

Expect more from your floor.

Reactive resins and polymer concrete for industrial floors and civil engineering

Technical documentation Silikal epoxy and polyurethane resin systems







Silikal system information Silikal product information Silikal general information Issue RE/RU 4.01.A March 2010

Technical documentation RE





Silikal flooring systems

We're here for you ...





Silikal's production and administrative headquarters in Mainhausen, Frankfurt am Main

... as we have been for more than 55 years

We've been doing the basics for you for decades: with a background in screed construction, we decided more than 55 years ago to concentrate on the development and manufacture of floor coatings based on artificial resin. Our history since then has seen countless research and development projects. Silikal is now active across the world, with branches in Germany and Europe as well as Asia and Australia.

... whatever your problems

Whether it's a new construction, repairs or renovation: our coating resins are tried and tested heavy-duty floor coatings for industry, commerce and crafts, on transport surfaces, in public institutions and in medical facilities. Silikal's repair mortar systems are also used as reliable problem-solvers: to ensure the rapid improvement of holes, cracks or ruptures in concrete, prefabricated concrete or screeding, underline bridge bearings, establish machine foundations or fix heavy-duty sections and components in position.

... with the right systems

We have the right answer for your flooring problem. The exact degree of slip resistance required, processing even at very low temperatures, a large selection of colour design options and much, much more – all thanks to Silikal's product range.

... and with professional staff

Need advice? Delighted – just ask us! Every project has its own demands and requirements. Our staff come from the industry. They are familiar with the problems on site and boast worldwide experience as applications engineers. That's why you should talk to us. We'll be happy to help when it comes to realising even the most difficult flooring projects or the possible uses of rapid-curing mortar systems. And if you'd really like to get into the details, Silikal's training centre in Mainhausen can provide you with a comprehensive range of practically-oriented information.

One thing you can be sure of: we're always here for you!



Certified quality management system Cert. Reg. No. 73 100 663

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Certified environmental management system Cert. Reg. No. 73 104 856

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Technical documentation RE Foreword



There is no such thing as a universal floor that meets all operational and sometimes opposing requirements at the same time: hard or elastic, insulating or conductive, resistant to abrasion, impacts or chemicals, smooth or slip-resistant, strong enough for forklift trucks or decontaminable - the demands are just too varied.

Silikal designs tailor-made floor systems for a wide variety of industries: from the food, pharmaceutical or chemical industry through mechanical engineering and warehouse management to areas used for agricultural purposes or domestic purposes, to give only a few examples.

The **Silikal RE series** and the **Silikal RU series** are new ranges of floor coating products. They are the logical enhancement of the high-grade quality products that have proven their use in countless application scenarios. Silikal RE/RU systems complement the current range of methacrylic-based products by opening up additional applications.

Silikal **guarantees** all the figures listed in the technical data sheets, but tolerances may of course occur for processing and application reasons and such deviations are permitted. The processing of Silikal materials always properly be left to trained and experienced experts. Silikal attaches considerable importance to the training and technical support of its specialist layers and on providing comprehensive advice on use, including on site.

The standard recipes recommended in the systems offer the greatest possible guarantee for optimal work, but this does not release the layers in each particular case from their duty to examine and assess the individual circumstances carefully. In case of doubt, tests should be carried out before execution or Silikal consulted for advice.

Because of their many years of experience, Silikal's specialist layers boasts sufficient knowledge and expertise, including beyond the application limits described here. You must always remember that there are risks in such cases.

Silikal does not offer any guarantees whatsoever for applications that are not expressly agreed in writing in the individual case. This relates e.g. to circumstances extending above and beyond the usual normal and general use or information in brochures and other literature which is of a purely descriptive nature. It also goes without saying that the establishment of a proper surface meeting statutory requirements (e.g. with regard to slip resistance) does not mean that accidents can necessarily be prevented in this room or that any corresponding guarantee is offered in that regard. In principle, liquids, cleaners and the like must always be handled with care on the finished floor topping. Consult Silikal for advice if in doubt. The same applies for the use of materials which were not approved by Silikal.

It must be remembered that a flooring system (in addition to its other properties) serves first and foremost to protect the substrate and as a wearing layer. Wear, particularly in the case of slip-resistant surfaces, is subjective and depends on the intensity of use, so that it is often not possible to give an absolute prediction of service life. Assuming the proper treatment and due care, floor toppings made from reactive resins in many cases represent the best and most costeffective solution for years.

Silikal points out that the "General technical documentation" as currently amended must always be followed in addition to this "Technical documentation RE/RU".

Updates

This "Technical documentation RE/RU" and the "General technical documentation" can also be found on Silikal's website at "www.silikal.de" and are updated constantly.

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Silikal epoxy and polyurethane resin systems Product overview



Product	Description	Areas of application	Container and shades
Primers			
SILIKAL [®] RE 55 EP primer and mortar resin	Colourless, low-viscosity 2-C EP system	Priming, levelling, reprofiling, EP mortar	1 kg 30 kg 5 kg 200 kg 10 kg colourless
SILIKAL [®] RE 56 EP special primer moisture-tolerant	Colourless, low-viscosity 2-C EP system	Priming, levelling, reprofiling, EP mortar	10 kg 30 kg
0.1. 1./ AL @ D = -=			colourless
SILIKAL [®] RE 57 EP primer and mortar resin fast-hardening	Colourless, low-viscosity 2-C EP system	Priming, levelling, reprofiling, EP mortar	10 kg 30 kg
			colouness
SILIKAL [®] RE 58 EP special primer for oil-contaminated surfaces	Colourless 2-C EP system (prefilled)	Renovation of oil-contaminated substances	10 kg 30 kg
			colourless
Colourless sealers			
SILIKAL [®] RE 25 W EP sealer	Water-emulsified, colourless, permeable to moisture 2-C EP impregnation/sealer	Colourless sealer for cerment-bonded substrates and magnesite	12 kg 30 kg
		screeds	colourless
SILIKAL [®] RE 26 W EP matt sealer	Water-emulsified, colourless, matt, permeable to moisture 2-C EP sealer	Matt sealer of glossy decorative and industrial floor coverings	10 kg 25 kg
			colourless
SILIKAL® RE 77 EP top coat	Colourless, bright, low-yellowing, medium-viscosity 2-C-EP system	Top coat for decorative floor coverings	10 kg
			colourless
Coloured sealers			
SILIKAL® RE 27 W EP sealer – matt –	Water-emulsified, coloured, matt, permeable to moisture 2-C EP sealer	Coloured sealing of cement-bonded substrates and magnesite screeds	10 kg 25 kg
		a sug	Standard shades
SILIKAL® RE 28 W EP sealer – satin gloss –	Water-emulsified, coloured, satin, permeable to moisture 2-C EP sealer	Coloured sealing of cement-bonded substrates and magnesite screeds	10 kg 25 kg
			Standard shades
SILIKAL® RE 516 EP sealer	Coloured 2-C EP sealer	Smooth sealing and top sealing of sanded surfaces	10 kg 30 kg
		54114065	Standard shades

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Silikal epoxy and polyurethane resin systems Product overview



Product	Description	Areas of application	Container and shades
Thick coatings			
SILIKAL [®] RE 29 W EP self-levelling mortar	Water-emulsified, coloured, permeable to moisture 2-C EP coating system	Permeable to moisture 30 kg thick-coat system 2 – 5 mm	30 kg
			Standard shades
SILIKAL [®] RE 514 EP self-levelling mortar conductive	Coloured, conductive 2-C EP coating system approx. 1.5 mm	Conductive coating	30 kg
			Standard shades
SILIKAL [®] RE 515 EP self-levelling mortar	Coloured 2-C EP coating system	Thick coatings approx. 2-3 mm	10 kg 30 kg
			Standard shades
SILIKAL [®] RU 300 PUR coating	Coloured 2-C PUR system	Thin and thick coatings	12 kg 30 kg
			Standard shades
SILIKAL [®] RU 303 PUR self-levelling mortar conductive	LIKAL® RU 303 Conductive Conductive coating JR self-levelling mortar approx. 1.5 mm	30 kg	
conductive			Standard shades
Special products			
SILIKAL [®] RE 584 EP solvent	Solvent mixture	Cleaning the tools	10 kg
SILIKAL® RE 585 Oil cleaner	Special tensides	Cleaning of oil-contaminated surfaces	10 kg
SILIKAL [®] RE 513 EP conductive layer	Conductive 2-C EP system	As conductive layer under conductive coatings RE 514, RU 303	
			Black

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Silikal epoxy and polyurethane resin systems Colour design





Would you like to put some colour into your appearance? It's quick and easy! A large selection of **standard colours as well as coloured chips and coloured quartzes from Silikal** for sprinkling into decorative floor coverings will transform heavy-duty EP and PU-based industrial floors into extremely attractive bases.

The extensive palette of **standard colours for sealers and coatings** in a wide variety of shades gives a huge choice of one-colour floor designs.

One of the most successful highlights of Silikal's product range is the option of strewing in small flakes of colour, called chips. They are available in a wide variety of colours and mixtures: colour-co-ordinated or in lively, refreshing combinations, whatever you want! Coloured quartzes are the latest thing in floor designs. **SILIKAL® filler FS** is available in seven colours. There's an almost infinite number of possible combinations. The quartz sands of the **SILIKAL® filler CQ** come ready-mixed.

