

SamiGrid® Asphalt Reinforcement

Installation Guidelines

SamiGrid® Installation Guidelines

1. Transport and Storage

SamiGrid® is protected by packaging against normal transport damage and weather impacts.

Upon receipt, the rolls have to be checked for any transport damage and, if faulty, set aside. They should be stored on a clean and level base.

The transport of the packaged goods at the construction site must be done in a manner that prevents deformation of the rolls or other damage.

2. Surface preparation

The surface onto which the SamiGrid® will be installed must be clean, free from loose debris and dry.

Full contact of SamiGrid® with the surface must be ensured at all times. Potholes, stepped transitions or pronounced irregularities must therefore be removed or reshaped.

Milled surfaces must not show any milling grooves greater than 10 mm depth. To ensure optimal bonding with the surface, fine graded milling (7 - 8 mm line spacing) is preferred. Loose milling residues must be removed before installation starts.



Individual cracks with a width of less than 3 mm may remain untreated. Expansion joints and cracks wider than 3 mm should be filled with a bituminous sealant after cleaning.

The prepared surface must be sprayed with a minimum rate of 1.8 kg/m² of a bitumen emulsion, with 70 % bitumen content.

On rough or open-textured surfaces the minimum emulsion quantity must be increased accordingly. Milled surfaces may require up to 2.3 kg/m².

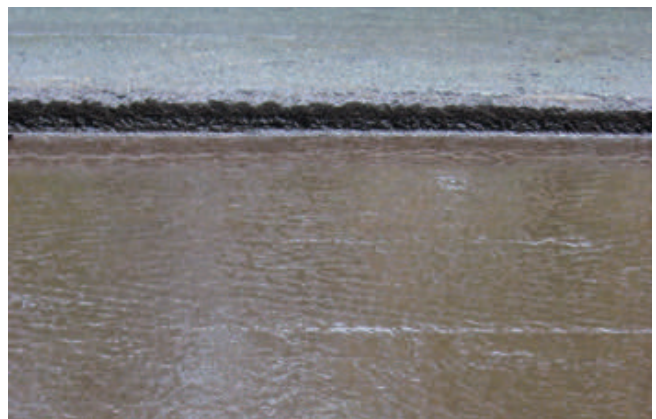


When installing SamiGrid® on a milled concrete surface, it is recommended to spray an initial 200 – 300 g/m² of the bitumen emulsion as a dust control measure.

The exact quantity of bitumen emulsion must be determined on site according to the local conditions.

The degree of saturation of the nonwoven with emulsion must be constantly checked visually and adjusted, if necessary.

The emulsion must be sprayed preferably with a high quality bitumen spray bar vehicle to achieve a uniform distribution of the emulsion. In tight radiuses or intersections spraying can be done with a manual lance if necessary.





3. Installation of SamiGrid®

It is generally recommended to employ only experienced personnel for the installation.

The unrolling can be done with a machine or by hand. SamiGrid® must be applied immediately after spraying into the unbroken / partially broken bitumen emulsion.

The formation of folds during installation must be avoided. If folds develop, they may be cut, pulled straight and glued down with emulsion. SamiGrid® must always be installed in dry condition and during dry weather.

A distance of approx. 50 – 100 mm should be kept at the edge of the road, to edge of SamiGrid® material.



At structures such as gully holes or manhole covers SamiGrid® can be simply cut out with a knife.

SamiGrid® must be installed with an overlap of 150 mm in the direction of installation (lengthwise) and 250 mm at the end of a roll. The overlapping areas must be glued together with bitumen emulsion. Excess saturation must be avoided.

To ensure a good impregnation, SamiGrid® should be pressed onto the base during or after the unrolling, e.g. using a street broom.

Viewed in the driving direction of the asphalt paver the end of a layer always covers the beginning of the next layer to



prevent it from being lifted. If several lanes are placed side by side or behind each other, overlaps shall be arranged with offsets to prevent multiple overlaps occurring at the same location.

In slight curves SamiGrid® can be installed in a single piece. The folds developing in the inside area of the curve must be pulled, cut and installed with an overlap. With tighter curves shorter sections need to be cut and installed in overlapping fashion.

The composite material must not be trafficked by any vehicles before installing the asphalt overlay.

Note:

Spreading chippings onto the material may be beneficial in case of very hot outside temperatures. The maximum amount applied should not exceed 1.0 kg/m² with a grain size of 2/5 mm (not smaller).



4. Asphalt installation

The normal practices for asphalt road construction also apply for the installation of the asphalt. The applicable local technical regulations for the asphalt compaction have also to be followed with the use of SamiGrid®.





To prevent SamiGrid® from becoming dirty or soaked during rain the asphalt installation should take place immediately after installing the composite. SamiGrid® must then be dry and the bitumen emulsion must be completely broken.

The thickness of the first asphalt layer must always be at least 40 mm when compacted. Joints in the asphalt overlay should not coincide with the overlaps of the composite.



Paver and transport vehicles must be moved carefully and cautiously to keep the shear stress on the composite as low as possible.



When backing up to the paver, strong steering movements as well as sudden acceleration or braking of the transport vehicles must be avoided.

The transport vehicles should not apply their brake when being pushed by the paver. In the event of slopes, delivery trucks may even need to move along under their own power.

5. Final remarks

For the construction of a reinforced asphalt layer, the local technical guidelines for asphalt road construction have to be considered.

In addition, some special aspects must be taken into account when using SamiGrid®; these instructions should provide this information, however should there be any questions relating to special applications, we are happy to assist with information and advice. We reserve the right to technically modify or improve the products, or the proposed installation method.

Warranty claims cannot be derived from these instructions.



SamiGrid® Installation advice

Summary of the key steps for the installation of SamiGrid®

1. Cleaning

Clean the surface of loose debris and fill potholes, cracks/joints and uneven zones. The surface must be dry and clean.

2. Spraying emulsion

The prepared surface must be sprayed uniformly with approx. 1.8 kg/m² – 2.3 kg/m² of bitumen emulsion with 70 % bitumen content to ensure an optimal interlayer bond.

3. Installation

SamiGrid® must be unrolled immediately after spraying into the unbroken / partially broken bitumen emulsion. The application should be done with the help of an unrolling device. To ensure a good impregnation, SamiGrid® should be pressed onto the base during or after the unrolling (e.g. using a street broom). Experienced technical personnel for the installation process are always recommended.

4. Overlaps

150 mm in transverse direction and 250 mm in lengthwise direction. In the direction of installation, the end of one layer should always cover the beginning of the next layer. The overlapping areas must be “glued” together with bitumen emulsion. Excess saturation must be avoided. Multiple overlaps must be avoided at the same location.

5. Curved areas

In curves the SamiGrid® sheet – depending on the curve radius – can be cut into shorter sections and installed in overlapping fashion, or locally cut and adjusted as necessary.

6. Vehicle traffic

SamiGrid® must not be driven on by road traffic until the first covering asphalt course has been installed. When driving on SamiGrid® with asphalt delivery lorries, strong steering manoeuvres and sudden acceleration or braking must be avoided.

7. Asphalt installation

The thickness of the first asphalt layer must be at least 40 mm in compacted condition. When installing the asphalt, SamiGrid® must be dry and bitumen emulsion must be completely broken (colour change from brown to black).

Note:

Spreading chippings onto the material may be beneficial in case of very hot outside temperatures. The maximum amount applied should not exceed 1.0 kg/m² (grain size of 2/5mm).

Installation must be carried out according to these detailed installation instruction.

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