SILRES® BS 3003

Silane Emulsions

SILRES® BS 3003 is a water-thinnable, solventless emulsion, based on a mixture of silane and siloxane.

Diluted solutions of SILRES® BS 3003 serve as high-quality, general-purpose water repellents for impregnating and priming mineral surfaces.

Moreover SILRES® BS 3003 can be used for the mass treatment of non-load bearing concrete products. SILRES® BS 3003 is also suitable for the post-hydrophobation of fiber cement products, such as fiber cement boards.

Properties

SILRES® BS 3003 emulsion contains a stabilized mixture of silanes and siloxanes that are susceptible to hydrolysis. Hydrolysis occurs only after application to the substrate, which breaks the emulsion. Alcohol is released and the emulsion is converted into a silicone resin water repellent.

SILRES® BS 3003 reduces the capillary absorption of the building which it has penetrated, but does not clog pores or capillaries. There is therefore little or no impairment of the building material’s ability to breathe.

SILRES® BS 3003 shows the following special features:

- good depth of penetration
- resistance to alkalis
- rapid development of water repellency
- provides good adhesion for paints
- water based and environmentally friendly
- stable in storage, even when diluted
Technical data

General Characteristics

<table>
<thead>
<tr>
<th>Property</th>
<th>Condition</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active content</td>
<td>-</td>
<td>approx. 60 wt.%</td>
<td>-</td>
</tr>
<tr>
<td>Appearance</td>
<td>-</td>
<td>milky, white</td>
<td>-</td>
</tr>
<tr>
<td>Density</td>
<td>25 °C</td>
<td>0.95 g/cm³</td>
<td>not specified</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>25 °C</td>
<td>approx. 12 mPa-s</td>
<td>not specified</td>
</tr>
</tbody>
</table>

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

- Primer
- Impregnation of New and Existing Buildings
- Fiber Cement Boards
- Construction Materials
- Hydrophobic Impregnation
- Silicone Primers
- Primer for Paints

Application details

Dilute SILRES® BS 3003 is an excellent water repellent for many absorbent mineral substrates, such as bricks, sand-lime brick, natural sandstone and mineral plasters. It is not so suitable for less absorbent, dense natural stone, especially limestone, marble and reinforced concrete for bridges and roads. Owing to its aqueous consistency and storage stability when diluted, SILRES® BS 3003 is ideal for inplant impregnation of building materials made of clay, aerated concrete, sand-lime brick, fibrous cement, mineral fibers and lightweight aggregate.

SILRES® BS 3003 may also serve as a water-repellent primer for emulsion paints and plasters, silicone resin emulsion paints and silicone resin plasters.
Moreover SILRES® BS 3003 can be used for the mass treatment of non-load bearing concrete products.

Processing

Tap water is suitable for preparing solutions of SILRES® BS 3003 for use as facade water repellent primer. We recommend an active substance content of 5-10% (dilute the product in the ratio 1:5 to 1:11), the exact figure depending on how absorbent the substrate is.

Apply the ready-to-use solution in the usual way: flooding is the preferred way. Two “wet in wet” coats are needed to ensure complete coverage. Owing to the content of wetting agent in SILRES® BS 3003, reimpregnation at a later date does not present any difficulties.
If it starts raining, stop treatment and cover the freshly impregnated areas.

For the mass impregnation of concrete products an active agent concentration of 10 % per weight is recommended. The dosage of the diluted product can be related to the overall mass or the amount of binding agents of the concrete product. If related to overall mass, a dosage between 0.1 to 1.0 % of the 10 % dilution of SILRES® BS 3003 is recommended. If related to the amount of binding agent, a dosage between 1.0 to 4.0 % of the 10 % dilution of SILRES® BS 3003 is recommended. In order to keep the water-cement-ratio on a constant level, reduce the amount of mixing water by the amount of water added with the diluted emulsion.

Even though an evaluation exhibited no negative influence of SILRES® BS 3003 on the mechanical properties of selected concrete recipes, an independent evaluation of the mechanical properties is recommended.

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.

The more dilute they are, the more they tend to cream. However, this phase separation may be reversed by brief stirring or agitation. This will restore it to a homogeneous emulsion, without loss of efficacy.

SILRES® BS 3003 contains minor amounts of a preservative that protects the emulsion against microbial contamination and fungal attack. The quality of the water used may make it necessary to add a biocide after dilution in principle, nearly any water-based preservative may be used.

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 3003

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