Silikal's "Colour concepts" brochure offers an overview of the (almost) unlimited colour combination possibilities. It also contains lots of bright ideas for your floor design, from cheeky to sober, lively to co-ordinated. In company colours or to fit the corporate image. As you want. Choose from the examples shown or put together a colour combination to meet your own requirements. You can obtain the latest issue direct from Silikal – just give us a call on tel. +49 (0) 61 82 / 92 35-0.

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Silikal epoxy and polyurethane resin systems Standard colours





The shades shown here are guidelines only. For printing reasons they may not be exactly the same as the original colours. We reserve the right to make changes.

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SILIKAL[®] RE 55 EP primer and mortar resin



SILIKAL® RE 55 is a high-grade universal, colourless, low-viscosity, epoxy resin-based 2-component system.

Properties

- · Can be universally used as a primer, scratch coat or surfacing mortar
- Outstanding adhesion
- High compressive strength
- Low viscosity

Areas of application

- Priming, levelling
- Reprofiling, manufacture of synthetic resin mortars
- For medium to high mechanical stresses
- For cement-bonded substrates
- For interiors

Technical data

Mixing ratio	Component A (resin)= 2 parts by weightComponent B (hardener)= 1 part by weight
Specific weight (mixture)	1.10 kg/l
Solid content	> 99 weight % (works standard)
Minimum curing temperature	+10 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	30 min
Curing time at +20 °C	- Treatable/resistant to work/foot traffic - after 8 - 12 hours
	- Resistant to light mechanical stresses – after 2 – 3 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Consumption	Primer: approx. 0.25 – 0.35 kg/m ²
	Scratch coat: approx. 0.6 kg/m ²

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must not exceed 4.5 CM %. Moisture penetration through the rear must be permanently excluded.

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Components A and B are supplied in the correct ratio for mixing. The entirety of the hardener (comp. B) is added to the basic component (comp. A). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly.

- In priming the material is applied using a trowel, stopping knife or roller to give an even, sealed surface. If the substrate is very porous a second primer coat or scratch coat is recommended.
- The priming filler is applied as a scratch coat using a trowel, metal or rubber squeegee to close up the pores. It is absolutely essential where self-levelling coatings will be applied to substrates that are rough and porous. A second scratch coat may be required on very porous substrates.

Scratch primer compound:

1 part by weight of SILIKAL[®] RE 55 : 1 part by weight of quartz sand mixture (50 % quartz powder, 50 % quartz sand 0.1 – 0.4 mm).

- The EP mortar is used for repairing ruptures in cement-bonded screeds or to produce synthetic resin screeds. Work the mortar wet in wet onto the primed substrate immediately after mixing, level with the lath and compact and smooth out with the smoothing trowel.

Synthetic resin mortar:

1 part by weight of SILIKAL[®] RE 55 : 8.0 - 12.0 parts by weight of quartz sand mixture (10 % quartz powder, 35 % quartz sand 0.09 - 0.2 mm, 55 % quartz sand 0.7 - 1.2 mm)

After curing the porous EP screed should be sealed up again with a scratch primer coat.

Do not apply at temperatures below +10 °C and with relative humidity above 75 %. To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prepare the substrate.
- 2. Apply a primer or scratch coat of SILIKAL® RE 55
- 3. Apply a top coat.

Delivery form and shades

- 10 kg combination container
- 30 kg combination container
- 3 x 200 kg drum combination (3 drum units: 2 x component A + 1 x component B)
- Transparent

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< 25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with a suitable solvent immediately after use.

Labelling

Giscode: RE 1 A component: Irritant, hazardous to the environment. B component: Corrosive.

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Lb) in the ready-to-use state is 500 g/l (limit 2010).

The maximum VOC content of SILIKAL® RE 55 in the ready-to-use state is < 500 g/I VOC.

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SILIKAL® RE 56 EP special primer, moisture-tolerant



SILIKAL® RE 56 is a colourless, low-viscosity, epoxy resin-based 2-component system offering high tolerance to moisture.

Properties

- Universal use
- · High capillary activity, resistant to osmosis
- Hardens on moist substrates
- Strengthening
- Outstanding adhesion
- Low viscosity

Areas of application

- For cement-bonded substrates
- Priming on matt moist substrates
- Priming on fresh, cement-bonded substrates
- Scratch coat for closing up pores
- Strengthening
- For interiors

Technical data

Mixing ratio	Component A (resin) = 100 parts by weight Component B (hardener) = 60 parts by weight
Specific weight (mixture)	1.08 kg/l
Solid content	> 99 weight % (works standard)
Minimum curing temperature	+10 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	40 min
Curing time at +20 °C	 Treatable/resistant to work/foot traffic – after 12 – 15 hours
	- Resistant to light mechanical stresses – after 2 – 3 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Consumption	Primer: approx. 0.3 – 0.4 kg/m ²
	Scratch coat: approx. 0.6 kg/m ²
	Mortar: approx. 0.3 kg/m ² /mm

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must not exceed 4.5 CM %. Moisture penetration through the rear must be permanently excluded. Under certain conditions SILIKAL[®] RE 56 can be used on more moist substrates and on insufficiently waterproof substrates. Its suitability under the given conditions must be verified.

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Components A and B are supplied in the correct ratio for mixing. The entirety of the hardener (comp. B) is added to the basic component (comp. A). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly.

In priming the material is applied using a trowel or roller to give an even, sealed surface. If the substrate is very
porous a second primer coat or scratch coat is recommended. Quartz sand of grain size 0.3 – 0.8 mm is then
scattered over the whole surface of the fresh primer coat.

For greater resistance to osmosis a second primer coat or a primer coat and scratch coat must be applied. Do not scatter over the first primer coat!

- The priming filler is applied as a scratch coat using a trowel, metal or rubber squeegee to close up the pores. It is absolutely essential where self-levelling coatings will be applied to substrates that are rough and porous. A second scratch coat may be required on very porous substrates.

Scratch primer compound:

1 part by weight of SILIKAL® RE 56 : 0.5 – 0.8 parts by weight of quartz sand mixture (50 % quartz powder, 50 % quartz sand 0.1 – 0.4 mm).

Do not apply at temperatures below +10 °C and with relative humidity above 75 %. To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prepare the substrate.
- 2. Apply a primer or scratch coat of SILIKAL® RE 56
- 3. Apply a top coat.

Delivery form and shades

- 10 kg combination container
- 30 kg combination container

Transparent

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< 25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with a suitable solvent immediately after use.

Labelling

Giscode: RE 1 A component: Irritant, hazardous to the environment. B component: Corrosive.

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Lb) in the ready-to-use state is 500 g/l (limit 2010).

The maximum VOC content of SILIKAL® RE 56 in the ready-to-use state is < 500 g/I VOC.

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SILIKAL[®] RE 57 EP primer and mortar resin, rapid-curing



SILIKAL® RE 57 is a fast-hardening, high-grade, colourless, low-viscosity, epoxy resin-based 2-component system.

Properties

- Can be universally used as a primer, scratch coat or surfacing mortar
- Fast-hardening
- Can also be used at lower temperatures
- Outstanding adhesion
- Time-saving
- Quickly treatable

Areas of application

- Priming, levelling
- Reprofiling, manufacture of synthetic resin mortars
- For medium to high mechanical stresses
- For cement-bonded substrates
- Hardens at temperatures as low as 0 °C
- Can be treated after 2 4 hours
- For interiors

Technical data

Mixing ratio	Component A (resin) = 100 parts by weight
	Component B (hardener) = 40 parts by weight
Specific weight (mixture)	1.09 kg/l
Solid content	> 99 weight % (works standard)
Minimum hardening temperature	0 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +10 °C	30 min
+20 °C	15 min
+30 °C	10 min
Curing at +10 °C	4 - 3 hours
+20 °C	2 - 3 hours
+30 °C	2 hours
Treatable/resistant to foot traffic	- after curing, no later than after 18 hours at +20 °C
Resistant to mechanical stresses	- after 10 – 20 hours at +20 °C
Resistant to chemical stresses	- after 3 days at +20 °C
Consumption	Primer: approx. 0.3 – 0.4 kg/m ²
	Scratch coat: approx. 0.6 kg/m ²
	Mortar: approx. 0.15 – 0.3 kg/m ²

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must not exceed 4.5 CM %. Moisture penetration through the rear must be permanently excluded.

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Components A and B are supplied in the correct ratio for mixing. The entirety of the hardener (comp. B) is added to the basic component (comp. A). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly.

- In priming the material is applied using a trowel or roller to give an even, sealed surface. If the substrate is very
 porous a second primer coat or scratch coat is recommended. To ensure optimum adhesion with subsequent layers,
 fire-dried quartz sand of grain size 0.3 0.8 mm is strewn lightly over the surface. If further treatment is not to be
 applied until after 18 hours, strewing is absolutely essential.
- The priming filler is applied as a scratch coat using a trowel, metal or rubber squeegee to close up the pores. It is absolutely essential where self-levelling coatings will be applied to substrates that are rough and porous. A second stopper coat may be required on very porous substrates.

Primer as a filling compound:

1 part by weight of SILIKAL® RE 57 : 1 part by weight of quartz sand mixture (50 % quartz powder, 50 % quartz sand 0.1 – 0.4 mm)

The EP mortar is used for repairing ruptures in cement-bonded screeds or to produce synthetic resin screeds.
 Work the mortar wet in wet onto the primed substrate immediately after mixing, level with the lath and compact and smooth out with the smoothing trowel.

