Chemical products for the
paint and construction industry

Partner für chemische und technologische Produkte

Technical Data Sheet

Silsan® SR 400

Silicone impregnating agent with beading effect

Product description

Silsan® SR 400 is a highly concentrated blend of modified siloxanes and silicone resins. It is designed for the industrial production of single component, solvent diluted impregnating agent and priming coats which have a long shelf life and are to be distributed to the end user in this diluted form.

Silsan® SR 400 allows long lasting, effective impregnation of mineral and alkaline construction materials.
Silsan® SR 400 provides excellent penetration properties even on slightly damp materials.
Moreover, Silsan® SR 400 creates a distinctive water beading effect on the surface of the impregnated material that emphasizes the effectiveness of the product in a visible way.
A silicone film is formed inside the pores of the construction material, which prevents the intrusion of water and therefore reduces soilability, without negatively affecting the water vapour permeability (sd-value).

Damage caused by the intrusion of water, such as exudation marks and frost damage, attack of algae, moss etc., will be effectively avoided by the use of Silsan® SR 400.

Silsan® SR 400 is suitable to be used with, among others, the following materials:

- brickwork
- roof tiles
- natural stone
- surfaces made of concrete or plaster
- stoneware

Please consider that Silsan® SR 400 does not provide any protection from acid containing liquids. This is particularly critical when acid-sensitive surfaces such as marble or travertine are impregnated.
Therefore Silsan® SR 400 is not suitable to protect stone surfaces from being harmed by acids.

Depending on the material and surface properties, Silsan® SR 400 accentuates the natural colour shade of the treated material slightly.

There is no significant change to the physical properties, in particular the water vapour permeability (sd value), of the substrate treated with Silsan® SR 400.

Due to evaporation of solvents during application and drying, ensure sufficient ventilation of interior workplaces to cope with the product's typical vapours.
Please also observe the safety instructions as noted in chapter “Application” of this data sheet.

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Application

For the water repellent impregnation of construction materials, depending on the field of application, Silsan® SR 400 is used diluted with organic solvents at a ratio of 1:7 to 1:15. We recommend using de-aromatized aliphatic hydrocarbons (e.g. Shellsol D 40 or Shellsol D 25). Those hydrocarbons must be free of any water in order to prevent polymerization of the product before its application.

The readily manufactured dilution of Silsan® SR 400 can be applied by the use of rollers, by painting, or by flooding.

Because of possible changes of the colour shade, we recommend to create test areas before the product is applied entirely.

Depending on the surface properties of the material to be impregnated, the recommended product application quantity ranges from 200 to 400 g/m2. The product should be applied in one single go or wet-on-wet.

The water and oil repellent effect develops within 2 to 4 days after application depending on the alkaline character of the substrate, the environmental humidity and temperature.

Manufacturing Process

The ready-to-use solution is manufactured as follows:

1.) Pour the solvent (e.g. Shellsol D 40 or Shellsol D 25) into the container.

2.) Add Silsan® SR 400 at the required dilution ratio (1:7 to 1:15).

3.) Stir well and fill the mixture into suitable containers.

Important note:

It is vital that no water is added to the solution. Even small quantities of water will cause a polymerization of the product, which will then render the product unusable.

Due to the easily flammable nature of the solvents used in the manufacturing process, appropriate safety precautions must be taken. (EX-protected production equipment etc.)

The readily manufactured solution can be poured into smaller, air-sealed containers and can be stored for approx. 12 months, provided they are properly protected from water entry.

As the readily manufactured solution is a hazardous good which contains solvents, the packages must be labeled and marked according to the precautionary measures required while handling the product.

Precautions:

For further information regarding the personal protective equipment (PPE) that must be worn during manufacturing of the dilution and during the application as well as safety precautions that must be arranged during transport and storage of the product please refer to the latest material safety data sheet.

Storage stability

The packages must not be exposed to direct sunlight or frost.
The packages must be protected from the intrusion of water and air.
We recommend a storage temperature within a range of + 5 to + 25 °C.

In originally sealed containers, Silsan® SR 400 may be stored for at least 12 months after the date of delivery.
For the readily manufactured solution we recommend you do not exceed a storage time of 12 months, under the same conditions.
Even after shelf life has expired, the product isn't necessarily unfit for use. However, in such case, we highly recommend to inspect the product regarding its suitability before using it.

ATTENTION:

It is absolutely vital that during storage of the ready-to-use solution, no moisture, neither in liquid form nor in form of air humidity can intrude the containers as this would lead to an immediate polymerisation and hardening of the product.

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In this case the solution would become unfit for use.

However, a slight formation of sediments during storage time is normal and does not affect the product's suitability Stirring the product is not necessary in this case.

Product properties of Silsan® SR 400	
Properties	**Value**
Composition	solvent based mixture of silicone resins and modified siloxanes
Appearance	opaque to slightly turbid liquid
Active content	approx. 100 %
Solubility	soluble in solvents such as de-aromatized and aromatized white spirit; water insoluble
Flashpoint	> 100 °C
Viscosity (at 20°C)	< 50 cSt
Density (at 20°C)	approx. 1.1 g/ccm
pH value	n.a.
Packaging	plastic canisters, metal drums
Storage	approx. 12 months at + 5 to + 25 °C

Note:
These figures are only intended as a guide and should not be used in preparing specifications.

Special storage and recommendations for use:

- Store the product in a cool, dark place
- The product is sensitive to water and air humidity. Tightly close the containers after use.
- Once the containers have been opened, use up the complete contents as quickly as possible.

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