SILRES® BS 4004

Silane Emulsions

SILRES® BS 4004 is a water-thinnable, solventless emulsion, based on a mixture of silane and siloxane.

Dilute solutions of SILRES® BS 4004 serve as highquality, general-purpose water repellents for hydrophobic impregnating and priming mineral surfaces. Mineral substrates treated with SILRES® BS 4004 are especially characterized by an excellent beading effect.

Moreover SILRES® BS 4004 can be used for the mass hydrophobation of non-load bearing concrete products.

Properties

SILRES® BS 4004 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 4004 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 4004 has the following special features:

- good depth of penetration
- rapid development of water repellency
- highly durable and effective beading effect
- tack-free drying
- provides good adhesion for paints
- water-based and environmentally compatible
- stable in storage, even when diluted

Technical data

General Characteristics

Property	Condition	Value	Method
Active substance	-	50 wt. %	-
Appearance	-	milky, white	ASTM D 412
Density	25 °C	0.95 g/cm^3	not specified
Viscosity, dynamic	25 °C	approx. 12 mPa·s	not specified

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
- Construction Materials
- Hydrophobic Impregnation
- Silicone Primers
- Primer for Paints

Application details

Dilute SILRES® BS 4004 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 4004 is ideal for in plant hydrophobation of building materials made of clay, aerated concrete, sand-lime brick, mineral fibers and lightweight aggregate.

SILRES® BS 4004 may also serve as a water-repellent primer for emulsion paints and plasters, silicone resin emulsion paints and silicone resin plasters.

Processing as a Hydrophobic Impregnating Agent:

Tap water is suitable for preparing solutions of SILRES® BS 4004 for use as facade water repellent primer. We ecommend an active substance content of 5-10% (dilute the product in the ratio 1:4 to 1:9), the exact figure depending on how absorbent the substrate is. Always homogenize the concentrate and also the diluted product before use (short mixing).

Apply the ready-to-use solution in the usual way preferred way. Two "wet on wet" coats are needed to ensure complete coverage. If it starts to rain, stop treatment and cover the impregnated areas.

Processing as a Concrete Admixture (Water Resisting Admixture):

The recommended admixture range of a 1:4 dilution of SILRES® BS 4004 is 1.0 % to 5.0 % of the cement content. A significant reduction in water uptake can already be achieved at a concentration of 1.0 % of the cement. SILRES® BS 4004 is added either simultaneously with or immediately after the mixing water – it should never be added along with other additives. To keep a constant w/c value the total mixing water is reduced by amount required earlier for dilution. We recommend testing compatibility with other concrete admixtures separately. A longer mixing time will thoroughly distribute the product within the overall system, which in turn will make it highly effective.

When used in concrete goods or similar concrete products according to EN 1338, 1339 or EN 1340, an initial-type test (cf. section 6.2 of the respective standard) 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.

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. 1 space line

QR Code SILRES® BS 4004

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

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