

Technical Information Sheet
Article No. 0602

Funcosil SNL

Low molecular alkylalkoxy siloxane

Range of use

Funcosil SNL is used as a water repelling impregnation for porous, mineral building materials such as fair-faced brick masonry work, sand-lime brick, mineral renders, aerated concrete and light-weight concrete. It can also be used to subsequently impregnate silicate paints.

Property profile

Funcosil SNL is a reactive, oligomer siloxane solution for water repelling impregnation of mineral building materials. Funcosil SNL is highly alkali stable. Because of its low molecular structure, it has very good penetration capacity and reacts chemically in the building material in the presence of humidity, converting into a water repelling, UV-light stable and weather resistant active ingredient. After application, the active ingredient is deposited as a macro-molecular layer on the capillary and pore walls without impairing water va-

pour diffusion capacity. Funcosil SNL reduces the absorption of water and atmospheric acid pollutants (SO₂, NO_x). Infestation with micro-organisms is also inhibited. The surfaces of building materials impregnated with Funcosil SNL have much less tendency to soil. Resistance to frost and de-icing salts is improved, helping to reduce a loss of energy.

Substrate

The substrate must be in perfectly sound condition. Structural defects such as cracks, cracked joints, defective connections, rising damp and hygroscopic moisture must be remedied before impregnation is carried out. It must be ensured that water and salts that cause damage dissolved in the water cannot migrate behind the water repelling



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Characteristic data of the product

Characteristic data in the packaged state

Siloxane content:	approx. 7% by mass
Carrier:	low-odour, aliphatic hydrocarbons
Density:	approx. 0.80 g/cm ³
Viscosity:	approx. 44 sec. in a DIN 2 cup
Flash point:	> 30 °C
Appearance:	clear liquid

Characteristic data after active ingredient formation

Polysiloxane content:	approx. 5% by mass
Water absorption:	very little
UV-stability:	good
Resistance to weather:	high
Long-term effect:	proved for > 10 years
Alkali resistance:	up to pH 14
Non-tack drying:	given
Tendency to soil:	little

zone since this could cause frost damage, spalling and salt burst. The surfaces to be impregnated often have a patina of various types of soil that reduce absorption. The cleaning measures required to restore the original absorption capacity should be as gentle as possible, e.g. by spraying with cold or warm water or through steam cleaning. For stubborn soil, the Rotec Low Pressure Blasting Device or one of the Remmers cleaning products (see respective Technical Information Sheet) can be used.

When cleaning, care should be taken not to damage the building substance any more than necessary. Residue from prior cleaning measures (e.g. surface-active agents) could impair the water repelling effect and must be completely washed off. Chase out defective joints and cracks and repair with factory-dry mortars such as Remmers Joint Mortar or Restoration Mortar. Close expansion and connection joints with elastic Remmers joint sealing compounds. Weathered natural stone as well as the sides of joints to be restored should be strengthened with Remmers stone strengtheners and, if necessary, repaired with Remmers Restoration Mortar. Non-absorbent substrates such as fine crystalline marble and lime stone are not suitable for impregnation with Funcosil SNL.

State of the substrate:

Absorption of the impregnation agent is a prerequisite for an optimal effect. This will depend on the respective pore volume of the building material and moisture content. For this reason, the substrate should be as dry as possible and absorbent. On substrates with strongly varying absorbency, there may be differences in the colour of the substrate after impregnation. If salts that damage the building are present, a quantitative salt analysis is essential. High concentrations of damaging salts (particularly chlorides, nitrates and sulphates) lead to serious damage that cannot be prevented by a hydrophobic impregnation.

Adjoining surfaces:

Parts of the facade that should not come in contact with the impregnation agent, e.g. windows, varnished surfaces as well as surfaces to be varnished, glass and plants should be covered with polyethylene sheets. If there is core insulation made of polystyrene or solvent-sensitive building elements such as bitumen, bitumen roof sheets, etc., use Funcosil SN or Funcosil WS instead.

Directions

The impregnation agent is applied under gravity in a flow coating procedure generously enough that a 30-50 cm long film of liquid runs down the building material. The nozzle should be held horizontally and led along the facade without interruption. After the impregnation agent has been absorbed, the process is repeated several times. Spraying pressure and nozzle diameter should be selected so that misting does not occur. To avoid missing areas, limited sections should be completely impregnated without interruption. For smaller, complicated surfaces that do not allow a spray application, a brush or roller can be used. When applying by this method, the required application rate can only be achieved by working with well saturated tools.

The freshly impregnated surface should be protected from driving rain for at least 5 hours. Strong wind and sunlight may accelerate the evaporation of the carrier which has a negative influence on penetration depth.

The surface of substrates that are not very absorbent should be washed off with V 101 Thinner half an hour to an hour after application to remove excess material since this could leave a gloss.

Working temperature:

Water repelling impregnation is preferably carried out in a temperature range between +10 °C and +25 °C. Sun awnings can be used to prevent surfaces from heating too strongly. At temperatures below 10 °C, evaporation of the carrier and formation of the active ingredient may be considerably delayed.

Notes

During work and the drying period, especially at low temperatures and when there is no wind, solvent vapours may enter the building. All windows, doors and openings should be closed during impregnation work. After the impregnation agent has dried, ventilate living spaces.

Testing the effectiveness

Water absorption on mineral building materials before and after a hydrophobizing impregnation can be determined with the aid of the Funcosil Test Plate (Art. No. 0732) or with the Funcosil Test Tube (Art. No. 4928) invented by Dr. Karsten. Testing after the hydrophobizing measures should be carried out at the earliest after 4 weeks and the results recorded.

Tools, cleaning

Solvent resistant, low pressure conveying and spraying equipment as well as liquid pumps. Tools must be clean and dry. After use and before longer interruptions they should be thoroughly cleaned with V 100 Thinner.

Packaging, application rate, shelf-life

Packaging:

5 l and 30 l tin cans, 200 l drums and 1000 l containers

Application rate (guide values):

Sand-lime brick, smooth:

at least 0.5 l/m²

Sand-lime brick, cleft:

at least 0.7 l/m²

Fair-faced brick masonry work, fine pored: at least 0.8 l/m²

Render: at least 0.5 l/m²

Heat insulation render (without polystyrene): at least 0.6 l/m²

Aerated concrete: at least 1.0 l/m²

Light-weight concrete:

at least 1.0 l/m²

Natural stone, fine-pored:

at least 0.6 l/m²

Natural stone, coarse-pored:

at least 1.5 l/m²

Impregnation agent requirements for calculation and tender should be determined on a sufficiently large trial area (1-2 m²). The effectiveness of the impregnation can also be checked on this surface.

Shelf-life:

At least 2 years in unopened containers. The containers should be protected from temperatures above + 30 °C and stored dry.

Once the containers have been opened, the contents should be used as soon as possible.

Safety, ecology, disposal

Further information on safety when transporting, storing and handling as well as disposal and ecology is found in the latest Safety Data Sheet.

Personal protective equipment is required for spraying procedures. Use respiratory protection with a combination filter at least A/P2 (made by e.g. Dräger). For suitable protective gloves, see Safety Data Sheet. Wear closed work clothes.

The statements above are compiled from our field of production and according to the latest technological developments and application techniques.

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