

Technical Information



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Capillary water uptake:

When mineral building materials come into contact with water, depending on the materials porosity, some water will be absorbed. The absorption of water depends mainly on the radius of the capillary pores in the building material. There are three pore categories:

- Micropores. These do not permit capillary transport of water & are impervious to water.
- Macropores (capillary pores). These pores are able to transport water within the building material.
- Air pores. These large pores are typically unable to transport water by capillary action.

The result of this water absorption may result in the following damage:

- Cracking due to the expansion & contraction of water.
- Frost damage.
- Dirt pickup.
- Attack by fungi, moss & lichen.
- Impairment of thermal insulation.

Characteristics:

SIL-T14 is a formulated water repellent showing the following special features.

- Excellent depth of penetration
- Excellent water repellancy
- Rapid tack free drying
- Solvent free

The product greatly reduces the capillary absorption of water but it does not seal the pores or capillaries thus not impairing the breathability of the structure. Water vapour can escape unhindered from the masonry and any damp can dry out. The natural diffusion water vapour permeability of the building is not affected.

Areas of Application:

SIL-T14 is suitable for use on brick, mortar, sandstone, granite, mineral plaster & concrete. It is not suitable for use on dense natural stone such as marble & limestone. It is also not suggested for use on reinforced concrete.

SIL-T14 must only be applied to mineral building materials. It is not suitable for application over any type of paint.

SIL-T14

Chemistry	Formulated Carbamate & Urea
Form	Liquid
Colour	Clear
Density (g/ml)	0.95
Viscosity (cps)	1.00
Application Temperature (°C)	8 to 25
Coverage (g/M ²)	200-300*

*Depending on the absorbancy of the material being treated.

Material	SIL 14 absorption (g/M ²)	SIL 14 Penetration Depth (mm)
Brick	550	2-3
Sandstone*	323	3-4
Concrete	88	1-2
Mortar Slab	76	1-2

Efficacy of SIL 14

*EN197-1-CEM I 42,5R

Material	1 Hour	2 Hour	3 Hour	6 Hour	24 Hour
Untreated Sand-lime Brick	6.09	6.12	6.13	6.13	6.19
Sand lime brick treated with SIL-T14	0.05	0.06	0.08	0.11	0.23

Water absorption change over time (kg/M²)

Directions for Use:

Shake or stir well before decanting. The product may be applied using roller, brush or preferably spray (knap sack sprayer). Two "wet on wet" coats are needed to ensure complete coverage. Ensure that the area being treated is dry and free of dirt, mould, moss and any other type of contamination.

Owing to the content of wetting agent, reimpregnation at a later date does not present any difficulties. If it starts to rain, stop the treatment and cover the Impregnated areas.

- Do not apply the product to wet or damp surfaces. The product should not be applied during or immediately after rain.
- Do not apply in damp/wet conditions.

Generally, it is considered good practice to refrain from applying any exterior treatment if there is a threat of rain within three to six hours.

- Do not apply if frost is forecast within 24 hours of use. Do not apply on elevations in direct sunlight or where the surface being treated is warm.
- Do not expose the product to frost

Packaging:

SIL-T14 is available in 5 kg, 25 kg, 120 kg & 1000 kg sizes.

5 kg Pack Size	SIL-T14- 5
25 kg Pack Size	SIL-T14- 25
120 kg Pack Size	SIL-T14-120
1000 kg Pack Size	SIL-T14-1000

Shelf Life:

SIL-T14 has a shelf life of at least 12 months when stored between 4 °C and 30 °C in the tightly closed original container. Phase separation will be visible upon storage and this may be reversed by brief stirring or agitation.

This will restore it to a homogeneous state. Protect from frost. Stir/shake drum before and during use. Keep container closed when not in use.

Approvals:

The formulated Alcoxysilane used in **SIL-T14** has proved it's effective as per the following reports

- (a) Belgian Building Research Institute (CSTC-WTCB).
- (b) Brussels, Belgium Test Report No. DE 577033/22.
- (c) January 31, 1997 „Initial effectiveness, secondary effects and durability of water repellent silane/siloxan emulsion.
- (d) TNO Bouw Rapport 2001-BT-MK-R048, February 15, 2001 „De effectiviteit van silane-siloxane als Hydrofobeermiddel voor metselwerk“ (dutch)
- (e) DL Laboratories, New York, USA, December 26, 1996 Federal Specification SS-W-110C

Note:

We have developed a large range of silane based construction products. These products are suitable for masonry protection, damp proofing, stone restoration & masonry consolidation.

The data contained in this data sheet is for information only and are believed to be reliable. We cannot accept responsibility for the results obtained by others over whose use or manufacturing procedures we have no control. Because of the variation in materials likely to be handled by prospective users of this product, together with differences in production techniques and ultimate performance required, it is important that this product is thoroughly evaluated under production and end use conditions before being commercially adopted. Such an evaluation should incorporate a reference to ageing and should be repeated if the substrates on which the product is used are changed in any way or are purchased from a different source. It is the customer's responsibility to carry out the appropriate actions during the evaluation of the product for the protection of the environment and for the health and safety of its employees and purchasers of its products. No Enviroform Solutions employee has any authority to waive or change the forgoing provisions. Any queries should be referred to our Technical Services Department.

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