

SILIKAL® R 7 mortar

Hard reactive resin mortar for floorings



SILIKAL® R 7 mortar is a solvent-free 2-component methacrylic resin mortar with a very high compressive strength. It is used as a fillable, highly stress-resistant concrete coating in thickness of 4 – 6 mm.

Because of the enormously great strength, the concrete surface can be made resistant to heavy wear. The mortar surface has a similar appearance to that of a modified concrete grade. The hardening time is about 1 hour at +20 °C, and hardening takes place in temperatures ranging from -10 °C to +35 °C. The very low viscosity enables rapid mixability and application to be achieved.

Application

Preferred fields of use are floors for indoor areas in heavy industry which are subject to strong mechanical stresses.

SILIKAL® R 7 mortar should not be applied over large areas of deep-freeze rooms and outdoors. We recommend that you use impact-resistant types such as SILIKAL® RV 368 instead.

Advice on application

The substrate generally needs to be pre-treated.

👁 Please refer to the technical information entitled “The Substrate”.

SILIKAL® R 7 mortar consists of SILIKAL® R 7/R 17 Powder to which fillers of particle diameter up to 1.8 mm has been added and the watery methacrylic-based SILIKAL® R 7 Hardener Liquid.

The recommended primer for mineral substrates is SILIKAL® R 51 resin with loosely quartz sand of particle size 0.7 – 1.2 mm sprinkled in.

The mixing ratio is 15 kg (1 sack) of SILIKAL® R 7/R 17 Powder and 1.7 – 2.0 litres of SILIKAL® R 7 Hardener Liquid. You must not use more or less than these quantities, as they already cover the range from stiff to low viscosity.

Under no circumstances should other additives be added to the mixture. The exact coating thickness of 4 – 6 mm must be observed. Thinner coats will lead to a reduction in strength and hardening problems, while exceeding the maximum coating thickness can lead to cracks forming or shrinkage stress.

Mixing the reactive resin mortar

To produce the mortar mix, 1.7 – 2.0 litres of SILIKAL® R 7 Hardener Liquid (depending on the desired mortar consistency) is added to the SILIKAL® R 7/R 17 Powder. Because of its thin, viscous consistency, the mix can be easily prepared in a short time by means of a high-speed agitator, while smaller quantities can be prepared manually.

The finished mortar is spread evenly by means of a doctor blade and smoothed or applied using an aluminium lath and screed board. The boards should normally be made from polypropylene strips (PP), as these can be easily detached from the mortar after hardening and then cleaned.

The pot life at normal temperatures is about 12 – 14 minutes, the hardening time about 60 – 90 minutes. The values indicated will vary according to the ambient temperature.

Special formulations:

If sealed batches and minimum quantities are purchased, special colours are also available on request.

Silikal GmbH & Co. KG

✉ Ostring 23
☎ +49 (0) 61 82 / 92 35-0
🌐 www.silikal.de

D-63533 Mainhausen
☎ +49 (0) 61 82 / 92 35-40
@ mail@silikal.de

Silikal product information

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Characteristics of R 7 Hardener Liquid as delivered

Property	Measuring method	Approx. value
Viscosity at +20 °C	DIN 53 015	0,6 – 0,7 mPa · s
Flow time at +20 °C, 3 mm cup	ISO 2431	20 – 21 sec.
Density D ₄ ²⁰	DIN 51 757	0.94 g/cm ³
Flash point	DIN 51 755	+10 °C
Pot life at +20 °C with R 7/R 17 Powder		approx. 15 min.
Application temperature with R 7/R 17 Powder		-10 °C to +35 °C

Characteristics of R 7 mortar in the hardened state

Property	Measuring method	Approx. value
Density	DIN 53 479	2.16 g/cm ³
Compressive strength	DIN 1164	105.0 N/mm ²
Tensile strength in bending	DIN 1164	37.5 N/mm ²
Modulus of elasticity	DIN 53 457	20300 N/mm ²
Water absorption, 4 days	DIN 53 495	90 mg (50 · 50 · 4 mm)
Water vapour permeability	DIN 53 122	1.6 · 10 ⁻⁸ g/cm · h · Pa

Calculation aid for application and costing

SILIKAL® R 7 mortar	Quantity in kg	Quantity in litres Loose	Quantity in litres Solid volume	Thickness (mm)
R 7/R 17 Powder	15.00	11.50		
R 7 Hardener Liquid	1.85	2.00		
	<u>16.85</u>		8.50	5



Other applicable documents	Data sheet	Page
General processing information	AVH	89 – 92
The substrate	DUG	93 – 95
Information on safety and protection	SUS	102 – 103
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