ROMAN LIME FOR INJECTION

CE 16
EN 459-1

Product code 43

DESCRIPTION AND USES

Roman Lime for Injection classified FL 3.5 according to EN 459-1:2010 is a hydraulic lime free of cement and clinker.
It is suitable for injection grouts for the consolidation of old traditional or sack walls, vaults, arches affected by cracks, voids, missing parts of old bedding mortars, etc.
It is obtained from the calcination of marly limestone very rich in silica and alumina in vertical kilns in layers in a slow process at temperatures around 1000°C.
The fired marl is weakly hydrated and then sent for grinding together with particularly reactive pozzolan. The balanced lime-pozzolan action, even if slowly, ensures over time (especially in the presence of humidity) a progressive increase in mechanical strength without creating abrupt internal stresses, adapting structurally and chemically to ancient constructions, while at the same time offering high resistance to sulphate attack and salts in general.
Injection bonds that have high mechanical strength at 28 days often do not adhere to weak parts of the masonry, becoming only simple fillers. The high fineness allows a high degree of filling of the voids inside the masonry.
CE marked product with certification no. 0925 CPR Ce b no. 22/2016.

TECHNICAL PROPERTIES

Colour	light brown - violet	
Mixing water	~ 60%	
Grain size range	80% < 40 micron	
Aggregate - bond size	< 100 micron	
Chlorides content	< 0,02%	
Working time	~ 30 minutes	
Dough fluidity (EN445 S)	< 30 seconds at the beginning	< 30 seconds after 30 minutes
Sulfates reaction (Anstett test)	high	
Bulk density	1,650 kg/dm^3	
Hardened Bulk density	1, 500 kg/dm^3	
Sulfate content SO_3	≤ 1%	
Avalaible lime	> 15 ≤40%	
Air content	≤ 25%	
pH	> 12	
Fire reaction (class)	A1	
Compressive strength at 28 days	> 8/N mm^2	
Compressive strength at 6 months	>12 N/mm^2	
Initial cut resistance	> 0,15 N/mm^2	
Thermal conductivity (tabulated value)	λ=0,55 W/m·K	
Water absorption	< 0,9 kg/m^2·min^{0,5}	
Theorical Yield	1,200 kg/dm^3	
Packaging	25 kg bag	

APPLICATION

Fill and seal any cracks and cavities in the surface of the masonry to prevent the grout from escaping.
Drill 20-40 mm diameter holes at least ⅔ of the masonry thickness.
For masonry more than 50 cm thickness, drill holes on both sides. It will be the responsibility of the designer, depending on the type of project, to provide the necessary indications to identify the most suitable drilling pattern.
If possible, wash the masonry the day before application and make sure there is no water accumulation.
Mix the bonding agent by mixer or whip drill with clean water at a rate of 13-16 litres per 25 kg bag, depending on the required fluidity.
Inject the grout as quickly as possible within max. 30 min. (in hot weather the time is reduced) at a pressure of approx. 1 atm starting from the bottom until the grout emerges from the top hole. Do not add other substances such as cement and aggregates.

CONDITIONS FOR A SAFE STORAGE

Keep covered and dry. Protect against moisture. Dispose of according to local regulations. Storage: 12 months in unopened original packaging in a covered and dry place.
Product complies with Annex II of REACH - Regulation 2015/830.
Refer to Safety Data Sheet (SDS) for information on possible hazards. Product for professional use. The use of the product must be based on the applicator's own research and evaluation.

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