

TERRA-3000®

The innovative technology of soil stabilization for
earth- and road construction



TERRA-3000® is effectively improving the compressibility of cohesive soils sustainable.

Substantial reduction of water absorption is increasing the load capacity, frost resistance and abrasion resistance permanently.

Roads and squares, constructed with TERRA-3000®, are dust free even without surface layer and can be released for traffic immediately after termination of the construction works.

The effect of TERRA-3000® is based on many years of experience of the TERRASYSTEM® Nano-Technology.

The method is proven in many applications worldwide and the product is 100% ecological and environmentally friendly.

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Areas of application

TERRA-3000® is suitable for various applications where sustainable soil stabilization is required and for almost all soils with a minimum clay content (<0.002mm) of 15 until 20%.

- all kind of road (agricultural, forest roads, access roads, cycle tracks)
- industrial areas (storage areas, foundation plates)
- railroad embankments, road embankments
- parking lots and squares
- embankments, water channels, irrigation channels
- landscaping

Technologies - Application methods

TERRA-3000® applications require always a "mixing procedure", where the majority of soil particles need to get in contact with the product.

There are 2 methods of processing TERRA-3000®. The best possible method can be selected in accordance to the local conditions and the type of the construction project.

Mixed-on-site (in-situ) Technology

The existing soil material will be milled on site with a soil stabilizing milling machine. This can be an automotive soil stabilizer or a tractor-towed soil stabilizer.

The addition of TERRA-3000® and water is ideally processed during the milling process, controlled by a flow controlling unit and ejected by nozzles directly into the mixing chamber of the soil stabilizer.

In the following process steps, the treated soil material will be levelled and compacted until the requested density is reached.

There is basically no material transport necessary, the construction material is available on-site.

Material analyses (grading-curve determination) need to be done in advance in order to get the results available before the beginning of the construction works.

Mixed-in-Plant Technology

The soil material will be pre-finished in the mixing plant which should be in a reasonable distance to the construction site.

The material is prepared for delivery by truck and will be applied at the current construction stage.

In the following process steps, the treated soil material will be levelled and compacted until the requested density is reached.

Material analyses (grading-curve determination) as well as moisture measurement and humidity control is done frequently in the mixing plant.

Advantages - Cost savings

All construction projects, which are suitable to be processed with TERRA-3000® can be implemented in short processing time and reduced costs, achieved by:

- Reduced excavation works

The "mixed-in-plant" technology reduces the excavation works substantially, because there is no sub-base required for the implementation of a compacted base layer of soil material treated with TERRA-3000®.

The mixed-on-site technology combines the mixing procedure with the material extraction on site, excavation works can be dropped.

- Reduced material handling - transport logistics

Regardless on the preferred method, the transport logistic will be reduced to the minimum of carrying the treated soil material to the construction site in case of the "mixed-in-plant" technology or can be almost dropped when proceed with the "mixed-on-site" technology.

- Simple construction

TERRA-3000® enable a continuous workflow.

The entire construction project can be split into variable construction stages which can be finalized accordingly.

- Savings through elimination of additional sub-base material request.

Soil stabilization or soil improvement are at the present time Infrastructure construction or road construction, as well as other construction projects indispensable - there are different processes depending on the use of products:

Electro-physical soil stabilization:

TERRA-3000®: water soluble catalyst - no binder, ion exchanger
Mode of action: physical - by compression (static, heavy weight no vibration)
Installation: Liquid - is processed directly with a milling machine in the ground

Ecological damage: no emissions - no dust (liquid), ph neutral –
no flooding or other environmental pollution –
no dangerous goods - no protective measures required

Hydraulic soil stabilization:

Binder: cement or lime or mixtures of both,
depending on the soil composition or moisture
Mode of action: chem. Reaction - bind, glue
Installation: fine-grain powder, strong dust development during installation

Ecological damage : fine dust pollution, strongly alkaline,
mixed with water, lye with a pH value of > 12 is formed,
highly caustic, is simply applied to floors,
parts penetrate into groundwater (drinking water) - there
unfortunately, no conclusive studies of consequences
this procedure!

Conclusion

TERRA-3000® is the most economic method for sustainable soil stabilization applications of various construction projects.
Depending on local conditions and circumstances of executed projects, cost savings up to 50%, compared with conventional construction methods were achieved.