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Installation tips for Stabilizer® coating layers

In general.
By selecting a suitable construction method, it is important to take the design and use of the surface area as well as the production and maintenance investments into account.

In general, it is recommended to use base layers [BL], dynamic layers [DYS] and surface layers [SL] made out of the same petrographic origin. This ensures that the grain composition remains stable in terms of erosion and that no contact reactions occur. The uniformity of grain shapes and surfaces allows for a better interlocking of the soil layers. Porous rock types are generally considered unsuitable.

Base layer [BL]

must be water permeable, load-bearing and frost resistant. The grain content of the manure on delivery must be < 5 % by weight. For 3-, 2- and 1-layer construction, the base layer must be 12 cm thick according to FLL ≥.

Dynamic layers [DYS]

form the gradual transition from the base layer to the top layer. They enable the construction of finer-grained coating layers. The stability of the superstructure filter is significantly improved. The grain content of the slurry must be < 7 % by weight in the delivered state.

The dynamic layer should have a thickness of 6 to 8 cm depending on the FLL.

Surface layers [SL]

serve the optical design and form the top layer of the superstructure. Very fine grain sizes, e.g. 0 to 3 mm, should only be used for low-traffic areas. The binding capacity of water in purely mineral watercourses depends, among other things, on the clay and silt content. According to the FLL, the grain content of the slurry must be < 18 % by weight in the delivery condition.

Stabilizer® top layers are an additional option for surface design and offer many advantages over purely mineral surface layers. They also serve the design optics. Due to the natural binder it contains, dust is more bound and water- The water balance, both the storage capacity and the flow of water, has improved considerably. The mud grain fractions are structurally stable and permanently bound in the surface layer and may not be washed away by erosion on the underlying layer. Stabilizer® coatings are environmentally friendly, very durable and reusable

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Base layer and construction.
Before laying the substructure, the base layer, the dynamic layer, if any, and the levelling must be checked for evenness, the correct inclination and suitability of available materials.

- Requirements in accordance with the FLL technical report on planning, construction and maintenance of waterways 2007 edition according to local standards.
- classic body, compacted, slope 2 - 3,5%, flatness +/- 2 cm
- Grain size of the base layer
  z. e.g. 0 - 32 mm, 0 - 45 mm, homogeneous, mud grain in delivery condition < 5 % by weight
- Dynamic layer Grain size
  z. e.g. 0 - 16 mm, 0 - 22 mm, homogeneous, mud grain in delivery condition < 7 % by weight

Top coating

Many types of natural stone are suitable for the production of Stabilizer coating layers. It is important to use only crushed sand, i.e. crushed sand with sufficient hardness, angularity and grain size distribution. Quartz sand, crushed round materials, artificial stone and recycled materials are not suitable for the production of Stabilizer® coatings.

As the crushed sands used are purely natural products, the colours of the sands may vary depending on their presence in the quarry. It is always advisable to request a current sample of the sand before carrying out the project.

Factory mix

Stabilizer® crushed sand mixtures are usually delivered to the construction site ready to use. Hence, it guarantees that the right materials are used, respectively that they are homogeneously mixed, the right proportions of binder and crushed sand are used, and that the binder is pre-activated and has the right water content for installation.

For **on-site mixing**, use crushed sand with a grain size of 0-4 mm and 0-10 mm. The proportion of mud and fine sand grain size of less than 80 microns should be 13 to 18 % by weight regarding most crushed sands. A levelling curve must first be drawn for unknown sand. The sand is homogeneously mixed with the binding agent and water in mixing units, which should be as large as possible. If the grading curve and grain characteristics are suitable, 6 kg of binder is added per tonne of sand. The finished mixture should be earth-moist.

Factory-made **Stabilizer® mixtures** are freshly produced upon order.

This ensures that the factory mixes are homogeneous and stable.

The binder is pre-activated on delivery.

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Installation.

Stabilizer® mixtures must be installed during suitable weather conditions. The recommended setup period runs from March to October. The temperature must be constantly above 10°C. The Stabilizer® top layer must not be installed in case of frost and especially in case of ground frost. In hot weather, the substructure must be sufficiently moistened before applying the top layer. It may be necessary to rehydrate the delivered coating material so that it is earth-moist during installation.

If the mixture has been stored temporarily, it must be mixed homogeneously and the moisture content adjusted prior to installation. For intermediate storage, care must be given to ensure that the material is not exposed to heavy rainfall, as it will begin to thicken. An airtight cover is only suitable for very short interim storage, otherwise sufficient air circulation must be guaranteed under the protection cover.

