SIDHYA ASIA
CHEMICAL PRIVATE LIMITED

TDS

PRODUCT DATA SHEET

Sidhya® Soil Plast 117

Polymer for hard rock Tunnel Boring Machines (TBMs)

Description

Sidhya® Soil Plast 117 is a polymer engineered to be used in Hard Rock Tunnel Boring Machine (TBMs). The product reduces the formation of dust during mining and improves the working conditions considerably. Sidhya® Soil Plast 117 helps in anti-clogging and improves the transfer of muck from the cutter head chamber to screw conveyor. The product reduces the risk of blocking and hence reduces maintenance significantly. The product supports the mining by cooling the cutter discs and improving the durability of rubber seals.

Applications

Sidhya® Soil Plast 117 is designed to reduce abrasion wear to the cutter discs and reduces the dust formation during excavation. The product is highly recommended in hard rock TBM as it can fulfill the below applications during mining:

- Reduction of abrasion wear on cutter head.
- Increases the productivity of tunneling boring machines.
- Reduces dust formation during mucking.
- Improves the working conditions for TBM operators.
- Significant reduction of friction at cutter head and screw conveyor.
- The product is suitable for Environmentally friendly mucking works.
- Compatible with the highest environmental standards.

Guidelines for Use

Sidhya® Soil Plast 117 is designed to be used with standard foam generators available on EPB tunnel boring machines. It is injected with foam injectors by mixing it with air and water into the cutterhead and working chamber to condition the soil by generating foam.

When injected by a foam generator the foam expansion ratio (FER) can vary between 6 to 20 and the foam injection ratio can vary from 5 to 80 depending on the soil profile encountered during mining.

Technical Specifications

Color	Light Brown
Appearance	Homogenous
State	Liquid
Specific Gravity	1.05 ± 0.02 @ 20^{0}C
pH	Minimum 7.0
Shell Life	12 months from the date of manufacturing if stored as per recommendations and original sealed packing.

Advantages

Sidhya® Soil Plast 117 is a polymer designed for reduction of maintenances which improves the efficiency of TBM and increases rate of advancement. The product can significantly reduces the power consumption and henceforth can provide the below advantages:

- Reduces the friction between the soil and cutter head of TBM.
- Increase in advance rates and productivity of TBM.
- Improves the muck transfer and hence reduces risk of blockage.
- Extends the life of cutterhead components.
- Decrease in cost of maintenance of TBM and screw conveyor.
- Environmentally friendly and Non-Toxic in nature.

Dosage

The dosage of Sidhya® Soil Plast 117 depends on the soil profile encountered. Typically, the soil conditioner is used at is used 0.5 to 6.0% solution in water. In special applications, for further control in mining, Sidhya® Roc Drive series is also recommended. The Polymers of Sidhya® Roc Drive series further improves the property of the excavated soil and provides foam stability.

We always recommend conducting preliminary tests at site with our Sidhya® Tunnel Team to further optimize the dosage. Preliminary tests are conducted to determine the consumption which may vary from the recommended dosage as stated above.

Storage

Sidhya® Soil Plast 117 has a shell life of 12 months provided the temperature is kept between +5.0^{0}C to +50.0^{0}C. Please contact Sidhya® technical team if the product falls outside the temperature range.

Packaging

Sidhya® Soil Plast 117 is available in 200 liters drums, 1000 litres IBC and bulk tanker. Please contact our Sales Representative for customized packing and more details.

Legal Notice

The recommendations related to the application and recommendations are given in good faith based on Sidhya's current experience and knowledge of the products. The benefits stated about the product are only applicable if guidelines provided by Sidhya for storing, handling and mixing are followed under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product is always advised to test the product's compatibility and suitability for the intended requirements and application. Sidhya reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned copies of which will be supplied on request.

Sustainability, Health and Safety

End use of the product must read the Material Safety Data Sheet (MSDS) of the product. The MSDS provides information and advice on storage, handling and disposal of the product and instructions related to physical ecological, toxicological and other safety related data.

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