

MasterRoc[®] SLF 30

Soil conditioning foam for Tunnel Boring Machines

Product description

MasterRoc SLF 30 is a foaming agent especially designed for soil conditioning in Shielded Tunnel Boring Machines.

Viscosity [mPas] 20°C	< 250
pH (as such) 25°C	> 6.0
Solubility in water	Total

Fields of application

- Soft ground tunneling with Tunnel Boring Machines
- Dust suppression in Hard Rock tunneling

Features and benefits

MasterRoc SLF 30 has been especially developed for soil conditioning in tunnelling with shielded TBM excavation. When mixed with the soil, the product provides for:

- Improved soil behavior
- Easier 'mucking'
- Environmental friendliness
- Reduced permeability and increased sealing at the face.
- Creation of plastic deformation properties in the soil, which provides an even and controlled support pressure and increased face stability.
- Lower inner friction and lower abrasiveness of the soil at the cutter head through to the screw conveyor and conveyor. This reduces power consumption; enables soil extraction and conveyance, as well as reducing wear costs.
- Reduced stickiness in certain soils, which would lead to problems with blockage.
- In hard rock tunneling and mining it can be used for dust suppression.

Packaging

MasterRoc SLF 30 is available in Bulk tanker or 220 Kg drum.

Technical data

Form	Liquid
Color	Clear colorless
Density [kg/m ³] 25°C	1030 -1050

Application procedure

Foam is produced by dispersion of air into an aqueous solution of the MasterRoc SLF 30.

MasterRoc SLF 30 foam solution can be expanded with air to produce a stable foam.

The foam recipe, foam expansion and the foam injection rate into the face, working chamber or screw conveyor will depend on soil conditions encountered.

Consumption

Typically, MasterRoc SLF 30 is made into a 2 – 3% (typical range 1.5 – 4%) solution in water.

MasterRoc SLF P1 or MasterRoc SLF P2 (see separate data sheets) can be added with the MasterRoc SLF 30 to strength the foam or adjust the properties of the excavated soil.

Foam Equipment

MasterRoc SLF 30 can be used with the standard TBM dosing and foaming equipment.

Handling

Do not mix pure MasterRoc SLF 30 with any other pure soil conditioning additives as this may cause immediate gel formation. If several foaming products or polymers are used on the TBM, it is preferable to reserve a specific transfer or dosing pump for MasterRoc SLF 30. If a transfer or dosing pump is being used for more than one product, it is recommended to clean the pump with water before switching to other products.

Storage

The storage temperature of MasterRoc SLF 30 is between 5°C and 40°C. If stored in original tightly closed containers MasterRoc SLF 30 will have a shelf life of 12 months. Do not allow the product to freeze.

It is recommended that your local representative be consulted prior to the use of any product that has become frozen.

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Safety precautions

MasterRoc SLF 30 contain no hazardous substances requiring labeling. However, standard precautions for handling chemical products should be observed: Avoid eye and skin contact and wear rubber gloves and safety glasses.

If contact occurs, rinse with plenty of water. In case of eye contact seek medical advice. For further information, refer to the Material Safety Data Sheet.

A Risk Assessment report on the use of MasterRoc SLF products in tunnels is available on request.

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