

Technical Information



enviroform
www.enviroformsolutions.com

SIL-T20 May 2013. Rev 1.

Stone Conservation:

Stone varies in its chemical composition & mineralogical structure. It's weatherability & durability will also vary, the deterioration being triggered by water absorption & pollutants. The porosity of the stone is the critical factor. There are several types of deterioration including:

- Mechanical Corrosion
 - Freeze thaw damage.
 - Salt damage
 - Swelling & Shrinkage
- Chemical Corrosion
 - Loss of binder through salt formation.
 - Rearrangement of binder through crust formation.
- Biological Corrosion
 - Attack by algae, lichen, moss & bacteria.

Characteristics & Mode of Action.

SIL-T20 is a formulated silicate impregnating agent for use in the consolidating & strengthening of friable structural building materials. When applied, it penetrates through the capillaries of the construction materials. The product reacts with atmospheric moisture forming a silica gel adhesive which binds the building material. Under standard conditions (20°C / 50% R.H), the final hardness is reached in about 10 days.

- Very easy to use.
- Excellent depth of penetration
- Does not seal the pores in the stonework
- Original strength of the stonework can be restored.
- Water vapour permeability of the building is not affected.

Areas of Application:

SIL-T20 is suitable for use on brick, natural stone or any absorbant building material. By saturating the building material with the product, the original strength & porosity of the building material can be restored.

General Processing Guidelines:

SIL-T20 should be applied only after the following has been determined:

- Determine the exact state of the building material.
- Mark out a large test area and after application, examine the area for marking, discolouration etc.
- Using the test area, establish consumption per M².
- Monitor the application process & continue to check the results obtained.

SIL-T20

*Depending on the absorbancy of the material being treated.

Chemistry	Formulated Carbamate & Urea
Form	Liquid
Colour	Clear
Density (g/ml)	0.98
Viscosity (cps)	1.00
Application Temperature (°C)	10 to 20
Application Humidity (%)	>40
Coverage (g/M ²)	500-13000*

Substrate Condition.

SIL 20 must only be applied to mineral building materials which are thoroughly clean. The areas to be treated must be cleaned with warm water or preferably by steam cleaning. For areas that are very friable, it is possible to apply the product before cleaning to prevent additional surface damage. After cleaning, the material can be cleaned & the main consolidation process can then take place.

Directions for Use:

Before applying the product, the following procedures must be carried out:

- Cover up window or door frames (plastic door frames especially may be damaged by exposure to the product.
- Take care not to spray the product onto unintentional areas & avoid overspray at all times.
- If application is via dipping, a long dip time is required. Ensure that the dip tank is hermetically sealed to avoid dampness effecting the product.
- After treatment, the surface may show slight water beading, this does not mean that the surface is water repellent.
- Ensure that the area being treated is dry, absorbant and free of dirt, mould, moss and any other type of contamination.

The product may be applied using roller, brush or by dipping. 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

Application Amount & Post Treatment

The key requirement is that the product penetrates the friable building material. In order to achieve this, sufficient product must be applied and a sufficient depth or penetration must be achieved. In order to achieve the desired penetration depth, small areas of a building material (for example several bricks, locks, or a masked off measured area), should be treated with the product, wet-on-wet coats, until the area is fully saturated. Full saturation is achieved when the selected area is unable to absorb any more product. If required, a second application can follow the first, after a minimum time of three weeks at the earliest.

Warning, if a second course of treatment is carried out before the formation of the active silica gel adhesive within the building material from the first application, the building material will not be able to absorb any additional product and as a consequence, the building material will turn grey.

Consumption rates will depend on the porosity of the building material. In tests, stone was impregnated to a depth of 6 cm using a first treatment of 5 lt/M² and three weeks later a second treatment of 3.5 lt/M².

In all cases, a test area must be selected to determine the amount to be applied.

After restoration work, a saline water repellent coat should be applied. Enviroform will be happy to advise about suitable products.

Packaging:

SIL-T20 is available in 5 kg, 25 kg, 120 kg & 1000 kg sizes.

5 kg Pack Size	SIL-T20- 5
25 kg Pack Size	SIL-T20- 25
120 kg Pack Size	SIL-T20-120
1000 kg Pack Size	SIL -T20-1000

Shelf Life:

SIL-T20 has a shelf life of at least 12 months when stored between 4 °C and 30 °C in the tightly closed original container.. Protect from frost. Stir/shake drum before and during use. Keep container very tightly closed when not in use.

Note:

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.

Enviroform Solutions
16 Milltown Industrial Estate
Upper Dromore Road
Warrenpoint
Co Down
BT34 3PN