product data sheet

GeoSol®

special binder

Product:

GeoSol® is a factory made special binding material for the improvement and strengthening of cohesive soils.
GeoSol® is produced from lime standardized according to DIN EN 459-1, from standardized cement according to DIN EN 197-1 and from hydraulic road binders according to DIN EN 13282 and their major and minor constituents.

Application:

GeoSol® is used in foundation engineering and road construction for soil treatment.

Characteristics:

GeoSol® generates a compression-willing soil structure and enables a sustainable high load-carrying capacity and shear strength within the compressed soil. The proportion of reactive fine lime results in a fast reduction of soil water content supporting an improvement of soil structure and compaction properties. The proportion of hydraulic constituents leads to solidification and higher load-carrying capacity.
GeoSol® is available in the following standard qualities:

- **GeoSol® 30**
- **GeoSol® 50**
- **GeoSol® 70**

The choice of a suitable special binding material quality is basically determined by the type and natural water content of the specific soil.
Special qualities are available on customer request.

Application:

GeoSol® is typically applied following the mixed-in-place process. It is directly scattered onto the soil followed by a milling procedure, using additional water, when required. According to soil type, the compression work can be done directly or after some hours laytime.
The application of packed material also requires a homogeneous mixing of the hydraulic binder with the soil, preferably using crusher bucket attachment.

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Major criteria for the choice of hydraulic binder quality and dosage is the geotechnical analysis with regards to grain size distribution, plasticity and the natural water content of the present soil. To determine those parameters a suitability test following the respective standards and regulations is to be carried out by the building company/the executing companies with the referring soil for every isolated case.
Due to the powder-like properties, it is necessary that storage containers are dust-tight and suitable for pneumatic loading. Up to the final use material must be stored dry as it reacts with water releasing a considerable amount of heat. Hazards for flammable material may result from this. Packed material has to be protected against the penetration of moisture. Even completely emptied packaging must be stored dry , safe and not in the vicinity of easily inflammable materials. On the basis of practical experience at construction sites and according to general recommendations, as possible no soil treatments should be executed at soil- and air temperatures below +5 °C as well as during heavy rainfall.

The volume of **GeoSol®** to be admixed to the soil according to the result of the suitability test amounts to approx. 2-6 M.- %. Like all hydraulic binders, **GeoSol®** must not be discharged into water bodies, as this leads to an increasing pH-value of the water. **GeoSol®** is delivered in powder form. When storing and processing, it must be ensured that there is no dusting or turbulence. **GeoSol®** is to be used in the context of processing so that the discharge on areas beyond the surface to be worked on happens neither during the application nor subsequent processing, not even through drifts.
Based on the alkaline properties of hydraulic binders, contact to other objects can lead to damage due to adherences and discoloration.
For applications with special requirements to dust generation we recommend the use of our reduced dust binding material **GeoSol®RD**.

For additional information regarding the processing of special binding materials please refer to our „Handbuch für Bodenbehandlung und Tragschichten mit hydraulischen Bindemitteln“ at the download section of our website: www.ght-baustoffe.de

Further information on safe and proper handling of **GeoSol®** is given in the Safety Data Sheet.
The current Safety Data Sheet can be found in the download section under “Produktinformation” on our website: www.ght-baustoffe.de. If you have no possibility to download the Safety Data Sheets online, please ask us to send you these as hardcopy immediately.

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Monitoring:

GeoSol® is constantly monitored in the laboratory of the manufacturer.

Environmental compatibility:

GeoSol ® 30, GeoSol ® 50 and GeoSol ® 70 have been examined to the criteria of the BBodschV by independent, approved laboratories. A local increase of ph-value and electrical conductivity during state of incomplete reaction / recarbonation, as typical for soil treatment with special binding material, can occur.

Depending on the location and nature of the construction project, obtaining a permit under water law according to national laws through the builder / the executing companies may be necessary.

All specified values are determined under laboratory conditions and are subject to usual technical tolerances. These are mean values over the last six months and, like further communicated data, are stated without guarantee. Additional deviations may occur due to natural and production-related fluctuations of the input materials as well as the treated soil types. Our results do not absolve the client from executing suitability tests for each individual construction project and self-responsible decision for the use of this product.

The right to changes within the scope of the product-technical and application-technical further developments is left reserved.

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