

# MasterRoc® SLF 325

Foaming Agent for Heterogeneous Grounds with Low to Medium Permeability,  
Readily Biodegradable for Tunnel Boring Machines (TBM) Applications

## Material Description

**MasterRoc® SLF 325** is a highly biodegradable, cost-effective, high-performance foaming agent, specifically designed to improve contractor's tunnelling performance.

It will be easier for the TBM Operator to control the rheology of the soil without altering the construction performance. MasterRoc® SLF 325 guarantees a new improved foam stability that guarantees proper EPB counter pressure. Its improved foam properties will ensure better control of the ground pressure, reducing the risk of additional ground settlement at the surface and over excavation.

MasterRoc® SLF 325 is an eco-friendly foaming agent, based on readily biodegradable raw materials.

## Areas of Application

**MasterRoc® SLF 325** is designed for silt to sandy soils in environments above 11 °C.

MasterRoc® SLF 325 creates a highly stable foam to hold the face pressure and maintain the rheology of the excavated ground longer than conventional foaming agents.

MasterRoc® SLF 325 can be used with the standard foam generators installed in all EPB machines. It can be injected at the cutterhead to the front, into the TBM working chamber and in the screw conveyor.

### Technical Properties

Form	Liquid
Color	Transparent
Specific Gravity (20°C)	1.00 g/cm³
<b>MasterRoc® SLF 325 exhibits:</b>	
High foamability	
High stability	
High Half Life Drainage Time (HLT)	
Very high mechanical resistance and strength	

## Characteristics and Benefits

### Operational

- Due to the high foaming capacity, it will be possible to work with high FER values avoiding the collapse of the foam, compared to standard foaming agents
- You will work with lower FIR values to obtain the desired soil rheology, compared to standard foaming agents.
- Improved face excavation support pressure and control
- Improved TBM excavation cycle's time, quality, and cost
- Facilitated muck extraction from tunnel and from the muck pit area
- Improved overall tunnel performance
- Reduced tunnel excavation time
- Reduced TBM maintenance costs
- Optimized muck logistics outside job site
- Minimized over excavation and contractual disputes
- Reduced risk of surface settlement

### Technical

- Improved soil behavior
- Reduced soil permeability
- Creation of plastic deformation properties in the soil, which increases face stability
- Lower inner friction and lower abrasiveness of the soil at the cutterhead and shield
- Reduced stickiness of soils with high fines contents (i.e. <0.063 mm), which would lead otherwise to clogging, blockage problems

## Application Procedure

MasterRoc® SLF 325 is used as aqueous solution with a typical 1 % - 3 % concentration.

Easily injectable by any standard foam generator installed in TBM EPB machines.

If the consistency of the muck needs to be reduced, MasterRoc® SWA and SLP polymers can be used in combination with MasterRoc® SLF 325.

For the first use and combination with other soil conditioning agents, please contact your local Master Builders Solutions representative.

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## Dosing System

MasterRoc<sup>®</sup> SLF 325 can be used with the standard TBM dosing and foaming equipment.

## Packaging

**MasterRoc<sup>®</sup> SLF 325** is available in standard 1000 kg IBCs and bulk.

## Storage and Shelf Life

**MasterRoc<sup>®</sup> SLF 325** must be stored between 10°C and 40°C. At temperatures below 11 °C the product can become slightly turbid, but this doesn't affect the performance once remixed and homogenized being the formulation chemically reversible. Do not allow the product to freeze. If stored in original tightly closed containers, it will have a shelf life of 12 months.

## Ecological Information

MasterRoc<sup>®</sup> SLF 325 is eco-friendly and highly biodegradable as per international standards. Please consult Master Builders Solution Safety Data Sheet.

## Product Disposal Information

Deposition of excavated material conditioned with MasterRoc<sup>®</sup> SLF 325 on a landfill for inert materials as per Council Directive 1999/31/EC dated 26.04.1999 on the landfill of waste (OJ L 182, 16.07.1999) shall be possible in any case.

## Health and Safety

For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be

tainted with vapor until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

## Disclaimer

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş.** is only responsible for the quality of the product **MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş.** is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.

## Contact

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