The covering layer is applied in a uniform thickness of 4 to 6 cm (depending on use and site situation). Paving can be done mechanically (e.g. roller compactor) or by hand. Sufficient interlocking with the underlying layer must be ensured. The required surface slope in front of 2 - 3.5 % must be respected. The compaction factor is about 20 - 25 %.

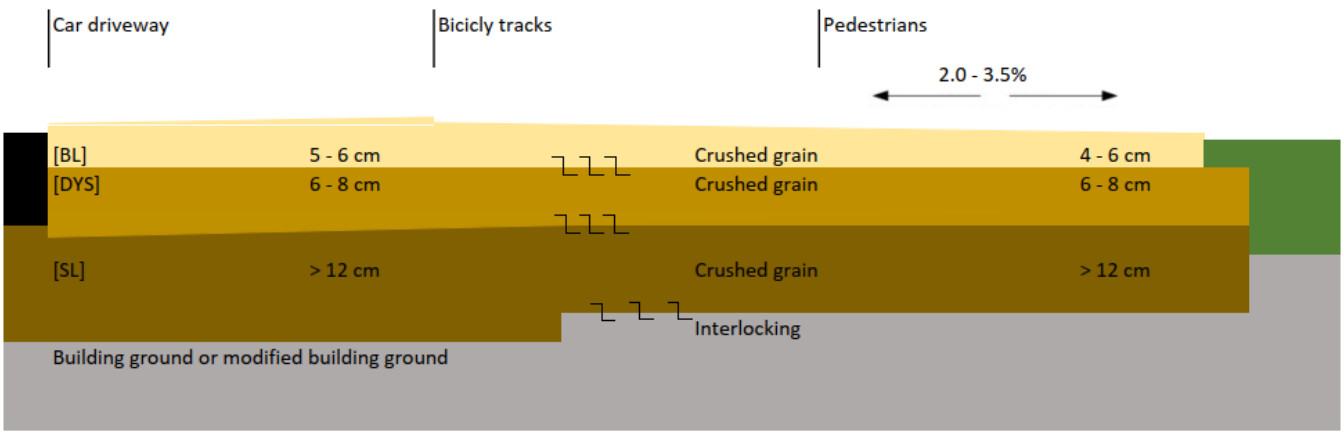
After application, the coating is compacted statically (without vibrations) with approx. 800 - 2'000 kg. Rolling should be carried out in several cross passes. The pavement must be slightly damp in order to be compacted.

The pavement is then sprayed generously to activate the binder. Water must penetrate the entire thickness of the layer. Dampening must be carried out with a light water jet and without pressure in order for the material to not wash out and for the grain to not mix.

As soon as the surface layer has dried out after watering (approx. 3 to 24 hours), a new static compaction should be carried out. To achieve final compaction, it is recommended to roll at least 4 times.

It is recommended to wet the surface coating several times so that the binding agent is safely activated and binds quickly with the crushed sand.

Sketch of possible construction layouts illustrated schematically.



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Clearing the path.

The time before the road is cleared depends on the weather and lasts between 5 and 21 days. The finished surface must be flat and even and must not have any visible cracks or drying layers. In the dry state, the material is solid, in the wet state it is plastic. Subsequent use and the subsequent hardening and drying phases make the top layer even more compact. Granules form on the surface after use.

The recommended application time for the water-activated binder is from March to October, depending on the outside temperatures. Paving in frosty conditions would prevent the hardening process.

If the Stabilizer® coating is installed in excessively cold and wet weather, e.g. late autumn or winter, the surface covering will probably not reach its final solidity until the following spring. In this case, the covering must be levelled and compacted statically once more appropriate temperatures set in.

Care and maintenance.

Care and maintenance of the surface layer must be carried out regularly. Organic matter, dirt, rubbish, etc. must be immediately removed from the surface with a rake, blower or broom. Small material erosions, minor damages and loose grains can be reintegrated to the coating by rolling while the top layer is wet. In the case of more extensive damage, new material can be easily applied to the damaged area after cleaning and integrated into the existing coating after moistening and compacting.

During the winter natural stone gravel of the same colour can be used for ecological maintenance.

For further information, advice about the product and installation, please contact our team of consultants. We remain at your disposal.
Please always follow the standards and regulations applicate in your country.