- Synthetic resin mortar:

1 part by weight of SILIKAL[®] RE 57 : 8.0 – 12.0 parts by weight of quartz sand mixture (10 % quartz powder, 35 % quartz sand 0.06 – 0.3 mm, 55 % quartz sand 0.7 – 1.2 mm)

After curing the EP screed should be sealed up with a pore stopper.

Note:

It is difficult to process fast-hardening mortars; so these are recommended for small surface repairs only. Do not apply at temperatures below 0 °C and with relative humidity above 75 %. To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association.

Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prepare the substrate.
- 2. Apply a primer or scratch coat of SILIKAL® RE 57.
- 3. Apply a top coat.

Delivery form and shades

- 10 kg combination container
- 30 kg combination container

Transparent

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< 25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with a suitable solvent immediately after use.

Labelling

Giscode: RE 1 A component: Irritant, hazardous to the environment. B component: Corrosive, hazardous to the environment.

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Lb) in the ready-to-use state is 500 g/l (limit 2010).

The maximum VOC content of SILIKAL® RE 57 in the ready-to-use state is < 500 g/l.

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SILIKAL® RE 58 is a colourless, 2-component epoxy resin-based system that is used as a primer for oil-contaminated surfaces after these have been treated with SILIKAL® RE 585.

Properties

- Excellent adhesion on oil-contaminated surfaces that have been suitably treated
- Oil-inhibiting effect

Areas of application

- Primer for moisture-resistant, mineral, oil-contaminated substrates under EP coating systems
- For interiors

Technical data

Mixing ratio	Component A (resin) = 8 parts by weight
	Component B (hardener) = 1 part by weight
Specific weight (mixture)	2.01 kg/l
Solid content	> 98 weight % (works standard)
Minimum hardening temperature	+10 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	60 min
Curing time at +20 °C	 Treatable/resistant to work/foot traffic – after 18 – 24 hours
	- Resistant to light mechanical stresses – after 2 – 3 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Consumption	approx. 0.7 – 1.2 kg/m ²

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must not exceed 4.5 CM %. Moisture penetration through the rear must be permanently excluded.

The floor must be cleaned with SILIKAL® RE 585 before SILIKAL® RE 58 is applied.

Absorb liquid oil residues with the wet vacuum cleaner, remove coarse dirt by brushing, shot blasting or milling as required. Then spray the surface with SILIKAL[®] RE 585, consumption approx. 250 g/m². Thin with water if the substrates are very absorbent. Brush SILIKAL[®] RE 585 into the surface until the material begins to foam. Leave to stand for about 10 – 30 minutes, then brush the surface intensively, creating foam, before removing this with a wet vacuum cleaner.

In case of severe contamination, repeat the process. The SILIKAL[®] RE 585 can then be thinned up to 75 % with water. Finally, rinse the surface off with clear water and remove the water with a wet vacuum cleaner. Effective de-oiling can be achieved by using a brushing machine and a powerful wet vacuum cleaner.

The cleaning liquids produced must be disposed of properly.

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Components A and B of SILIKAL[®] RE 58 are supplied in the correct ratio for mixing. The entirety of the hardener (comp. B) is added to the basic component (comp. A). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly.

Do not apply at temperatures below +10 °C and with relative humidity above 75 %.

To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prepare the substrate.
- 2. After cleaning, prime the still matt moist surface with SILIKAL® RE 58.
- 3. Sand down lightly with quartz sand of grain size 0.7 1.2 mm, consumption approx. 1 kg/m².
- 4. Apply a top coat as required.

Delivery form

- 15 kg combination container
- 30 kg combination container

Shelf life

1 year if stored in the unopened original container in a cool (< +25 $^{\circ}$ C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with a suitable solvent immediately after use.

Labelling

Giscode: RE 1

A component: Irritant, hazardous to the environment.

B component: Corrosive, hazardous to the environment.

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Lb) in the ready-to-use state is 500 g/l (limit 2010).

The maximum VOC content of SILIKAL® RE 58 in the ready-to-use state is < 500 g/l.

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SILIKAL[®] RE 25 W

EP sealer



SILIKAL® RE 25 W is a water-emulsified, colourless, permeable to moisture, 2-component epoxy resin impregnation/sealer.

Properties

- Concentrate
- Water/moisture permeable
- Outstanding adhesion
- Low odour

Areas of application

- · For light to moderate mechanical and chemical stresses
- For interiors for impregnating or sealing cement-bonded substrates, especially concrete, cement screeds, hard-aggregate floors and magnesite screeds. Absorbency is reduced, wet cleaning is possible.

Technical data

Mixing ratio	Component A (resin)= 1 part by weightComponent B (hardener)= 2 parts by weight
Specific weight (mixture)	approx. 1.06 kg/l
Minimum hardening temperature	+15 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	120 min
Curing time at +20 °C	 Treatable/resistant to work/foot traffic – after 18 – 24 hours
	- Resistant to light mechanical stresses – after 2 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Consumption	approx. 0.05 – 0.15 kg/m ² per operation

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting, milling or grinding, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must be less than 4 CM %, and the relative humidity before and during processing must not exceed 75 %.

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Components A and B are supplied in the correct ratio for mixing. The entirety of the resin (comp. A) is added to the basic component (comp. B). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly.

SILIKAL® RE 25 W is supplied in concentrated form and must be thinned with 50 – 100 % water before use. The two components must be mixed very carefully. The water required to achieve the processing consistency can only be added afterwards.

The pot life is max. 2 hours. Note that the end of the pot life cannot be detected!

SILIKAL® RE 25 W is applied using a non-fluffy sealant roller. To avoid multiple application and overlapping, working areas must be clearly defined before coating.

On large surfaces, it is recommended that two or more people lay the material in one direction while another person spreads the freshly applied material crosswise. The spreading roller should be completely saturated/wetted with material and should only be used to spread and NOT to apply the sealer. Work the individual sections "wet in wet", ensuring optimum distribution and avoiding the formation of puddles. Water and chemical stresses must be avoided for the first 7 days. To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prepare the substrate.
- 2. Apply a first coat of SILIKAL® RE 25 W, thinned 1 : 0.5 to 1 : 1 with water. (A second coat may be applied where necessary.)

Chemical resistance

When completely cured, surfaces protected with SILIKAL® RE 25 W are resistant to oil, grease, fuel, salt and water.

Delivery form and shades

- 12 kg combination container
- 30 kg combination container

Colourless

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< 25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with water immediately after use.

Labelling

Giscode: RE 0 A component: Irritant, hazardous to the environment B component: Irritant

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Wb) in the ready-to-use state is 140 g/l (limit 2010). The maximum VOC content of SILIKAL® RE 25 W in the ready-to-use state is < 140 g/l.

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SILIKAL[®] RE 26 W

EP matt sealer



SILIKAL® RE 26 W is a water-emulsified, colourless, permeable to moisture, 2-component epoxy resin sealer with a low solvent content.

Properties

- Reduces the shine of EP/PU reactive resin floors
- Uniform, satin gloss appearance
- Low odour and environmentally-friendly
- Outstanding adhesion
- Low consumption

Areas of application

In interiors for matt final sealing of reactive resin floors, matt sealing of decorative floors, water vapour diffusion-capable matt sealing, sealing on old floors.

Technical data

Mixing ratio	Component A (resin)= 2 parts by weightComponent B (hardener)= 3 parts by weight
Specific weight (mixture)	approx. 1.07 kg/l
Minimum hardening temperature	+15 °C (room and floor temperature) Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	60 min
Curing time at +20 °C	 Treatable/resistant to work/foot traffic – after 18 – 24 hours Resistant to light mechanical stresses – after 2 days Fully resistant to chemical and mechanical
	stresses – after 7 days
Consumption	approx. 120 – 180 g/m ² per operation
Glossiness	Satin gloss

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

The substrates (glossy EP coating) must be dry and free of substances that have a parting effect (dirt, oil, grease etc.). The optimum time for sealing is reached when the previous epoxy resin coat has formed a sufficiently resistant film but has not yet fully cured. This is normally no less than 12 and no more than 36 hours later.

If fully cured coatings are sealed, the surface must be cleaned and sanded. The adhesion may need to be checked afterwards.

The air and floor temperature must be no less than +15 °C and the relative humidity before and during processing must not exceed 75 %. Note the dew point!

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EP matt sealer



Advice on application

Components A and B are supplied in the correct ratio for mixing. The entirety of the resin (comp. A) is added to the basic component (comp. B). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly.

The pot life is max. 1 hour. Note that the end of the pot life cannot be detected!

SILIKAL® RE 26 W is applied using a non-fluffy short-pile sealant roller. To avoid multiple application and overlapping, working areas must be clearly defined before coating.

On large surfaces, it is recommended that two or more people lay the material in one direction while another person spreads the freshly applied material crosswise. The spreading roller should be completely saturated/wetted with material and should only be used to spread and NOT to apply the sealer. Always work "wet in wet", ensuring optimum distribution and avoiding the formation of puddles. Clouds can form if the coat is too thick.

Water and chemical stresses must be avoided for the first 7 days.

To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Chemical resistance

When completely cured, surfaces protected with SILIKAL® RE 26 W are resistant to oil, grease, fuel, salt, water and various solvents.

