INJECT ARS

High sulphate-resistant cementitious mortar for geotechnical use, with controlled shrinkage, for medium and high pressure injections, high mechanical strength and rapid hardening

Product description

INJECT ARS is a special premixed, single-component, castable, controlled-shrinkage mortar designed specifically for the construction of micropiles, valved systems in general, and especially anchor bolts, where there is a need for short-curing stringing and where high resistance to sulphates is required.
Thanks to its specific formulation, INJECT ARS is particularly suitable for the construction of berms and retaining structures.

Supply and storage

INJECT ARS is supplied loose with a 22 m3 silo system with pressure and flow control.

Numero Verde 800 350907
www.fornacigrigolin.it
info@fornacigrigolin.it

INJECT ARS

Substrate preparation and application methods

INJECT ARS is automatically mixed by the mixing and pumping unit (type SMP).
The equipment is equipped with flow rate and pressure control to prevent air from entering the dough.
The mortar prepared in this way is conveyed by the pump (type SMP), which has been modified accordingly,
with a conveying pressure of up to approx. 15 bar and distances of up to 200 metres (without head); these values are only a reference as the data may vary depending on the length of the jet pipe, its diameter and climatic conditions.
The use of INJECT ARS for high-pressure injections requires a piston pump or jet system, which is not included in the equipment supplied with the silo.

The UNI EN 14199 standard

INJECT ARS complies with the recommendations of “UNI EN 14199 Execution of special geotechnical works: Micropiles”:
- the absence of bleeding and/or segregation phenomena
- the good cohesiveness of the dough
- adequate fluidity
- the ability to self-compact
- workability
- the minimum cement content
- the mechanical resistance to compression

AICAP recommendations

INJECT ARS responds to the AICAP recommendations - Anchorages in soils and rocks - on:
- fluidity
- resistance
- exudation
- withdrawal

Peculiarities of mortar

The composition of INJECT ARS makes the mixture particularly homogeneous, sufficiently viscous, adequately fluid and suitable for injection at medium and high pressures.
Mechanical strengths are obtained at 3-4 days such that the anchor bolts can be tested and tensioned (check the design parameters).

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Warnings

INJECT ARS must be applied at a room temperature between 5°C and 30°C and mixed with water at a room temperature between 5°C and 30°C; in case of low temperatures (5°C ÷ 10°C) it is however advisable to mix the material with lukewarm water. Conversely, at high ambient temperatures, it is advisable to mix with cold water.

Do not mix INJECT ARS with other substances. Avoid strong temperature changes during the setting phase. Protect the product from frost and rapid drying. For the correct functioning of the equipment, the mixing water must be free from impurities and, for the quality of the mortar, it must also comply with the reference standards.

The qualification of the mortar is obtained by the viscosity test and the density test of the mix; it is recommended to carry out these tests at least at the beginning of each casting session. The proposed qualification of the mortar does not replace any compulsory tests prescribed in the design.

It is recommended that long storage periods in silos be avoided in order to prevent the loss of the cement binder's characteristics and the related reduction in the hydration process of the cement with a consequent reduction in the mechanical characteristics of the mortar.

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TECHNICAL DATA	PERFORMANCE
Mixing water	approx. 35%
Maximum inert diameter D_{MAX}	< 0,1 mm
Dough density viscosity	approx. 1950 kg/m3
(Marsh cone nozzle 10 mm)	15”-40”
Mechanical resistance to compression at 2 days	> 20 N/mm2
Mechanical resistance to compression at 4 days	> 25 N/mm2
Mechanical resistance to compression at 7 days	> 30 N/mm2
Mechanical resistance to compression at 28 days	> 45 N/mm2
Mechanical resistance to bending at 28 days	> 6 N/mm2
Theoretical yield	approx. 1390 kg/m3
Plastic collection	absent under standard hygrometric conditions
Specific weight	approx. 1100 kg/m3 det. in free fall
Reaction to fire	class A1

v. 06/2022