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CREATING TOMORROW'S SOLUTIONS

HYDROPHOBIC IMPREGNATION I SILRES® BS 3003 I SILRES® BS 4004

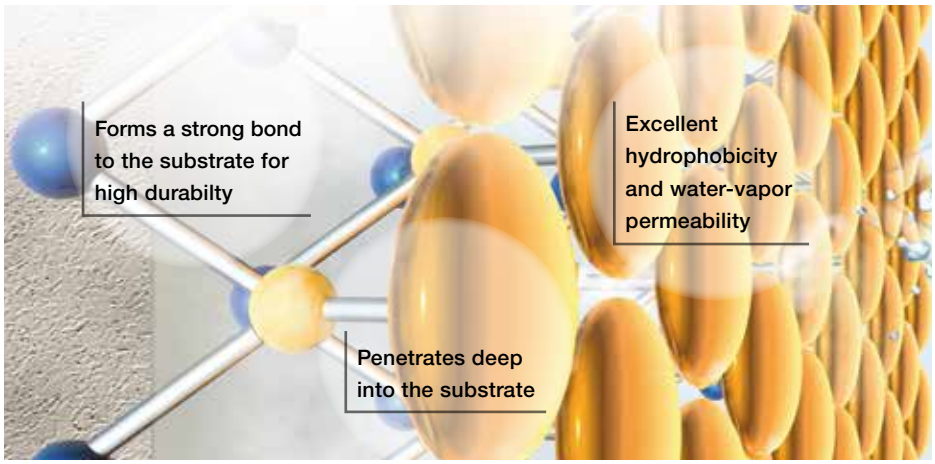
SILRES® BS 3003 AND SILRES® BS 4004 – EMULSIONS FOR HYDROPHOBIC FACADE IMPREGNATION

Most structural damage in buildings is caused by water and moisture: water may cause efflorescence and salt damage, it promotes microbial attack by fungi, moss, lichens, etc., and it reduces the insulating capacity of a facade. But while there are many different kinds of damage, there is one simple remedy: preventive protection against moisture by means of hydrophobic impregnation.

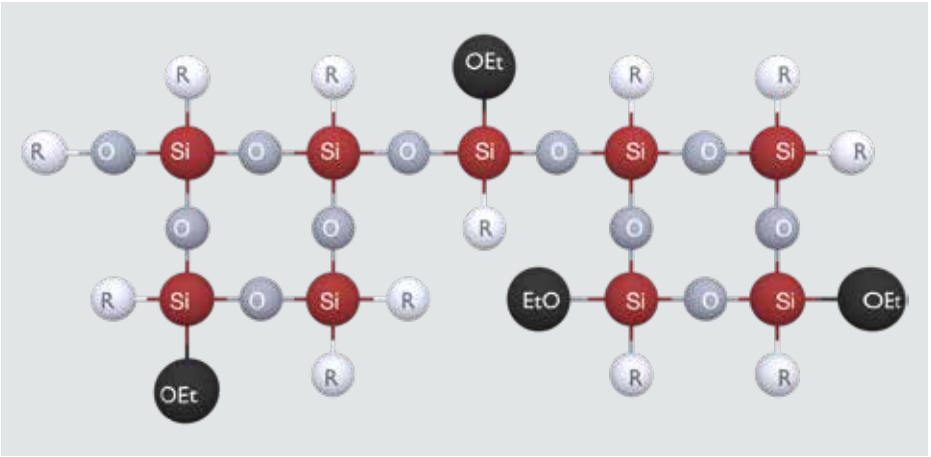
SILRES® BS 3003 and SILRES® BS 4004 emulsions are high-quality, general-purpose water repellents for mineral surfaces. When used for hydrophobic impregnation of building exteriors, they reduce maintenance and repair costs. Impregnation makes the surface easier to clean, enhances the value of the property, and potentially reduces heating costs. Impregnation with SILRES® BS products combines excellent technical performance with easy application.

Highly Durable Protection

SILRES® BS 3003 and SILRES® BS 4004 are water-dilutable, solvent-free emulsions based on a mixture of silane and siloxane. Using capillary action to penetrate the pores of the mineral building material, SILRES® BS 3003 and SILRES® BS 4004 react with the pore walls, siliconizing the pores and preventing water from wetting them – but do not affect water-vapor permeability.



Organically modified silane and siloxane react with the silicate matrix of a mineral substrate and form a durable bond. This accounts for the extraordinary efficiency of hydrophobic impregnation.



