

## Ground Conditioning foam agent for Tunnel Boring Machines

### Product description

**SGF-100** liquid foaming agent is designed for use in soils conditioning high concentrations of clay, and as a dust suppressant in hard rock tunneling and mining applications. **SGF-100** is a foaming agent especially designed for soil conditioning in Shielded Tunnel Boring Machines.

### Field of application

- Soft ground tunneling with Tunnel Boring Machines
- Dust suppression in Hard Rock tunneling
- In case of further drilling speed is required. (up to 35%)
- Rapid collapse of soil and requirement of very high performance foam

### Consumption

Used for dust suppression typically the **SGF-100** is made into a 1.5–3% (typical range 1–4%) solution in water. UGC-NCH (see separate data sheets) can be added with the **SGF-100** to strength the foam or adjust the Properties of the excavated soil.

### Features and benefits

- Improvement soil behavior
  - Easier 'mucking'
  - Environmentally friendly
  - Excellent soil conditioning properties
  - Reduce torque and thrust
  - Excellent pervading into soil
  - Reduce consumption dosage at very high range
1. Very low dose
  2. Excellent permeability
  3. Lower drilling rate up to 30%
  4. CF below 2%
  5. Protect metal parts from corrosion and reduce maintenance cost
- Good Soil Conditioning
  - Stability and High Pervading
  - 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.

**SGF-100** has been especially developed for soil conditioning in tunneling with shielded TBM excavation. Generally the product when mixed with the soil provides for:

- 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.
- Reduces stickiness in certain soils, which would lead to problems with blockage
- In hard rock tunneling and mining it can be

### Packaging

**SGF-100** is available in standard 1000 liter drum.

### Storage

The storage temperature of **SGF-100** is Between 15°C and 35°C. If stored in original tightly closed containers **SGF-100** will have as 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.

### Safety precautions

**SGF-100** 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 goggles. If contact occurs, rinse with plenty of water. In case of eye contact seek medical advice. For further information, refer to the material safety datasheet.

Typical values	
Form	Liquid
Color	Colorless to beige
Solubility in water	Total
Density@25°C	1.03 ± 0.03 [g/cm <sup>3</sup> ]
Ph	7.0 ± 1.5