Delivery form and shades

- 10 kg combination container
- 25 kg combination container

Colourless

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< +25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with water immediately after use.

Labelling

Giscode: RE 0 A component: Irritant B component: Irritant

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Wb) in the ready-to-use state is 140 g/l (limit 2010).

The maximum VOC content of SILIKAL® RE 26 W in the ready-to-use state is < 140 g/l.

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SILIKAL[®] RE 77 EP top coat



SILIKAL® RE 77 is a high-grade colourless, medium-viscosity, epoxy resin-based 2-component system.

Properties

- Less yellowing
- Resistant to chemicals
- · Good inter-layer adhesion
- High quality
- Glossy

Areas of application

- Colourless, glossy top coat over sprinkled coloured sand or coloured chip surfaces
- Binder for 3 4 mm heavy-duty decorative mortar floors of coloured sand
- For interiors

Technical data

Mixing ratio	Component A (resin)= 100 parts by weightComponent B (hardener)= 50 parts by weight
Specific weight (mixture)	1.10 kg/l
Minimum hardening temperature	+10 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	30 min
Curing time at +20 °C	 Treatable/resistant to work/foot traffic – after approx. 24 hours
	- Resistant to light mechanical stresses – after 2 – 3 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Consumption	approx. 0.4 – 0.8 kg/m ²

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must not exceed 4.5 CM %. Moisture penetration through the rear must be permanently excluded.

If the product is used as a colourless top coat over decorative synthetic resin floors, you must make sure that the surfaces are no more than 48 hours old. You must also make sure that they are not dirty.

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Components A and B are supplied in the correct ratio for mixing. The entirety of the hardener (comp. B) is added to the basic component (comp. A). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly.

- For a top coat, the material is distributed in an even, integral layer using the rubber trowel and then worked in crosswise using the roller until the desired layer thickness is achieved. A second coat may be applied if a smooth surface is required. However, this second coat must be applied within 12 hours of earliest resistance to foot traffic.

Attention: The total thickness of the layers of the colourless top coat must not exceed 1 mm (1 kg/m²) even after several applications. A slight white colouration may be visible on darker surfaces.

 Smoothed coloured sand decorative topping: After both components have been mixed together, SILIKAL[®] CQ filler is added in the ratio 1 : 4 to 1 : 5 and mixed in thoroughly. The mortar obtained is initially applied to a thickness of 3 – 5 mm using a stripper trowel and subsequently compressed and smoothed with a smoothing trowel. The primed surface must be liberally sprinkled with quartz sand as otherwise the very dry mortar mixture will slide away during smoothing.

More SILIKAL® RE 77 resin can then be rolled on crosswise to provide a final colourless sealer.

Do not apply at temperatures below +10 °C and with relative humidity above 75 %. To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prepare the substrate.
- 2. Apply a primer or scratch coat of SILIKAL® RE 55.
- 3. Apply a decorative topping with SILIKAL® RE 77 resin.
- 4. Apply a colourless top coat with SILIKAL[®] RE 77.

Delivery form and shades

- 10 kg combination container
- 30 kg combination container

Transparent

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< +25 $^{\circ}$ C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with a suitable solvent immediately after use.

Labelling

Giscode: RE 1

A component: Irritant, hazardous to the environment

B component: Corrosive

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Lb) in the ready-to-use state is 500 g/l (limit 2010).

The maximum VOC content of SILIKAL® RE 77 in the ready-to-use state is < 500 g/l.

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SILIKAL® RE 27 W

EP sealer, matt



SILIKAL® RE 27 W is a water-emulsified, pigmented, permeable to moisture, 2-component epoxy resin sealer.

Properties

- Open to water vapour diffusion
- Outstanding adhesion
- Low odour
- Good coverage
- Matt satin

Areas of application

- For light to moderate mechanical and chemical stresses
- In interiors on concrete, cement screed, magnesite and mastic asphalt screed, for reworking old EP toppings.

Technical data

Mixing ratio	Component A (resin) = 1 part by weight
	Component B (hardener) = 5 parts by weight
Specific weight (mixture)	approx. 1.3 kg/l
Minimum hardening temperature	+15 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	30 min
Curing time at +20 °C	- Treatable/resistant to work/foot traffic -
	after 18 – 24 hours
	- Resistant to light mechanical stresses - after 2 days
	- Fully resistant to chemical and mechanical
	stresses – after 7 days
Consumption	approx. 200 – 300 g/m ² per operation

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². In the case of mastic asphalt, 75 % of the aggregates must lie free on the surface.

The moisture content of the surface to be coated must be less than 4 CM %, and the relative humidity before and during processing must not exceed 75%.

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EP sealer, matt



Advice on application

Components A and B are supplied in the correct ratio for mixing. The entirety of the resin (comp. A) is added to the basic component (comp. B). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. 5 to 10 % by weight of water may now be added. The mixed material must be poured into a clean pail and mixed again briefly.

SILIKAL® RE 27 W is applied using a non-fluffy paint roller. To avoid multiple application and overlapping, working areas must be clearly defined before coating.

On larger areas, one person should lay the material in one direction while another spreads the freshly applied material crosswise. The spreading roller should be completely saturated/wetted with material and should only be used to spread and NOT to apply the sealer. Work the individual sections "wet in wet", ensuring optimum distribution and avoiding the formation of puddles.

To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prime with SILIKAL® RE 27 W diluted with up to 5 10 % by weight of water.
- 2. Apply the top coat of SILIKAL® RE 27 W diluted with 5 10 % by weight of water when the first base coat is resistant to foot traffic. To improve the ease of cleaning, we recommend that the surface is then treated with a care agent.

Delivery form and shades

- 10 kg combination container
- 25 kg combination container

Standard shades

Chemical resistance

When completely cured, surfaces protected with SILIKAL® RE 27 W are resistant to diluted acids and lyes, engine and heating oil.

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< +25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with water immediately after use.

Labelling

Giscode: RE 0

A component: Irritant, hazardous to the environment

B component: Irritant

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Wb) in the ready-to-use state is 140 g/l (limit 2010).

The maximum VOC content of SILIKAL® RE 27 W in the ready-to-use state is < 140 g/l.

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SILIKAL® RE 28 W

EP sealer, satin



SILIKAL® RE 28 W is a water-emulsified, pigmented, permeable to moisture, 2-component epoxy resin sealer.

Properties

- Open to water vapour diffusion
- Outstanding adhesion
- Low odour
- Good coverage
- Satin gloss

Areas of application

- For light to moderate mechanical and chemical stresses
- In interiors on concrete, cement screed, magnesite and mastic asphalt screed, for reworking old EP toppings.

Technical data

Mixing ratio	Component A (resin)= 1 part by weightComponent B (hardener)= 4 parts by weight
Specific weight (mixture)	approx. 1.40 kg/l
Minimum hardening temperature	+15 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	70 min
Curing time at +20 °C	 Treatable/resistant to work/foot traffic – after 18 – 24 hours
	- Resistant to light mechanical stresses – after 2 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Consumption	approx. 200 – 300 g/m ² per operation

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². In the case of mastic asphalt, 75 % of the aggregates must lie free on the surface.

The moisture content of the surface to be coated must be less than 4 CM %, and the relative humidity before and during processing must not exceed 75 %.

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EP sealer, satin



Advice on application

Components A and B are supplied in the correct ratio for mixing. The entirety of the resin (comp. A) is added to the basic component (comp. B). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. 5 to 10 % by weight of water may now be added. The mixed material must be poured into a clean pail and mixed again briefly.

SILIKAL® RE 28 W is applied using a non-fluffy paint roller. To avoid multiple application and overlapping, working areas must be clearly defined before coating.

On larger areas, one person should lay the material in one direction while another spreads the freshly applied material crosswise. The spreading roller should be completely saturated/wetted with material and should only be used to spread and NOT to apply the sealer. Work the individual sections "wet in wet", ensuring optimum distribution and avoiding the formation of puddles.

To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prime with SILIKAL® RE 28 W diluted with up to 5 10 % by weight of water Very absorbent substrates require prior impregnation with SILIKAL® RE 25 W diluted 1 : 1 with water.
- Apply a top coat of SILIKAL[®] RE 28 W diluted with up to 5 10 % by weight of water after the surface is resistant to foot traffic.

Chemical resistance

When completely cured, surfaces protected with SILIKAL® RE 28 W are resistant to diluted acids and lyes, engine and heating oil.

Delivery form and shades

- 10 kg combination container
- 25 kg combination container

Standard shades

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< +25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with water immediately after use.

Labelling

Giscode: RE 0 A component: Irritant, hazardous to the environment B component: Irritant

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Wb) in the ready-to-use state is 140 g/l (limit 2010). The maximum VOC content of SILIKAL® RE 28 W in the ready-to-use state is < 140 g/l.

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SILIKAL[®] RE 516 EP sealer



SILIKAL® RE 516 is a high-grade, pigmented 2-component sealer that is used to provide a coloured top coat in the production of non-slip sprinkled toppings.

