

AND RESOURCES ARE NOT INEXHAUSTIBLE

Energy efficiency is on the world's agenda. Bricks and other heavy clay ceramics need to be fired at high temperatures to reduce the amount of water they take up, and render them frost-resistant. Methods for manufacturing bricks at a lower firing temperature to save energy result in a more open-pored structure. This causes greater water absorption, which can be offset with SILRES® BS 16.

Furthermore, thermal insulation, an issue closely associated with energy efficiency, can only be satisfactorily achieved by applying a water-repellent, impregnating agent. After all, optimum thermal insulation requires dry masonry. Five percent moisture content is enough to reduce the insulating ability by as much as 60 percent.

Protection Made Easy:
After the statue was restored for its 80th anniversary, the SILRES® BS solution was simply and efficiently applied to the stone using brushes.



WACKER

CREATING TOMORROW'S SOLUTIONS

SILRES®



WACKER

Wacker Chemie AG
Hanns-Seidel-Platz 4
81737 München, Germany
Tel. +49 89 6279-0
Fax +49 89 6279-1741
info@wacker.com

www.wacker.com/socialmedia



www.wacker.com

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CONSTRUCTION | SILRES® BS 16

PERFECT MOISTURE PROTECTION FOR HEAVY CLAY CERAMICS

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BECAUSE VALUES SHOULD BE ENDURING

The structure of heavy clay ceramic allows water to ingress relatively easily into this construction material. As a result, moss, lichen, algae and salt crystals start to grow. Fed by damp, these can, with time, destroy the integrity of the structure and damage the material's surface. This in turn, has a drastic effect on a building's appearance.

These forces act in opposition to our desires to have the property we bought or perhaps built ourselves last a long time and maintain its value. On top of that, we want it to look nice and be cost-effective. SILRES® BS 16 solves the problem perfectly. This organosilicon-based building protection product prevents damage before it occurs.

SILRES® BS is a registered trade mark of Wacker Chemie AG



Christ the Redeemer is made of concrete and soapstone: materials that deteriorate with harmful environmental influences. In 2010, the statue was coated with SILRES® BS to protect and preserve it for the future.

SILRES® BS 16 – A PRODUCT WITH MANY ADVANTAGES

WACKER SILICONES has more than forty years of expertise in the development of silicone-based masonry protection agents. The result is a solution remarkable for its efficacy, safety and durability.

Water Simply Rolls Off
Hydrophobic impregnation with SILRES® BS 16 causes construction materials to repel water yet remain open to diffusion, thereby allowing them to breathe. The result is that water simply rolls off the surface, and water vapor escapes unhindered. This allows any existing damp areas to dry out, which also enhances the material's ability to insulate.

A Stable Network
SILRES® BS 16 is a concentrated aqueous solution of potassium methyl silicate, which reacts with CO₂ in the air to form Polymethylsiloxane. This substance forms a three-dimensional silicone resin network on mineral masonry substrates and in coatings. It repels water and remains permanently bound to the substrate.

Easy to Use
SILRES® BS 16 contains no solvents or surfactants, and when diluted in water, forms a homogeneous, clear solution. After it has been applied, SILRES® BS 16 reacts with the silicate matrix of the construction material. The higher the temperature and CO₂ concentration in the air, the faster the protective network is generated.

Dilution and Dip Time

For maximum efficacy, the dilution and dip time must be fine-tuned to the properties of the material to be treated.



Advantages of Hydrophobic Treatment

- Durability
- Attractive appearance
- Thermal insulation
- Energy efficiency

FOR ALMOST EVERYTHING THAT'S ATTRACTIVE AND VALUABLE

SILRES® BS 16 renders almost any heavy clay ceramics weather-resistant. The silicone-based hydrophobic treatment can be applied by dipping, spraying or brushing.

Long-Lasting Roof Tiles

Hydrophobic roof tiles with SILRES® BS 16 effectively prevents salt efflorescence and prolongs the life-time of tiles. This is done by dipping them in a solution of SILRES® BS 16, diluted with water. In order to achieve the necessary penetration depth of 3 to 4 mm, the material remains immersed in this solution from as little as 15 seconds to as much as 5 minutes, depending on its porosity.

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Attractive Facades

Facing bricks treated with SILRES® BS 16 stay clean for a long time. For best results, the header and stretcher surfaces of the brick should be sprayed directly after firing. SILRES® BS 16 allows mortar residue to be easily removed and prevents salt efflorescence. Furthermore, it slows algal growth as well as dirt pickup.

Clean Floor Tiles and Flowerpots

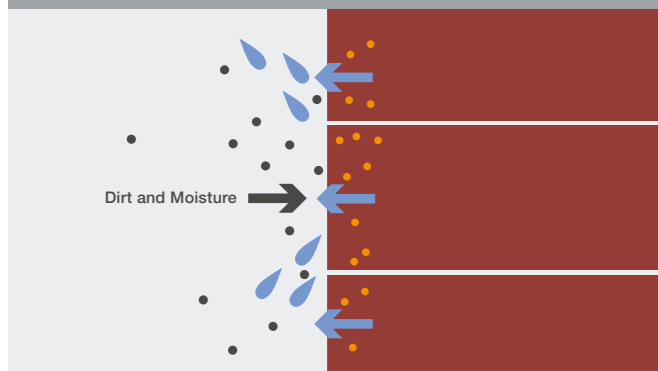
Both internal and external salts can easily effloresce from unsintered, unglazed floor tiles and flowerpots. Water repellent hydrophobic impregnation with a 3 to 5 mm deep layer of SILRES® BS 16 stops this process for good and makes cleaning easier. In addition, WACKER has specialized products for other types of maintenance as well.

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How Hydrophobic Treatment of Open Pore, Heavy Clay Ceramic Works



SILRES® BS 16 protects against water, salts and grime. Water vapor can escape despite the water-repellent hydrophobic impregnating agent.