

MasterRoc[®] SWA 705

Strong Thickener for Soil Conditioning in Tunnel Boring Machines (TBM)

Description

MasterRoc SWA 705 is a liquid polymer, specifically formulated for use in ground and slurry conditioning. MasterRoc SWA 705 polymer works as a binding agent, to increase soil plasticity and cohesion, which helps to improve the balance of pressure in the working chamber, resulting in better ground stability and soil extraction.

MasterRoc SWA 705 polymer can be used to enhance the performance of MasterRoc SLF foams and MasterRoc ACP soil conditioning products in saturated soils. MasterRoc SWA 705 polymer is also suitable for use for an adequate sealing of the excavation face during hyperbaric interventions in combination with the injection of bentonite or filler slurries.

Applications

Recommended for use in:

- Earth pressure Balance (EPB) and Slurry TBMs
- Bentonite slurry modification in case of high soil porosity or saline water conditions
- Improving the yield and filter cake properties of bentonite and filler slurries
- Lubricant for pipe jacking

Features

- Reduced soil permeability
- Ready to use - no mixing equipment required

Benefits

- Provides an even and controlled support pressure and increased face stability by creation of plastic deformation properties in the soil
- Lowers the inner friction and abrasiveness of the soil
- Increases cohesion of coarse sands and gravels
- Improves the yield and filter cake properties of bentonite slurries

Performance Characteristics

Technical Data

Form	Liquid
Color	Light yellow
Density* lb/ft ³ (g/cm ³)	74.3 - 76.8 (1.19 - 1.23)
pH*	8.9 – 9.1
Dynamic Viscosity*	3,000 - 6,000 mPa.s
Solubility in water	Miscible

*@ 68 °F (20 °C)

Application procedure

MasterRoc SWA 705 polymer can be added by a separate dosing pump into the foaming system. Injection point must be right after the foam generators.

MasterRoc SWA 705 polymer can also be used independently, in which case it is injected directly to the working chamber or the screw conveyor. The quantity of MasterRoc SWA 705 polymer needed depends on the soil conditions. For the combination with other soil conditioning agents, please contact your local Master Builders Solutions representative.

Guidelines for Use

Trials should be conducted to determine the optimum dosage of MasterRoc SWA 705 polymer. The dosage depends on the application field and the amount of water content in slurry or excavated ground. Please consult your local Master Builders Solutions representative for guidance.

Storage and Handling

Storage Temperature: MasterRoc SWA 705 polymer must be stored at temperatures above 44 °F (7 °C) to avoid dispensing difficulties due to thickening. Do not allow MasterRoc SWA 705 polymer to freeze, since it cannot be reconstituted after thawing.

Shelf Life: MasterRoc SWA 705 polymer has a minimum shelf life of 12 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local Master Builders Solutions representative regarding suitability for use and dosage recommendations if the shelf life of MasterRoc SWA 705 polymer has been exceeded.

Handling: Contact with water in hoses, pumps, tanks or receiving vessels must be avoided to prevent gelling when transferring MasterRoc SWA 705 polymer to other containers.

Dispensing: Consult your local Master Builders Solutions representative for the proper dispensing equipment for MasterRoc SWA 705 polymer. If dispensing directly from the 55 gal (208 L) drum, it is recommended that the larger 2 in. (50 mm) opening be used.

Packaging

MasterRoc SWA 705 polymer is supplied in 55 gal (208 L) drums and 275 gal (1040 L) IBCs.

Safety precautions

MasterRoc SWA 705 polymer contains no hazardous substances. However, standard precautions for handling chemical products should be observed. Avoid eye and skin contact and wear rubber gloves. For further information, refer to the Safety Data Sheet.

Related Documents

Safety Data Sheets: MasterRoc SWA 705 polymer

Additional Information

For additional information on MasterRoc SWA 705 polymer, contact your local sales representative.

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Utilizing worldwide resources, the Master Builders Solutions community of experts are passionate about providing solutions to challenges within all stages of construction, as well as the life cycle of a structure. At Master Builders Solutions we create sustainable solutions for construction around the globe.

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