. The substrate has to be sound, free of contamination and cement laitance.

The necessary quantity of hardener must be adjusted in light of the temperature of the building. For the exact quantities, please refer to the table “**Hardener dosages**”.

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 54 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. If SILIKAL® R 54 resin should be used on a damp concrete 0.3 wht-% SILIKAL® Additive M (calculated on the amount of resin) has to be added. SILIKAL® Additive M has to be added right before application. On top of the substrate a liquid film of water is not allowed.

On damp concrete two priming layers are recommended. Do not sprinkle this first layer. The second layer could be sprinkled loosely into the fresh coat.

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.

SILIKAL® R 54 resin must be completely cured before any further coat is applied.

Guideline recipe and batch quantities

Item	Component	Guideline recipe (% by weight)	Comments	Batch for 10 litre bucket	
				10 kg	10 litres
1	SILIKAL® R 54 resin	100 %		10 kg	10 litres
	Total:	100 %	Average consumption: 400 g/m²	10 kg	10 litres
2	SILIKAL® Hardening Powder	1 – 3.5 % related to item 1	See “Hardener dosages” table for quantities	100 – 350 g	

Characteristics of R 54 as delivered

Property	Measuring method	Approx. value
Flow time at +20 °C, 4 mm cup	DIN 53 211	34 – 40 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, 1.5 % pbw. hardening powder)		approx. 10 – 12 min.
Application temperature		+5 °C to +30 °C

Characteristics of R 54 in the hardened state

Property	Measuring method	Approx. value
Density	DIN 53 479	1.16 g/cm ³
Ultimate elongation	DIN 53 455	7 %
Shore-D	ISO 868	70 – 80 units
Water absorption, 4 days	DIN 53 495	150 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	2.5	14 – 16	50 – 60
+10 °C	2.0	12 – 14	45 – 55
+15 °C	2.0	10 – 12	40 – 50
+20 °C	1.5	10 – 12	35 – 45
+25 °C	1.5	8 – 10	30 – 40
+30 °C	1.0	8 – 10	30 – 40

* 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".

Hardener dosage in presence of 0.3 % pbw. of Silikal®

Additive M on top of a damp concrete

Temperature	Hardening powder % pbw. *	Pot life approx. min.	Hardening time approx. min.
+5 °C	3.5	14 – 16	50 – 60
+10 °C	3.0	12 – 14	45 – 55
+15 °C	3.0	10 – 12	40 – 50
+20 °C	2.5	10 – 12	35 – 45
+25 °C	2.5	8 – 10	30 – 40
+30 °C	2.0	8 – 10	30 – 40

* 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".



SILIKAL GmbH · Ostring 23 · 63533 Mainhausen · Germany	
10 ¹⁾	
R 54 - 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 ₁
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
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Silikal product information

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