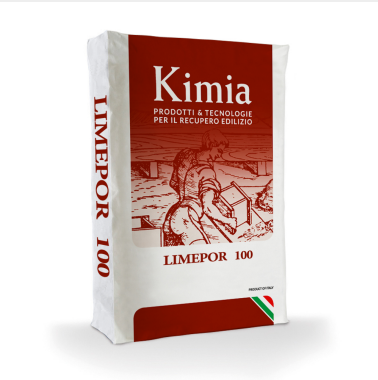

Limepor 100

ST17-1219

Injection mortar containing natural hydraulic lime for the consolidation of rubble-filled walls

EN 998-2 CE

DESCRIPTION

Limepor 100 is a mortar for injections containing natural hydraulic lime NHL.
This mix has been specially designed for the restoration and pre-consolidation of rubble-filled walls and brick or stone foundations by means of injection techniques.
Limepor 100 has low water-soluble salt content and it can be injected into cracks or cavities using any kind of pump with special injectors.
It is CE marked in compliance with EN 998-2.

ADVANTAGES

- High breathability.
- Physically and chemically compatible with the original components of walls with similar mechanical properties.
- Very fluid with low water / binder ratio and high penetration power ; absence of segregation in the mixture during injection.

USES

Limepor 100 is used for the restoration and pre-consolidation of ancient brick or flint walls by means of injecting with low pressure injection systems.

WORKS

- Repair of ancient masonry rubble-filled walls through injection of mixture with high mechanical strength and low content of water-soluble salts (**SA51**)

APPLICATION

	Pourable		Fresh mortar workability time: 195 ± 30 mins
			Mixing water: 7-8 lt/ 25Kg

Limepor 100 must be mixed with water in the quantity shown in the table.
Add 3/4 of water required into the mixer, then add the product and the remaining water continuously until you obtain the consistency required.
No component other than the mixing water must be added to the product during preparation and laying.
Limepor 100 must be injected into walls by means of normal electric or manual low-pressure pumps, using injectors fixed into the holes and proceeding from the lower holes towards the upper ones.
Do not remix by adding water to the product when it has already started to set. With frescoed walls, use **Limepor IZ8** and contact our Technical Department for support.

CONSUMPTION

1,5 Kg/dmc
Absorption per cubic metre of masonry: about 80-190 kg depending on the size of the cavities in the wall.

PACKAGING

25 Kg bags.
Pallet 60x25 – 1500 Kg.

STORAGE

Protect from humidity. Store in a dry, sheltered place.
In these conditions the product remains stable for 12 months.

Characteristics	Value
Appearance	Powder
Colour	Light grey-hazel shades
Type of binder (EN 459-1)	NHL 3.5 and NHL 5
Application temperature C°	+2 - +35 °C
pH in water dispersion	11,5 -12,5
Particle size distribution EN 1015-1	granulometry 0,09mm: 100 %; 0,06mm: 90%;
Soluble salts, sulphates, nitrates, chlorides content (Normal 13/83)	< 1.5% Of which chlorides < 0,03%
Resistance to sulphates	No resistance loss for specimens immersed for 90 days in Na_2SO_4 solution at 5%
Resistance to sulphates Anstett-Le Chatelier edited (internal procedure)	Clamping aperture: <10 mm; the product has high resistance to sulfur attack
Fluidity (consistency through gutters) UNI 8997	70 - 80 cm
Fluidity EN 445 (Marsh cone)	Beginning < 25 secs; 30 mins < 25 secs; 60 mins < 25 secs.
Workability time of fresh mortar EN 1015-9	195 ± 30 mins
Bleeding UNI 480-4	None
Elastic modulus EN 13412	~ 5000 MPa
Compressive strength EN 1015-11	in 7 days > 10 Mpa in 14 days > 15 MPa in 28 days > 18 MPa in 90 days > 20 MPa
Flexural strength EN 1015-11	in 7 days > 3,6 Mpa in 14 days > 3,9 MPa in 28 days > 4,9 MPa
Thermal conductivity	0,83 W/mK (table value)

Characteristics	EN 998-2 Limits	Value
Components ratio in weight [%]	Declared value	Binder: 25-35 Aggregates: 65-75 Additives: < 1
Chlorides content [%] EN 1015-17		≤ 0,1
Compressive strength in 28 dd EN 1015-11 [MPa]		> 15
First shear resistance [MPa] In combination with masonry elements compliant to EN 771		0,15 [Table value]
Absorption of water for capillarity EN 1015-18		0,4
Permeabilty to water-vapour EN 1745		15/35 [Table value]
Reaction to fire class		A1
Hazardous substances		See the safety data sheet

WARNING

Product for professional use. The use of natural raw materials may result in natural color variations from one production lot to another.
Before using, check bags have not been damaged, and do not use the product if there are any lumps. The technical specifications and application methods recommended herein are based on our current knowledge and experience and do not represent any form of guarantee of the final results obtainable with the product. It is the customer's responsibility to check that this data sheet is still effective and has not been replaced with a more recent version, and that the product is suitable for the intended use.

TECHNICAL SPECIFICATIONS

SK51 – Repair of ancient masonry rubble-filled walls through injection of mixture with high mechanical strength and low content of water-soluble salts

Repair of ancient rubble-filled walls (also frescoed) by injecting a mixture with zero water-soluble salts after grouting all the cracks (if the masonry is plastered, check that the plaster adheres perfectly to the support); hole preparation (4 to sq.m, with a diameter of 20-24 mm), positioning and sealing injectors; masonry washing; injection with normal manual or electrical equipment, until the masonry is completely saturated, with Limepor 100 grout by Kimia S.p.A. or similar product. The masonry can be considered saturated when the mortar leaves the injector immediately above the injection one. Material consumption will be at least 150 Kg/mc. After the injection work, removing all the injectors, filling the holes and preparing the masonry for future interventions.

The injection product, consisting of NHL natural hydraulic lime (CE marked on the basis of EN 459) with the addition of natural pozzolan and carbonate filler, characterized by a low content of water-soluble salts and by physical, chemical and mechanical compatibility with the components used in ancient times in masonry, will be prepared and applied scrupulously following the instructions on the technical data sheets provided by the manufacturer and will have the following characteristics:

- Grain size distribution EN 1015-1 (passing 0.09mm): 100%;
- Grain size distribution EN 1015-1 (passing 0.06mm): 90%;
- Fluidity (consistency by channel) UNI 8997: 70 - 80 cm;
- Compressive strength after 7 days EN 1015-11:> 10 MPa;
- Compressive strength after 14 days EN 1015-11:> 15 MPa;
- Compressive strength after 28 days EN 1015-12:> 18 N / mm²;
- Compressive strength after 90 days EN 1015-12:> 20 N / mm²;
- 7 days flexural strength EN 1015-11:> 3.6 MPa;
- Flexural strength after 14 days EN 1015-11:> 3.9 MPa;
- Flexural strength after 28 days EN 1015-11:> 4.9 Mpa.

The manufacturer will be able to show its know-how in the production of injection products (providing reports of experimental tests already carried out on site, also of a comparative nature).
The basic binder of the product will be CE marked on the basis of EN 459 009/CPD/A46/0003; the product will be CE marked as a mortar with the prescribed composition according to EN 998-2.