

# SILRES® BS 17040



## Silane Emulsions

SILRES® BS 17040 is a water-thinnable, solventless silane emulsion. SILRES® BS 17040 serves as highquality water repellent for impregnating and priming of alkaline mineral surfaces. Moreover SILRES® BS 17040 can be used as water resisting admixture for non-load bearing manufactured concrete products.

## Properties

SILRES® BS 17040 is characterised by:

- good depth of penetration
- dilutable with water, and free of solvents
- low volatility
- high resistance to alkalis

Treated concrete will have the following permanent properties:

- dramatic reduction in chloride and water absorption
- no loss in breathability
- improved durability against freeze-thaw de-icing salt stress
- enhanced durability
- provides good adhesion for paints

In the construction material, SILRES® BS 17040 reacts with atmospheric moisture and / or the water in the building material's pores, eliminating alcohol. The active thus substance formed greatly reduces the concrete's absorbency in the active zone (penetration depth after post treatment), but without blocking any pores or capillaries. The impregnated building material retains very high water-vapor permeability.

## Technical data

### General Characteristics

Property	Condition	Value	Method
Active substance	-	40.0 wt. %	-
Appearance	-	milky, white	WSTM-1118
Density	20 °C	0.95 g/cm <sup>3</sup>	calculated
VOC (Switzerland)	without VOC-release	0.5 %	-

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 Protection
- Construction Materials
- Hydrophobic Impregnation
- Infrastructure
- Infrastructure & Concrete Modification

## Application details

Processing as a Hydrophobic Impregnating Agent for Concrete: The work performed (preparing the concrete surface, setting up a reference surface, application and quality control) must follow the applicable regulations (in Germany these are the DAfStb repair work guidelines and the ZTV-ING).

- Concrete should not be impregnated until at least four weeks after it has been produced so that the setting of the cement is not affected.

- New surfaces that are still unsoiled must be cleansed of coarse particles and dust deposits by sweeping or, if necessary, using compressed air. Surfaces already weathered, and those heavily soiled by oil, rubber residue, etc., must first be cleaned using superheated steam or high-pressure water before commencing treatment. It is imperative that the water used be siphoned off immediately to prevent saturation of the concrete.

- Impregnation should always be performed on superficially dry concrete, i.e., when the surface of the concrete appears evenly dry, no more damp patches are visible and the moisture content equilibrium is established. To this end, moisture in the surface zone of the concrete is measured using a suitable technique (CM method or other methods allowed under ZTV-ING). The surface-zone moisture content of the concrete (from the surface to a depth of 20 mm) should not exceed 4 wt%.

- Evenly apply the impregnating agent to the building material in several coats, wet-on-wet. Several coats are absolutely essential to prevent the formation of defects in the impregnated surface. Do not allow puddles to form. The impregnating agent is applied by flow coating at reduced pressure (1-2 bar). A lambskin roller may be used afterward for more even coverage. - In the event of unexpected rain, cover surfaces already impregnated and halt all further impregnation.

- If active ingredient floats on the emulsion during storage of SILRES® BS 17040, it is recommended to homogenize SILRES® BS 17040 by stirring or shaking before it is applied.

- SILRES® BS 17040 should not get into direct contact with bitumen. The resistance of insulant against SILRES® BS 17040 has to be determined dependend on temperature.

- Processing as a Concrete Admixture (Water Resisting Admixture) The recommended admixture range of a 1 : 3 dilution of SILRES® BS 17040 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 17040 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>.

## QR Code SILRES® BS 17040



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

**Wacker Chemie AG**, Gisela-Stein-Strasse 1, 81671 Munich, Germany  
productinformation@wacker.com, [www.wacker.com](http://www.wacker.com)

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