Properties

- Abrasion-resistant
- Good covering capacity
- Glossy
- Resistant to chemicals
- Specially for slip-resistant toppings
- Easy to process

Areas of application

- For medium to high mechanical stresses
- Non-slip coatings in dry and wet areas
- For cement-bonded substrates
- For interiors

Technical data

Mixing ratio	Component A (resin) = 5 parts by weight Component B (hardener) = 1 part by weight
Specific weight (mixture)	1.6 kg/l
Solid content	> 99 % by weight
Minimum hardening temperature	+10 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	approx. 40 min
Curing time at +20 °C	- Treatable/resistant to work/foot traffic - after 24 hours
	- Resistant to light mechanical stresses – after 2 – 3 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Taber abrasion (CS 10/1000 U/1000 g)	55 mg
Consumption	0.6 – 1.1 kg/m ²

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must not exceed 4.5 CM %.

See also the leaflet "Substrate preparation".

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Components A and B are supplied in the correct ratio for mixing. The entirety of the hardener (comp. B) is added to the basic component (comp. A). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly.

The material is flattened over the grain using the smoothing trowel or a rubber trowel and then rerolled with the roller to ensure even distribution.

Do not apply at temperatures below +10 °C and with relative humidity above 75 %.

To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase.

Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prepare the substrate.
- 2. Apply a mixture of scratch coat SILIKAL® RE 55 and quartz sand. Refer to the technical data sheet for more information.
- 3. Apply a 2 3 mm main coat of SILIKAL® RE 515. Refer to the technical data sheet for more information.
- 4. Sprinkle the whole area with fire-dried quartz sand of grain size 0.3 0.8 mm or 0.7 1.2 mm, depending on the desired slip resistance.
- 5. Brush and vacuum away the excess.
- 6. Apply the top coat of SILIKAL® RE 516.

Consumption:

approx. 0.6 - 1.1 kg/m² depending on the desired slip resistance

Chemical resistance

When completely cured, surfaces protected with SILIKAL® RE 516 are resistant to diluted acids and lyes, engine and heating oil.

Delivery form and shades

- 10 kg combination container
- 30 kg combination container

Standard shades

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< +25 $^{\circ}$ C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with a suitable solvent immediately after use.

Labelling

Giscode: RE 1

A component: Irritant, hazardous to the environment.

B component: Corrosive.

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Lb) in the ready-to-use state is 500 g/l (limit 2010).

The maximum VOC content of SILIKAL® RE 516 in the ready-to-use state is < 500 g/l.

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SILIKAL® RE 29 W EP self-levelling mortar, permeable to moisture



SILIKAL® RE 29 W is a water-emulsified, highly-filled, pigmented, permeable to moisture, 2-component epoxy resin system for layer thickness of 2 – 5 mm.

Properties

- Short curing time
- Abrasion-resistant
- Open to water vapour diffusion
- Low odour
- Rapid resistance to foot traffic

Areas of application

- For light to moderate chemical and light to high mechanical stresses
- In interiors on concrete, cement screed and magnesite screed

Technical data

Mixing ratio	Component A (resin)=9 parts by weightComponent B (hardener)=91 parts by weight
Specific weight (mixture)	approx. 2.00 kg/l
Minimum hardening temperature	+12 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	approx. 30 min / 30 kg container
Curing time at +20 °C	- Treatable/resistant to work/foot traffic - after 24 hours
	- Resistant to light mechanical stresses – after 1 day
	 Fully resistant to chemical and mechanical stresses – after 5 days
Consumption	Primer filling approx. 0.5 – 1.2 kg/m ²
	Top coat approx. 2.0 kg/m ² /mm

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The relative humidity when the material is used must not exceed 75 % if applied at +12 $^{\circ}$ C or 85 % if processed at +23 $^{\circ}$ C.

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Components A and B are supplied in the correct ratio for mixing. The entirety of the resin (comp. A) is added to the basic component (comp. B). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly. SILIKAL® RE 29 W is applied using a notched trowel or scrad spreader to a layer thickness of 2 - 5 mm. De-aerate with a spiked roll.

Because of the shorter pot life at higher temperatures of in the case of larger contiguous surfaces, i.e. where the working width is more than 3 m, the product should be applied "wet in wet" in order to achieve shorter attachment times. We recommend that you either increase the number of personnel involved or carry out the work in segments. The processing viscosity can be adjusted by adding up to 1 l of water to a 30 kg container.

To avoid slight differences in shades, make sure that the SILIKAL® RE 29 W used for the top coat comes from one batch only. To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prime with SILIKAL® RE 29 W. The material is applied as a scratch coat until all the pores have been closed up. On very absorbent substrates we recommend that the surface is moistened thoroughly first, but do not leave any standing film of water.
- 2. Coating: after curing, apply the top coat of SILIKAL® RE 29 W.
- 3. Apply a top sealer, either a coloured sealer (SILIKAL® RE 28 W) or a treatment (SILIKAL® Protect).

Chemical resistance

When completely cured, surfaces protected with SILIKAL® RE 29 W are resistant to de-icing salt solutions, engine and hydraulic oil, ordinary, diesel and jet JP4 fuel. In the case of solvents, premium fuel, brake fluid, diluted acids and lyes, some discolouration, matting and light to strong softening or bubble formation may occur, depending on the reaction time (1 to 3 days).

Delivery form and shades

30 kg combination container

Standard shades

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

6 months if stored in the unopened original container in a cool (< +25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with water immediately after use.

Labelling

Giscode: RE 1 A component: Irritant, hazardous to the environment

B component: Irritant

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Wb) in the ready-to-use state is 140 a/l (limit 2010).

The maximum VOC content of SILIKAL® RE 29 W in the ready-to-use state is < 140 g/l.

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SILIKAL[®] RE 514 EP self-levelling mortar, conductive



SILIKAL® RE 514 is a high-grade, electrically conductive, pigmented 2-component coating system.

Properties

- Conductive
- Abrasion-resistant
- Self-levelling
- Glossy
- Resistant to chemicals
- Easy to process

Areas of application

- For moderate to high mechanical stresses in areas where an antistatic or electrically conductive floor is required
- For cement-bonded substrates
- For interiors

Technical data

Mixing ratio	Component A (resin) = 5 parts by weight
	Component B (hardener) = 1 part by weight
Specific weight (mixture)	1.65 kg/l
Solid content	> 99 weight % (works standard)
Minimum hardening temperature	+10 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	25 min
Curing time at +20 °C	 Treatable/resistant to work/foot traffic – after 14 – 18 hours
	- Resistant to light mechanical stresses – after 2 – 3 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Coating thickness	1.3 – 1.5 mm
Quartz sand addition	None
Taber abrasion (CS 10/1000 U/1000 g)	40 mg
Consumption	1.90 – 2.30 kg/m ²
Electrical resistance to ground (DIN IEC 61340-4-1/-5-1/2)	10 ⁶ Ω (Ohms)

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must not exceed 4.5 CM %. See also the leaflet "Substrate preparation".

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Components A and B are supplied in the correct ratio for mixing. The entirety of the hardener (comp. B) is added to the basic component (comp. A). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly. The material is applied with a toothed stopper (Pajarito 48). Work in with a spike roller to ensure de-aeration. Rolling with the spiked roll should take place with a time lag of 10 - 15 min.

Do not apply at temperatures below +10 °C and with relative humidity above 75 %.

Sprinkling is not recommended on conductive coatings as this reduces conductiveness.

To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- Apply a priming filler coat to ensure an even, pore-free substrate: scratch coat with 1 part by weight of SILIKAL[®] RE 55 with 1 part by weight of quartz sand mixture (50 % guartz powder, 50 % guartz sand 0.1 – 0.4 mm). Refer to the technical data sheet for more information.
- Lay the copper tape: self-adhesive copper tape is put down to the surface 8 to 24 hours after the primer is applied. Make sure that the max. free conductive length of 10 m is not exceeded. The length of the individual copper flags should be at least 50 cm. The free ends of the copper tape must be properly connected to the ground terminal. The number and location of the grounding points must be
 - determined on site. The copper tape must only be connected to the ground by a qualified electrician.
- 3. Apply the conductive coat of SILIKAL® RE 513, consumption approx. 150 g/m².
- 4. Apply the conductive top coat of SILIKAL® RE 514, consumption approx. 1.9 2.3 kg/m².

Delivery form and shades

- 10 kg combination container
- 30 kg combination container

Standard shades

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

6 months if stored in the unopened original container in a cool (< +25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with a suitable solvent immediately after use.

Labelling

Giscode: RE 1

A component: Irritant, hazardous to the environment B component: Corrosive, hazardous to the environment

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Lb) in the ready-to-use state is 500 g/l (limit 2010). The maximum VOC content of SILIKAL[®] RE 514 in the ready-to-use state is < 500 g/l.

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SILIKAL® RE 515 is a high-grade, pigmented, solvent-free 2-component coating system.

Properties

- Abrasion-resistant
- Self-levelling
- Glossy
- Resistant to chemicals
- Can be filled with quartz sand
- Easy to process

Areas of application

- For medium to high mechanical stresses
- For cement-bonded substrates
- Also as non-slip coating in dry and wet areas
- For interiors

Technical data

Mixing ratio	Component A (resin)= 5 parts by weightComponent B (hardener)= 1 part by weight
Specific weight (mixture)	1.48 kg/l
Solid content	> 99 weight % (works standard)
Minimum hardening temperature	+10 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	40 min
Curing time at +20 °C	- Treatable/resistant to work/foot traffic – after 24 hours
	- Resistant to light mechanical stresses – after 2 – 3 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Coating thickness	1.3 – 5.0 mm
Quartz sand addition	Recommended from a layer thickness of 2 mm
	Up to 50 % depending on the application and temperature
Taber abrasion (CS 10/1000 U/1000 g)	60 mg
Consumption	1.45 kg/m ² per mm of thickness

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must not exceed 4.5 CM %.

