

MasterRoc[®] ABR 7

Anti-Abrasion and Dust-Reducing Agent for Hard Rock Tunnel Boring Machines

Description

MasterRoc ABR 7 liquid foaming agent is specifically designed to reduce abrasive wear to the cutting tools in tunnel boring machines (TBM), and to substantially reduce dust formation during excavation.

Applications

MasterRoc ABR 7 liquid foaming agent is recommended for use in hard rock TBM excavation.

Features

- Reduces abrasive wear in cutting tools
- Reduces dust formation, leading to improved working environment for TBM operators
- Lowers inner friction and abrasiveness of the face at the cutterhead as well as at the screw conveyor
- Compatible with highest environmental standards
- Based on renewable materials

Benefits

- Reduces TBM down time due to reduced wear, which means less frequent cutter changes, thus more time available for excavation
- Improves cooling of the cutter head, improving the rubber seal durability, and extending the life of the cutter bearing assembly
- Improves muck transfer, resulting in reduced risk of blockage, cleaner cutter discs and cutter head area, making maintenance easier and reducing cutter disc changing time
- Overall cost savings due to higher advance rate and lower maintenance cost
- Reduces power consumption

Performance Characteristics

Technical Data

Form	Liquid
Color	Light brown
Density at 68 °F (20 °C)	64.6 – 65.2 lb/ft ³ (1035 - 1045 kg/m ³)
pH at 68 °F (20 °C)	6 - 7
Solubility in water	Total

Guidelines for Use

MasterRoc ABR 7 liquid foaming agent is to be used with foam generating equipment as typically found in EPB machines. The recommended foam expansion ratio (FER) is 8-15. The generated foam is then injected through foam or water injection ports into the cutter head.

The foam injection rate (FIR) is typically 30%. As all TBM applications are unique, it is strongly recommended that you contact your local sales representative prior to using MasterRoc ABR 7 liquid foaming agent.

Dosage: Typically, MasterRoc ABR 7 liquid foaming agent is used as a 2 – 3% solution in water (general range 2 – 6%). MasterRoc SLP 1 polymer (see separate data sheet) can be used simultaneously with MasterRoc ABR 7 liquid foaming agent in order to strengthen the foam or to adjust the properties of the excavated soil.

Storage and Handling

Storage Temperature: MasterRoc ABR 7 liquid foaming agent should be stored in unopened, original containers, preferably between 40 °F and 95 °F (5 °C and 35 °C). If stored in original closed containers, MasterRoc ABR 7 liquid foaming agent will have a shelf life of 12 months. Do not allow the product to freeze. It is recommended that your local sales representative be consulted prior to the use of any product that freezes.

Safety: Standard precautions for handling chemical products should be observed. Avoid eye and skin contact and wear rubber gloves and goggles. For further information, refer to the Safety Data Sheet.

Packaging

MasterRoc ABR 7 liquid foaming agent is available in bulk containers and standard 272 gal (1029 L) containers. Other packaging is available on request.

Related Documents

Safety Data Sheets: MasterRoc ABR 7 liquid foaming agent

Additional Information

For additional information on MasterRoc ABR 7 liquid foaming agent, consult your local sales representative.

Master Builders Solutions creates technologies for the construction industry inspiring people to build better. We are active in ~40 countries and operate 35 production sites with over 1,600 employees. We develop, produce, and market high-quality chemical admixtures, as well as adjacent core technologies, to master the challenges of today and support a decarbonized future. Our people are pivotal and pair leading technologies and a strong brand heritage to surpass our customers' expectations and drive continuous value creation.

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