

# Silicajet EXP

## Two-component organo-mineral fast reacting and high foaming resin for void filling

### DESCRIPTION

**Silicajet EXP** is a two-component organo-mineral fast reacting and high foaming resin, for void filling, ground and rock consolidation.

### WHERE TO USE

- Back filling grout for segments in case of mechanized tunnelling.
- Waterproofing.
- Consolidating and void filling.
- Consolidating and stabilizing of the tunnel front in case of mechanized tunnelling.

### TECHNICAL CHARACTERISTICS

**Silicajet EXP** thanks to the high fluidity, is suited to waterproofing, consolidating and filling of voids, fractures, etc., in underground works whereas a very high penetrating ability is needed in presence of narrow spaces.

**Silicajet EXP** is therefore successfully used in all underground works as waterproofing umbrella, filling of voids by light-weight injections, etc.

The high expansion capacity (over 40 times its initial volume), together with the high fluidity, makes **Silicajet EXP** especially suitable for those

applications where it is necessary make homogeneous the ground formation and to improve its mechanical properties.

The expansion factor of **Silicajet EXP**, and therefore the consolidating performances of the resin, is related to the dimension of the cavity to be injected and above all to the injection pressure used.

The low polymerisation temperature as well as the property of being self-extinguishing, makes **Silicajet EXP** suitable to the uses in underground spaces, even of narrow and small size (mining tunnels, etc).

Due to the special formulation of the product, the presence of water or severe weather conditions do not influence the reaction of polymerisation and consequently the expansion of **Silicajet EXP**.

Once the two components reacted and generated foam, this has a good adhesion to rock substrate, it is self-extinguishing, no toxic and no polluting.

### RECOMMENDATIONS

Both component A and component B must be accurately mixed before using, in order to obtain a homogeneous product and ready to use.

| TECHNICAL DATA (typical values)                     |  |              |
|---|--|--------------|
| PRODUCT IDENTITY                                    |  |              |
|   | component A  | component B  |
| <b>Density (g/cm<sup>3</sup>):</b>                  | 1.250 ± 0.03   | 1.230 ± 0.05 |
| <b>Viscosity (mPa·s):</b>                           | 15 ± 3   | 300 ± 60     |
| <b>pH:</b>  | 11.5 ± 0.05  | neutral      |
| <b>Color:</b>                                       | yellow-green   | dark brown   |
| <b>Hazard classification according to EC 99/45:</b> | irritant   | harmful      |
|   | Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packing and Safety Data Sheet |              |
| <b>Mixing ratio:</b>                                | A : B = 1 : 1 in volume  |              |
| <b>Application:</b>                                 | by injection, using adequate pumps with worm screw installed in the nozzle and pressure up to 100 bar  |              |
| <b>Reaction:</b><br>– beginning:<br>– end:          | 10-30 seconds<br>after 2-3 minutes   |              |
| <b>Exothermic reaction:</b>                         | max 90-100°C ( for a mass of 200 g)  |              |
| <b>Compressive strength (N/mm<sup>2</sup>):</b>     | 0.1-18 depending on the expansion ratio  |              |
| <b>Storage:</b>                                     | 6 months, in original sealed containers, stored in a fresh and dry environment, at a temperature between +5°C and +35°C                            |              |

**Silicajet EXP** component A might be affected by a significant viscosity increase, when stored at low temperature.

### HOW TO USE

**Silicajet EXP** is a two-component product made of a resin (comp. A) and a hardening accelerator (comp. B), which must be mixed in a ratio of 1:1 in volume. The operations of injection require for a two-component pump, in order to mix properly the product, immediately before the injection. It is strongly recommended to inject by using a worm screw (placed in the nozzle).

### CONSUMPTION

Consumption has to be assessed considering the ground conditions to be injected. Therefore, in order to enhance the use and performances of **Silicajet EXP**, we suggest you contact our technical service **Underground Technology Team** for assessing the local conditions of applications.

### PACKAGING

The product is available in 25 kg tank comp. A and 25 kg tank comp. B.

### STORAGE

**Silicajet EXP** can be stored for 6 months in original package, sealed, at a

temperature between +5°C and +35°C.

### **SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION**

**Silicajet EXP** (components A and B) is irritating to eyes and skin. Component B is harmful by inhalation and can cause sensitization to those predisposed.

Wear suitable gloves and protective clothing. Do not breathe vapour, by using individual protection.

In case of accident or if you feel unwell, seek medical advice.

For further and complete information about a safety use of our product please refer to our latest version of the Material Safety Data Sheet.

FOR PROFESSIONAL USERS.

### **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 web site [www.mapei.com](http://www.mapei.com)**

**All relevant references  
for the product are available  
upon request and from  
[www.mapei.com](http://www.mapei.com)**

**Silicajet  
EXP**



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