See also the leaflet "Substrate preparation".

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Components A and B are supplied in the correct ratio for mixing. The entirety of the hardener (comp. B) is added to the basic component (comp. A). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly.

The material is applied with a notched trowel or scraper blade. Work in with a spike roller to ensure de-aeration. Rolling with the spiked roll should take place with a time lag of 10 - 20 min.

Do not apply at temperatures below +10 °C and with relative humidity above 75 %.

To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase.

Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

1. Prepare the substrate.

scratch coat with 1 part by weight of SILIKAL[®] RE 55 and 1 part by weight of quartz sand mixture (50 % quartz powder, 50 % quartz sand 0.1 – 0.4 mm). Refer to the technical data sheet for more information.

2. Apply a coating layer with SILIKAL® RE 515.

Optional - to produce a slip-resistant topping:

- 3. Sprinkle the whole area with fire-dried quartz sand (or coloured sand) of grain size 0.3 0.8 mm or 0.7 1.2 mm, depending on the desired slip resistance.
- 4. Brush and vacuum away the excess sand.
- Apply the top coat SILIKAL[®] RE 516 or, with coloured sand sprinkled in, colourless sealer SILIKAL[®] RE 77, consumption 0.6 – 1 kg/ m².

Consumption: approx. $0.6 - 1.1 \text{ kg/m}^2$ depending on the desired slip resistance Refer to the technical data sheet for more information.

Delivery form and shades

- 10 kg combination container
- 30 kg combination container

Standard shades

Light fastness

All epoxy resin-based products will tend to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< +25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with a suitable solvent immediately after use.

Labelling

Giscode: RE 1

A component: Irritant, hazardous to the environment.

B component: Caustic.

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Lb) in the ready-to-use state is 500 g/l (limit 2010).

The maximum VOC content of SILIKAL® RE 515 in the ready-to-use state is < 500 g/l.

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SILIKAL® RU 300 is a high-grade, pigmented, solvent-free 2-component PUR coating system.

Properties

- Abrasion-resistant
- Tough elasticity
- Resistant to chemicals
- Can be filled with quartz sand
- Easy to process

Areas of application

- For medium to high mechanical stresses
- For cement-bonded substrates and mastic asphalt
- As a coating in dry and wet areas
- For interiors

Technical data

Mixing ratio	Component A (resin) = 5 parts by weight
	Component B (hardener) = 1 part by weight
Specific weight (mixture)	1.45 kg/l
Solid content	> 99 weight % (works standard)
Minimum hardening temperature	+10 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	25 min
Curing time at +20 °C	- Treatable/resistant to work/foot traffic – after 24 hours
	- Resistant to light mechanical stresses – after 2 – 3 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Coating thickness	1.3 – 3.0 mm
Quartz sand addition	Recommended from a layer thickness of 2 mm
	Up to 30 % depending on the application and temperature
Taber abrasion (CS 10/1000 U/1000 g)	55 mg
Consumption	1.45 kg/m²/mm

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must not exceed 4.5 CM %.

See also the leaflet "Substrate preparation".

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Components A and B are supplied in the correct ratio for mixing. The entirety of the hardener (comp. B) is added to the basic component (comp. A). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly.

The material is applied with a notched trowel or scraper blade. Work in with a spik roller to ensure de-aeration. Rolling with the spike roller should take place with a time lag of 10 - 20 min.

Do not apply at temperatures below +10 °C and with relative humidity above 75 %.

To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase.

Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prepare the substrate.
- 2. Apply a primer and/or scratch coat with the recommended Silikal EP primers for cement-bonded substrates.
- SILIKAL[®] RU 300 can be applied directly to mastic asphalt as a scratch coat with the addition of 25 % quartz sand of grain size 0.1 – 0.4 mm.
- To improve adhesion, quartz sand of grain size 0.3 0.8 mm is sprinkled into the primer to about 0.5 1.0 kg/m².
- 4. Apply SILIKAL® RU 300.

Delivery form and shades

- 12 kg combination container
- 30 kg combination container

Standard shades

Light fastness

The product has a tendency to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< +25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with a suitable solvent immediately after use.

Labelling

Giscode: PU 40

A component: –

B component: Harmful

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Lb) in the ready-to-use state is 500 g/l (limit 2010).

The maximum VOC content of SILIKAL® RU 300 in the ready-to-use state is < 500 g/l.

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SILIKAL[®] RU 303 PUR self-levelling mortar, conductive



SILIKAL[®] RU 303 is a high-grade, pigmented, electrically conductive, 2-component PUR self-levelling coating.

Properties

- Electrically conductive
- Abrasion-resistant
- Tough elasticity
- Resistant to chemicals
- · Easy to process

Areas of application

- For medium to high mechanical stresses
- For cement-bonded substrates and mastic asphalt
- For interiors

Technical data

Mixing ratio	Component A (resin)= 4 parts by weightComponent B (hardener)= 1 part by weight
Specific weight (mixture)	1.43 kg/l
Solid content	> 99 weight % (works standard)
Minimum hardening temperature	+10 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	25 min
Curing time at +20 °C	- Treatable/resistant to work/foot traffic – after 24 hours
	- Resistant to light mechanical stresses – after 2 – 3 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Coating thickness	1.4 – 1.7 mm
Quartz sand addition	Not permitted
Taber abrasion (CS 10/1000 U/1000 g)	60 mg
Electrical resistance to ground (DIN IEC 61340-4-1/-5-1/2)	10 ⁶ Ω (Ohms)
Consumption	2.0 – 2.4 kg/m ² (total consumption)

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

Cement-bonded substrates must be sound, dry and free of laitance, loose parts, oil, dust, grease and substances which could act as releasing agents.

Suitable measures must be taken to prepare the surface, e.g. by shot blasting and/or milling, so that the listed requirements are met.

The cohesive strength of the substrate must be at least 1.5 N/mm². The moisture content of the surface to be coated must not exceed 4.5 CM %.

See also the leaflet "Substrate preparation".

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Components A and B are supplied in the correct ratio for mixing. The entirety of the hardener (comp. B) is added to the basic component (comp. A). Mixing is done by a machine (agitator at 300 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly. The material is applied with a notched trowel. Work in with a spike roller to ensure de-aeration. Rolling with the spike roller should take place with a time lag of 10 min. Sand sprinkling is not allowed on conductive coatings as this reduces conductivity.

Do not apply at temperatures below +10 °C and with relative humidity above 75 %.

To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Prepare the substrate.
- 2. Apply a primer and/or scratch coat with the recommended Silikal EP/PUR primers for cement-bonded substrates (SILIKAL® RE 55) and for mastic asphalt (SILIKAL® RU 300).
- 3. SILIKAL[®] RU 300 can be applied directly to mastic asphalt as a scratch coat with the addition of 25 % quartz sand of grain size 0.1 0.4 mm.

To improve adhesion, quartz sand of grain size 0.3 – 0.8 mm is sprinkled into the primer to about 0.5 – 1.0 kg/m².

4. Lay the copper tape: self-adhesive copper tape is put down to the surface 8 to 24 hours after the primer is applied. Make sure that the max. free conductive length of 10 m is not exceeded.

The length of the individual copper flags should be at least 50 cm. The free ends of the copper tape must be properly connected to the ground terminal. The number and location of the grounding points must be determined on site. The copper tape must only be connected to the ground by a qualified electrician.

- 5. Apply the conductive coat of SILIKAL® RE 513, consumption approx. 150 g/m².
- 6. Use the notched trowel to apply the conductive top coat of SILIKAL® RU 303.

Delivery form and shades

- 12 kg combination container
- 30 kg combination container

Standard shades

Note: The necessary addition of conductive fibres may result in a slight impairment in the optical aspect of the shade.

Light fastness

The product has a tendency to yellow. This does not affect the mechanical properties of the cured coating.

Shelf life

1 year if stored in the unopened original container in a cool (< +25 $^{\circ}$ C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with a suitable solvent immediately after use.

Labelling

Giscode: PU 40

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Lb) in the ready-to-use state is 500 g/l (limit 2010). The maximum VOC content of SILIKAL[®] RU 303 in the ready-to-use state is < 500 g/l.

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SILIKAL® RE 584 is a solvent-based cleaner.

Areas of application

• Cleaning and degreasing tools and machinery contaminated through the processing of epoxy resins. Cleaning is only possible in the non-cured state!

The product is not suitable for cleaning contaminated floors.

The product is not suitable for adjusting the viscosity of EP resins.

Technical data

Specific weight	0.8 kg/l
Flash point	+13 °C
Water soluble	Mixable

Delivery form

• 10 l can

Storable

Can be stored for at least 12 months. Store in a cool, dry, frost-free place. Do not expose to direct sunlight!

Labelling

The product is subject to regulations on hazardous materials.

The product is easily flammable.

Keep containers tightly closed. Keep away from sources of ignition. No smoking!

Follow the instructions in the safety data sheet and the code on the container.

We recommend that you follow the BG data sheet M 017 "Solvents".

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SILIKAL[®] RE 585 Oil cleaner



SILIKAL® RE 585 is a solvent-free cleaner based on degradeable tensides.

