**DESCRIPTION**
**Mapedrill M1** is a synthetic polymer soluble in water, which can be used in many applications in mechanised tunnelling and drilling.

**WHERE TO USE**
**Mapedrill M1** is used during the excavation of tunnels and various boring applications. The polymer is very versatile and can have different properties depending on the application and dosage.

**Soil conditioning with TBM-EPB**
**Mapedrill M1** is used either pure or in a water solution during the excavation of tunnels with an EPB. It can be injected to the tunnel face, into the excavation chamber or in the screw conveyor.
**Mapedrill M1**, used pure or in solution at concentration between 1-4%, is typically used for the excavation of soil characterized by high permeability and/or with low percentage of fine materials. The effect is to homogenise the soil and make it cohesive and impermeable.
Used at very low concentrations (0.1-0.2%)
**Mapedrill M1** has exceptional lubricating properties and has the effect of reducing adhesion to the excavation tools during the excavation of soils exhibiting a sticky behavior
**Mapedrill M1** is compatible with the foaming agent Polyfoamer and Stabilfoam lines.

**Additive for drilling fluid**
**Mapedrill M1** confers to the drilling/excavation fluid very good muck transportation properties and it lubricates the excavation tools reducing the blockage risk.
**Mapedrill M1** can be used also for horizontal drilling fluids and has anti-wear properties for excavation tools.

**DOSAGE**
The consumption of **Mapedrill M1** is function of several factors which are geological characteristics of the excavated soil, amount of water and/or foam in the soil, injection method, number and position of injection points on the TBM etc.

For soil conditioning with EPB: from 0.1 to 0.5 kg every m³ of excavated soil.
As viscosifier for bentonite based mud: from 1 to 5 kg every 100 l of water
As bentonite mud for drilling: from 3 to 7 kg every 1000 l of water.

Our technical laboratory is available for assessing the dosage of **Mapedrill M1** with the soil types met during tunnelling and/or drilling. To make the best use of **Mapedrill M1** it is recommended to contact our “Underground Technology Team” technical service to verify and improve the characteristics, according to the local application conditions. It is recommended to agitate the...
product before the use in order to obtain an homogeneous fluid.

PACKAGING
Mapedrill M1 is available in:
- 1050 kg IBC;
- 25 kg plastic drums.
Upon request is available bulk.

STORAGE
6 months if stored in a place at a temperature between +5°C and +35°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION
Mapedrill M1 is not hazardous according to the current regulations regarding the classification of mixtures. During use wear protective gloves and goggles and take the usual precautions for handling chemical products.
For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING
Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

All relevant references for the product are available upon request and from www.mapei.com