Expanjet Admixture

DESCRIPTION
Expanjet Admixture is a powdered expanding admixture developed by MAPEI Research and Development laboratories. Expanjet Admixture is used for preparing expanding cement based grouting products to be injected for ground consolidation, to improve mechanical characteristics for low strength rocks with high fracture ratio, to fill cavities and open fractures.

WHERE TO USE
Expanjet Admixture is used to prepare grouting fluids, which can be used for ground improvement with different technologies and application systems.

Some application examples
• Ground improvement for low cohesion soils.
• Filling of cavities crossed during underground mining, with safety and ground improvement aims.
• Grouting for anchors and bolts with no limits in length and diameter.

TECHNICAL CHARACTERISTICS
Expanjet Admixture is a powdered expanding admixture developed by MAPEI Research and Development laboratories by adding Expanjet Admixture to a cement based grout it is possible to get a final product with expanding characteristics.

The correct dosage of Expanjet Admixture provides a fluid grout in order to allow easy of use with conventional injection systems and to permit an easy permeation through difficult ground conditions. The resulting expansion of the material allows cavities to be filled or to improve mechanical characteristics by increasing the compression between layers and particles. Workability, expansion ratio and final mechanical strength of the grout are related to Expanjet Admixture dosage, cement type and class, Water / Cement ratio, mixing temperature and to the super plasticizers presence.

DIRECTIONS FOR USE
Perforated holes preparation
Before proceeding with injection, it is necessary to properly clean the borehole with water or compressed air. This operation has the aim of removing the residual material inside the hole. If the ground has low cohesion and stability it is better to use compressed air with low pressure.

Preparing the mix
To carry out the mixing and the injection, vertical axe mixers and standard injection units are used. In order to reach the required parameters it is necessary to carry out some preliminary tests in order to define the dosage, Water/Cement ratio, expansion ratio required, utilising the support of MAPEI Underground Technology Team. It is possible to mix Expanjet Admixture to the grout after this has been properly mixed. It is then necessary to properly mix the products until the material is homogeneous, without any non dispersed material. If necessary, remove from the mixer non dispersed surfaces powder and then mix again.

It is of primary importance to take care the preliminary of expansion phase, especially related to mixing and delivery time, in order to carry out the injection of the mixed product before it starts to expand. It is suggested to not change the Water / Cement ratio and dosage of Expanjet Admixture defined during test time, in order to avoid any alteration of final product and problems linked to anticipated expansion. If necessary to get the required fluidity (40"-45" time to empty Marsh cone with d. 4.7 mm after mixing), it is possible to add Mapefluid N200 superplasticizer with...
a dosage between 0.5%-2.5% over cement weight. It is suggested not to use the product under +10°C.

**Use of the final product**
After having positioned the inclusion inside the borehole, it is necessary to properly seal the upper part of the hole with Lampocem, rapid setting and hardening hydraulic binder, in order to avoid losing of grout during injection. Once this step is completed, it is possible to proceed with injection of the grout with the injection equipment, applying a pressure which must be related to the borehole depth and dimension.

**DOSAGE**
0.1 kg-1.5 kg of Expanjet Admixture per 100 kg of cement.

**PACKAGING**
Expanjet Admixture is available in 20 kg bags.

**STORAGE**
Store the product in the original closed bags in a dry space.

**SAFETY INSTRUCTIONS FOR THE PREPARATION AND APPLICATION**
Expanjet Admixture is highly flammable. Use suitable protective gloves, goggles and face masks. During plastic expansion phase, the reaction between grout and Expanjet Admixture produces the formation of hydrogen. Do not smoke or use free fires. Keep container tightly closed and dry.

For further and complete information about the safe use of our product please refer to our latest version of the 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.