Properties

- Ready to use
- Solvent-free
- Deep-acting
- Low cost
- Capillary action

Areas of application

- Cleaning and degreasing contaminated waterproof surfaces
- No adhesion problems for subsequent coatings

Technical data

Specific weight	1.0 kg/l
Solid content	35 % by weight
Consumption	0.15 – 0.25 l/m ²

Advice on application

The surface to be cleaned should have a temperature of at least +10 °C. If there are still liquid oil residues on the concrete surface, these must be taken up with a wet vacuum cleaner. Coarse dirt must be removed by brushing. Other dirt must be removed mechanically by shot blasting.

RE 585 is sprayed onto the area contaminated with oil until the whole surface is wetted. On very absorbent substrates, dilute with water as required to ensure sufficient moisture on the surface. Then brush RE 585 into the surface to bring the active agent into the capillaries. The process can be ended when the material begins to foam.

After leaving to act for 10 to 30 minutes, brush the oil-contaminated area thoroughly with clear water, creating foam, and then take up the oil and foam mixture using a suitable for liquids vacuum cleaner.

The process may need to be repeated if there is severe oil contamination.

If the oil again rises very quickly to the surface through capillary action, the deoiling process must be repeated. RE 585 can then be diluted up to 75 % with water.

After cleaning, prime the matt moist surface with RE 58. Do not allow any puddles to form on the surface!

Effective deoiling can only be achieved using machines. A powerful vacuum cleaner suitable for liquids and a brushing machine are essential.

Delivery form

• 10 I can

Storable

Can be stored for 6 months. Store in a cool, dry, frost-free place. Do not expose to direct sunlight!

Labelling

Not subject to labelling requirements under regulations on hazardous substances.

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SILIKAL[®] RE 513 EP conductive layer



SILIKAL® RE 513 is an electrically conductive, solvent-free 2-component intermediate coat for conductive floor coatings.

Properties

- Highly conductive
- Solvent-free
- Spreadable
- Easy to process

Areas of application

- As a conductive layer in combination with conductive coating systems such as SILIKAL® RE 514 or SILIKAL® RU 303, moderate to high mechanical stresses in areas in which an antistatic or conductive floor is required
- For suitably primed cement-bonded substrates or mastic asphalt
- For interiors

Technical data

Mixing ratio	Component A (resin)= 1 part by weightComponent B (hardener)= 5 parts by weight
Specific weight (mixture)	1.08 kg/l
Solid content	> 40 weight % (works standard)
Minimum hardening temperature	+15 °C (room and floor temperature)
	Note the dew point!
Optimum processing temperature	+15 to +25 °C
Pot life at +20 °C	60 min
Curing time at +20 °C	 Treatable/resistant to work/foot traffic – after 18 – 24 hours
	- Resistant to light mechanical stresses – after 2 – 3 days
	 Fully resistant to chemical and mechanical stresses – after 7 days
Consumption	0.12 – 0.15 kg/m ²
Electrical resistance to ground (DIN IEC 61340-4-1/-5-1/2)	< 10 ⁵ Ω (Ohms)

High temperatures reduce and low temperatures lengthen all times given. The consistency, degree of filling and consumption will vary. Generally a temperature change of 10 °C will result in the times given halving or doubling.

Substrate

The substrate to be coated must be load-bearing, free of dust, oil and grease and from substances which could act as releasing agents.

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Components A and B are supplied in the correct ratio for mixing. The entirety of the resin (comp. A) is added to the basic component (comp. B). Mixing is done by a machine (agitator at 200 - 400 rpm) and should last for at least 3 minutes until a homogeneous, non-streaky mixture is obtained. The mixed material must be poured into a clean pail and mixed again briefly. Optimum processing consistency can be achieved by adding up to 10 % water after mixina.

The material is applied sparingly and evenly with a roller.

Do not apply at temperatures below +15 °C and with relative humidity above 75 %.

To ensure good air exchange (dry air), provide ventilation and aeration during the drying and hardening phase. Between the individual operations it is absolutely essential that no moisture or contamination is allowed to penetrate.

Always heed the danger warnings and safety advice shown on the container and follow the regulations laid down by the relevant employers' liability insurance association. Refer to the safety data sheet for further information on the physical, toxicological and ecological properties of the product.

Building up the coating

- 1. Apply a priming stopper coat to ensure an even, pore-free substrate. Scratch coat with 1 part by weight of SILIKAL® RE 55 to 1 part by weight of guartz sand mixture (50 % guartz powder, 50 % quartz sand 0.1 - 0.4 mm). Refer to the technical data sheet for more information.
- 2. Lay the copper tape: self-adhesive copper tape is glued to the surface 8 to 24 hours after the primer is applied. Make sure that the max. free conductive length of 10 m is not exceeded.

After curing the conductive laver must be measured to ensure that the desired resistance has been achieved (nominal $< 10^5 \Omega$). Further coatings may be applied only if this limit is not reached.

The length of the individual copper flags should be at least 50 cm. The free ends of the copper tape must be properly connected to the ground terminal. The number and location of the grounding points must be determined on site. The copper tape must only be connected to the ground by a qualified electrician.

- 3. Apply the conductive coat of SILIKAL® RE 513, consumption approx. 150 g/m².
- 4. Apply the conductive top layer, e.g. SILIKAL® RE 514.

Delivery form and shades

 10 kg combination container Black

Shelf life

6 months if stored in the unopened original container in a cool (< 25 °C), dry and frost-free location. Do not expose to direct sunlight!

Equipment cleaning

The tools must be washed thoroughly with water immediately after use.

Labelling

Giscode: RE 0

A component: Irritant, hazardous to the environment

B component: Irritant

EU Directive 2004/42/EC (VOC Paints Directive)

The maximum VOC content permitted in EU Directive 2004/42 (product category IIA/j type Wb) in the ready-to-use state is 140 g/l (limit 2010).

The maximum VOC content of SILIKAL® RE 513 in the ready-to-use state is < 140 g/l.

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1. Cement-bonded substrates

Surface condition: Cement-bonded substrates must be sound, free of laitance and loose parts, dry, free of dust, oil and grease and free of substances which could act as releasing agents.

Mechanical properties: According to the recommendations of the DAfStb [the reinforced concrete committee of DIN] (e.g. for surface protection systems OS 11/F and OS 13), the cohesive strength of the prepared substrate must generally average 1.5 N/mm² or (minimum individual value) 1.0 N/mm². This can be tested using a class 2 tensile tester complying with EN 10002-24, pull speed 100 N/s.

The compressive strength of the base must be at least 25 N/mm² after 28 days, depending on the stress. This is tested using a rebound hammer in accordance with DIN 4240 or by removing drill cores and testing them for compressive strength in accordance with DIN 1048.

The substrate to be treated (concrete or screed) must have a minimum quality of C20/25 for concrete or CT - C 30 – F5 for screeds.

Residual moisture:

The DAfStb guidelines for surface protection systems and mortars define the terms below as follows:

- "Dry": A freshly produced fissure approx. 2 cm deep must not become noticeably lighter as a result of drying out. The concrete under a PE film (500 mm x 500 mm) glued to the edge must not darken overnight, nor must any condensation of moisture occur. As a guideline, the residual moisture on the surface must not generally exceed 4.5 CM % (measured with a CM device).
- "Moist": The surface has a matt moist appearance, but must not have any shiny film of water on it. The pore system
 of the substrate must not be saturated with water, i.e. any drops of water placed on it must soak in and the surface
 must appear moist again after a short space of time. The moisture content can be determined more precisely using
 the CM method or by drying at +105 °C and compared against the value indicated in the documentation.
- "Wet": The pore system of the substrate is saturated with water, the surface of the concrete has a glossy
 appearance but does not have a film of water on it capable of forming drops.

Substrate temperature: High temperatures shorten and low temperatures lengthen all curing times given, and the consistency, degree of filling and consumption must be expected to vary as well. Generally a temperature change of 10 °C will result in the time given halving or doubling.

The minimum curing temperature for Silikal EP/PUR floor coating systems is between 0 °C and +15 °C, depending on the product type. Please also note the dew point.

The figures relate to the surface temperature of the substrate and must not be confused with the room temperature!

2. Magnesite screeds

The magnesite screed should be analysed for residual moisture before coating begins (at least 6 weeks after installation). The moisture content of the screed must not exceed 6 CM %. We recommend our vapour permeable to moisture systems.

The mean adhesive pull strength must be at least 1.5 N/mm², and the smallest individual value must be no less than 1.0 N/mm².

3. Asphalt floors

In the case of asphalt floors, a distinction is made between mastic asphalt floors with a bitumen fraction of approx. 12 % and rolled asphalt floors with a bitumen fraction of approx. 6 %. Their high bitumen fraction makes mastic asphalt floors very thermoplastic. If these floors are in the open air, they cannot be coated with Silikal RE/RU products. Mastic asphalt floors of minimum quality GE 15 according to DIN 13813:2002 in halls having a constant temperature are suitable for coating if the substrate is prepared appropriately. Where floors are dirty, adhesion tests must be carried out as a precaution after cleaning. The substrate must be dry and free of dust, grease and oil and at least 75 % of the coarse additive structure must be exposed on the surface. If this is not the case, light shot blasting is required in order to expose the fillers.

