

MasterRoc[®] ACP I43

Anti-Clay Soil Conditioning Polymer for Tunnel Boring Machines (TBM)

Description

MasterRoc ACP I43 is a liquid polymer, specially designed for highly cohesive and adhesive soils such as marl, silts, and clays that contain fine particles.

Applications

MasterRoc ACP I43 anti-clay polymer creates a stable foam and can be used with the standard foam generators installed on Earth Pressure Balance (EPB) machines. MasterRoc ACP I43 anti-clay polymer is designed to reduce the clogging and adhesion potential of clayey soils. MasterRoc ACP I43 anti-clay polymer can be injected at the cutterhead, into the working chamber, or onto the screw conveyor.

Features

- Reduces clogging and adhesion on the cutterhead
- Creates a plastic soil material that can be easily excavated and transported

Benefits

- Helps to avoid the re-agglomeration of clay particles
- Reduces cutterhead torque
- Increases TBM speed

Performance Characteristics

Technical Data

Form	Liquid
Color	Brown
Density*	65.0 ± 1.2 lb/ft ³ (1.042 ± 0.02 g/cm ³)
Viscosity (dynamic)*	< 160 cP (mPa.s)
pH*	6 – 8 (3% solution)

*at 68 °F (20 °C)

Guidelines for Use

Dosage and Application Procedure: MasterRoc ACP I43 anti-clay polymer is used as an aqueous solution with 2% to 4% concentration typically. Injected via a foam generator, the typical foam expansion ratio (FER) varies from 8 to 20, and the typical foam injection ratio (FIR) from 30 to 80. If the consistency of the muck needs to be reduced, MasterRoc SWA and MasterRoc SLP polymers can be used in combination with MasterRoc ACP I43 anti-clay polymer. For the first use and combination with other soil conditioning agents, please contact your local Master Builders Solutions sales representative.

Dosing System: MasterRoc ACP I43 anti-clay polymer can be used with the standard TBM dosing and foaming equipment.

Do not mix MasterRoc ACP I43 anti-clay polymer with any other soil conditioning additives as this may cause immediate gel formation. If several soil conditioning products are used on the TBM, it is recommended to reserve a specific transfer or dosing pump for MasterRoc ACP I43 anti-clay polymer.

If the transfer or dosing pump is being used for more than one product, the pump should be thoroughly cleaned with water before switching to MasterRoc ACP I 43 anti-clay polymer.

Storage and Handling

Storage Temperature and Shelf Life: The storage temperature of MasterRoc ACP I 43 anti-clay polymer is between 40 °F and 105 °F (5 °C and 40 °C). If stored in the original and tightly closed containers, MasterRoc ACP I 43 anti-clay polymer will have a shelf life of 12 months. Do not allow the product to freeze. Consult your local sales representative before using any product that has become frozen.

Safety: Standard precautions for handling chemical products should be observed. Avoid eye and skin contact and wear gloves and safety goggles. If contact occurs, rinse with plenty of water. In case of eye contact, seek medical advice. For further information, refer to the Safety Data Sheet.

Packaging

MasterRoc ACP I 43 anti-clay polymer is supplied in 254-gallon (960 L) totes, and 5-gallon (18.9 L) pails. Bulk delivery is available upon request.

Related Documents

Safety Data Sheets: MasterRoc ACP I 43 anti-clay polymer

Additional Information

For additional information on MasterRoc ACP I 43 anti-clay polymer, please contact 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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