# SILRES® BS 6920

## Silane-Modified Polymers

SILRES® BS 6920 is a silane-terminated binder based on α-silane technology for the impregnation of mineral substrates or as a thin layer coating for mineral substrates.

## Properties

α-silane-terminated polyethers represent a noteworthy group of moisture curing binders that do not require tin catalysis. SILRES® BS 6920 is a transparent, low viscosity binder. Primarily, cure via amines is recommended, with particular focus on amino-silanes. Pot life as well as speed of through-cure can be adjusted by the aminosilane loading. GENIOSIL® GF 91 (~ 5 %) is recommended. For application below temperatures of 15°C addition of catalyst (ca. 0.2%, e.g. TMG (1, 1, 3, 3-tetramethylguanidine)) is required.
SILRES® BS 6920 is characterised by:

- solvent and plasticizer free
- easy handling and dosing
- resistant to moisture
- cure without tin catalyst
- non-labeling

## Technical data

### General Characteristics

| Property | Condition | Value | Method |
|---|---|---|---|
| Appearance | - | clear - clear | ASTM D 412 |
| Density | 20 °C \| 1013 hPa | 1.15 g/cm$^3$ | DIN 51757 |
| Flash point | - | 103 °C | ISO 2719 |
| Viscosity, dynamic | 25 °C \| 5 - 400 1/S | approx. 75 mPa·s | specific method |

These figures are only intended as a guide and should not be used in preparing specifications.

All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

## Applications

- Concrete Flooring

## Application details

For formulators: SILRES® BS 6920 is easily mixed in a standard mixer or dissolver with the formulation ingredients. The catalyst GENIOSIL® GF 91 is added as the final component. Upon catalyst addition the mixture becomes moisture sensitive, thus air contact must be avoided. Use of an inert gas or fast filling in sealed packaging is recommended.

Example of formulation for clear coating:
84 parts of SILRES® BS 6920
10 parts of SILRES® BS 1316
0,225 parts of IRGANOX® 1135
0,225 parts of TINUVIN® 123
0,550 parts of TINUVIN® 571
5 parts of GENIOSIL® GF 9

Example of formulation for grey pigmented and filled formulation:
71,5 parts of SILRES® BS 6920
3,53 parts of GENIOSIL® GF 91
8,0 parts of titanium dioxide (Kronos® 2190)
0,17 parts of carbon black
15 parts of CaCO3 (OMYACARB® 5-GU)
0,6 parts of HDK® N20
0,225 parts of IRGANOX® 1135
0,225 parts of TINUVIN® 123
0,550 parts of TINUVIN® 571
0,2 parts of BYK-3550

For the end user: During application of formulations based on SILRES® BS 6920 whether for impregnation or coating, the surface must be dry and clean. To define the optimum amount and to check applicative behavior it is recommended to prepare a separate test surface. The material can be applied with a cleaning mop, shorthair roller or a brush. Airless spray application is equally possible. The open time of the formulation examples outlined here is ~ 20 min depending on temperature and humidity. Treated surfaces are trafficable and durable after 24 hours. Depending on the absorbency behavior of the substrate a second application (after 24 hours) may be necessary to attain a homogeneous finish. Depending on the absorbency behavior of the substrate ~ 50 - 150 g/m2 are typically required for the first layer. In the case of asecond layer, by far a lower amount of material will be needed (~ 50 %). Polishing is possible after 24 hours.

Formulations based on SILRES® BS 6920 are applied for stain-resistant impregnation and coating of mineral substrates, e. g. polished or non-polished concrete floors, paving stones, clinker, bricks and natural stone. For the impregnation of absorbent substrates SILRES® BS 6920 is treated with 5 % of the aminosilane GENIOSIL® GF 91 as the catalyst. If necessary the
viscosity of the formulation can be reduced by the
addition of 10 % SILRES® BS 1316. For substrates with poor or no absorbency, a catalysed SILRES® BS 6920 version can be applied as a clear coating. The layer thickness should not exceed 100 µm to ensure full and complete cure. Cure is usually complete after 24 h. In the case of higher absorbent substrates a second coating is recommended. In the case of coatings it is recommended to add UV stabilizers since even for interior use UV exposure cannot be excluded. Further formulating components comprise rheological additives and matting agents. Additionally, pigmented and filled coatings are equally possible with SILRES® BS 6920. The binder content will be up to ~ 40 %. The catalysed formulations are sensitive towards moisture, however, stable in sealed packaging for at least 1 year. This is the unique benefit of SILRES® BS 6920: Final formulations can be offered as one part systems for the end user. SILRES® BS 6920 imparts high stain-resistance when applied as an impregnation or as a coating (e.g against stains like coffee, tea, ketchup, orange juice, ink, red wine, household and engine oils etc). Surfaces exhibit high strength, are exceedingly scratch-resistant and impervious to typical cleaning agents.

## Packaging and storage

### Storage

The 'Best use before end' date of each batch is shown on the product label. Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

## Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site http://www.wacker.com.

## QR Code SILRES® BS 6920

### For technical, quality or product safety questions, please contact:

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