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Additional points to note when preparing the substrate:

- Surface roughness: A sealed but non-slip surface (roughness approx. 0.5 1.0 mm) is the optimum substrate for subsequent coating. Pores and cavities should be sealed with a levelling stopper as otherwise there is a danger of air pockets trapped in the top coat forming bubbles.
- Hollows: The substrate must be inspected for hollows before coating. Any hollows found must be broken down to the bearing substrate, primed with an EP priming resin and filled in "wet in wet" with an epoxy-mortar.
- Cracks: The substrate must be inspected thoroughly for cracks, e.g. by spraying with water and allowing the water to dry. The width of the marked cracks is measured using a crack width measuring device and the movement of the cracks is determined by a plaster test.
- Oil-contaminated substrates: Contamination, particularly oil and grease residues, must be removed with SILIKAL[®] RE 585. If the substrate is contaminated more deeply, an oil-blocking primer such as SILIKAL[®] RE 58 can be applied after cleaning.

Standards and guidelines

DIN 1045 Concrete and reinforced concrete DIN 18560 Screeds in building construction BEB worksheets DafStb guidelines

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Climate and local conditions

Coating work should only be carried out while temperatures are falling or stable. Otherwise bubbles will form which can only be rectified at considerable time and expense. Make allowance for window frontages, open doors, ceilings and the movement of the sun. Any sources of heat or cold, e.g. hot water pipes laid in the cellar, infrared lamps or radiators or machines, must also be considered. It is also important to observe the temperature given for the building and the ambient air, as the coating systems can react to temperature fluctuations with changes in viscosity and hardening behaviour. This will affect the quality.

Lower temperatures have the effect of prolonging hardening, a poorer surface and higher material consumption in the coating. Higher temperatures can also lead to a less than optimal surface due to excessively fast reaction times. The optimal building temperatures are +15 to +25 °C. The dew point must be noted during and after the work. The temperature of the substrate must always be at least 3 °C above the dew point.

Particularly with water-based systems, the incorrect ventilation of the surfaces can lead to surfaces hardening and drying at different rates, causing differences in glossiness, smears, colour deviations, or to moisture and drops forming on ceilings and hence impairing the surface. It is important to ensure that the freshly coated surfaces are protected against condensation, rain, water etc. until they are resistant to chemicals. Otherwise discoloration, bubble formation or tackiness can occur. These defects will then have to be rectified, e.g. by blasting, and the surfaces subsequently redone. The same applies for finished surfaces, as these could be damaged by being exposed to mechanical loads at an early stage after curing, e.g. the assembly or installation by outside companies of plant and machinery during the building phase.

Mixing

Silikal normally supplies EP/PUR-based products in working combinations, i.e. the quantities are co-ordinated. If supplied in large pails (drums or containers), they are drawn using scales. The filled, pigmented component must be stirred thoroughly before being drawn and only then mixed with the 2nd component. This is done using a suitable agitator. To avoid the possibility of mixing errors, the components are poured into a clean pail and mixed again. The mixing speed should be 300 - 400 rpm. Higher revolutions will bring an unnecessarily great amount of air into the product, while lower revolutions will impair mixing or excessively prolong the mixing time (resulting in a reduced pot life). The temperature of the components should be at least +15 °C. This also applies for any fillers that are to be mixed in, e.g. sands. The fillers (sands) are added once the two liquid components have been mixed together. Even 1-component products must always be stirred thoroughly before use.

Application

Depending on the system, the products are rolled on, applied using a notched trowel, poured or even sprayed. Primer coats should be spread using a rubber squeegee first and then worked in crosswise with a paint roller. Puddles must not be allowed to form.

The fresh primer coat is sprinkled slightly with SILIKAL[®] QS filler 0.2 - 0.6 mm or, for thicknesses over 2 mm, with grain size 0.7 - 1.2 mm. This allows any bubbles that have formed to be destroyed and also ensures good interadhesion to the next coat.

Scratch coats are normally scraped over the substrate using the trowel. Stopping primer coats are also applied using the smoothing trowel or a fine-toothed trowel.

Sealants are normally applied using a short-pile, non-fluffy paint roller. To ensure an even coat, preliminary spreading using a rubber squeegee is recommended. Rolled coatings are applied in the same way. The rule is that the thinner the material to be rolled on, the longer the pile that the roller can have.

Self-levelling coatings are applied with the smoothing trowel or a notched trowel. Use of a smoothing trowel requires good practice, because the evenness of the pressure that is applied is critical for the correct surface and the desired coat thickness. The use of toothed metal or rubber squeegees is simpler and produces even coat thicknesses. Allowance must be made for natural wear on the toothed trowels. They must be replaced after use on an area of approx. 200 – 300 m².

With almost all self levelling coating types, it is advisable to rework the fresh coating with a spiked roller. This should be done within the first 10 - 30 minutes after application. It will ensure not only ventilation, but also a more even surface because a further flowing movement is applied.

Coatings with sand sprinkled in are normally applied as prefilled self-levelling coatings which are then sprinkled. It is important to ensure that sprinkling is as uniform as possible, as agglomerations will lead to uneven surfaces later. That is why sprinkling is done in stages: pre-sprinkling, main sprinkling, post-sprinkling. Everything must be done within the hardening time. It is also recommended that the cured surface is abraded gently and the loose material removed.

Screed toppings must only be laid by experienced workers. A variety of methods are used, depending on the person and the product. The most important thing with mortar and smooth toppings is to ensure sufficient compaction of the relative dry mixture so as to avoid any pores being included. Please ask for advice on a case-by-case basis.

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Care / maintenance

We recommend that high-quality coating systems are additionally protected with a wax polish before use so that dirt can be removed more easily later. This will save considerable expense on cleaning and ensure that the surface retains its appearance for years to come. This is particularly the case for systems exposed to public traffic (see "Technical documentation: Silikal general information" - General advice on cleaning).

Storage of the products

The given storage times and temperatures apply to transport and storage on the building site as well, not just storage on the customer's premises. The safety-specific features of the products must also be noted.

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Information on safety and protection



Modern resins are generally hazardous in liquid form and pollute ground water and soil. Some of the labelled components are also harmful and / or irritating or corrosive as individual components. When mixed together the hazard is almost always reduced considerably. In their cured state, all the products are physiologically unobjectionable and no longer water-polluting, as they are not soluble in water and finally solid.

The use of suitable protective clothing, goggles and safety gloves is taken for granted and must be laid down in regulations. First-aid boxes, a bottle with eyewash and the address of the nearest doctor should also be provided. When applying products containing solvents or low in solvents, ensure adequate ventilation and wear breathing equipment if in doubt. The safety data sheets and the pertinent regulations of the employers' liability insurance association must always be observed. (For further information on tested and recommended protective equipment and measures, please refer to the section headed "Handling epoxy resins" in the leaflet provided by the employers' liability insurance association for the chemical industry).

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Care for synthetic resin floor coatings



Appropriate cleaning and care will prolong the life and hence the economic viability of a floor coating. That's why we have put together some useful tips for cleaning and caring for these floors:

Epoxy/Polyurethan coatings are easy to clean if a few basic conditions are met. You should, for instance, always check first, by preliminary testing, whether the products and equipment to be used for the cleaning or subsequent care are suitable for the EP surface. This is especially the case with products intended to provide slip resistance or conductivity properties. You must also bear in mind that the specific properties of the coating may be impaired by the care products applied after cleaning. In the case of a water vapour-permeable EP coating, make sure that the water vapour diffusion is not impaired by the application of care products.

Cleaning / care

Cleaning activities are adapted to the area of application, surface properties and surface size and are usually carried out using machines. Cleaning machines with brush rollers of an appropriate hardness (e.g. Karcher with 2 exchangeable brush rollers) or buffing machines with cleaning pads have proven to be useful. Self-levelling epoxy coatings with a smooth surface can be cleaned well with soft or medium-hard brushes.

Regular cleaning can then be carried out with an automatic machine cleaner for glossy surfaces, e.g. Neomat N or with SILIKAL® Topclean, either manually or using suitable machines. This gives more effective protection against recontamination and a uniform surface gloss. Experience has shown that a higher concentration needs to be used the first time in order to build up a protective film. Thereafter a concentration of 1 - 3 % in the water is sufficient.

Rubber marks can be removed mostly by using e.g. SILIKAL® Topclean in combination with suitable cleaning machines.

For thorough cleaning of heavily contaminated floors, we recommend e.g. Bendurol Forte; a subsequent coating of SILIKAL[®] Protect polymer dispersant or e.g. Glitz Metallic from Henkel can then be applied in accordance with the manufacturer's instructions.

For detailed or building-specific cleaning and care instructions for Silikal coatings, please contact our Technical Service department on tel.: +49 (0) 6182 / 923545 or the customer support departments of the manufacturers of care and cleaning products, e.g. Ecolab Deutschland GmbH, Anwendungstechnik, tel.: +49 (0) 2 11 / 98 97 32.

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Unhardened product residues are normally hazardous special waste and must be disposed of properly in accordance with regulations.

Packs which are not completely emptied must also be treated as special waste in the same way as the product residues.

Depending on the legislation applicable in the particular area, properly hardened product residues and old toppings can often be disposed of as household or industrial waste in consultation with the appropriate authorities (regional authorities, environmental protection agencies, trade supervisory bodies).

Since the legislation in this field can change frequently, we cannot offer any binding advice at this point.

For more information, consult disposal firms such as INTERSEROH, KBS or others in your country. Further details are often provided in the current product safety data sheets.

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