The active ingredients in SILRES® BS products are organically modified silanes and low-molecular-weight siloxanes. These molecules carry reactive alkoxy groups. The release of alcohol forms permanent bonds with the silicate building material.

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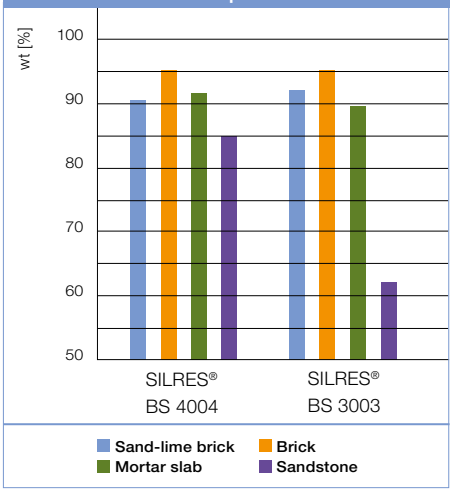
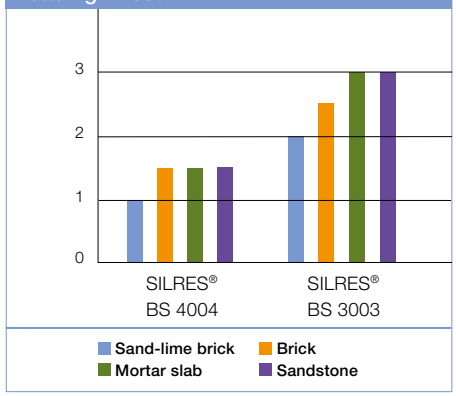
Reduction of Water Uptake



SILRES® BS 4004 and SILRES® BS 3003 significantly reduce water uptake on a number of different substrates.

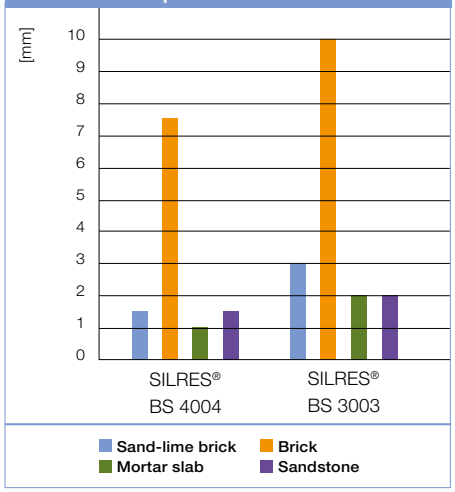
Beading Effect



SILRES® BS 4004 delivers the best beading effect of all water-based products.

1 = perfect beading
2 = good beading
3 = medium beading
5 = no beading, usually untreated substrate

Penetration Depth



SILRES® BS 4004 and SILRES® BS 3003 penetrate the substrate effectively.

Hydrophobic Impregnation Saves Energy

Damp facades compromise thermal insulation – just 4% humidity decreases insulating capacity to 50%. Hydrophobic impregnation reduces water uptake of a wall by at least 80% for consistently high thermal insulation performance. At the same time, however, water-vapor permeability remains unaffected: moisture can escape through the wall, which helps create a healthy indoor climate.

Benefits SILRES® BS Emulsions

- Long-lasting protection
- Substrate stays breathable
- Beading effect
- Extensive penetration
- Resistance to UV light
- No surface discoloration
- No health risk
- Environmental compatibility
- Save energy

SILRES® BS 3003 or SILRES® BS 4004: A Question of Stability and Beading

SILRES® BS 3003 and SILRES® BS 4004 both significantly reduce water uptake on all kinds of mineral substrates by at least 80%, without lessening water-vapor permeability. SILRES® BS 3003 has an actives content of 60%, SILRES® BS 4004 contains 50% active ingredients.

Main Advantages:

- SILRES® BS 4004: outstandig beading effect
- SILRES® BS 3003: our allrounder, very stable as a concentrate and diluted

Application Areas

SILRES® BS emulsions such as SILRES® BS 3003 and SILRES® BS 4004 are suitable for both artificial mineral substrates and natural stone:

- Brick
- Clinker
- Roofing tile
- Expanded clay
- Sand-lime brick
- Mineral plaster
- Mortar
- Sandstone
- Tuff

Application Method

SILRES® BS emulsions can be applied with a brush, paint roller, spray or low pressure flooding (1 – 3 bar). Depending on the porosity of the surface, dilute the emulsion with tap water and apply two or three layers wet on wet. An active substance content of > 6 – 10% is recommended.

SILRES®

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