

	LIME PLASTER UNDERCOAT Lightweight Lime based undercoat plaster EN 998-1 
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Description

LIME PLASTER UNDERCOAT is a lightweight undercoat plaster, based on lime and expanded perlite, for interior and exterior surfaces. It also contains microfibers and other additives, which confer to high plasticity, strong adhesion to building surfaces and good volume stability. Ideal for plastering stone and earth/straw substrates as well as surfaces to be hagiographed.

Technical Specifications

Density	: ~0.85 kg/L
Density of fresh mortar	: ~1.20 kg/L
Mixing ratio (water/ LIME PLASTER UNDERCOAT)	: ~11,5 L / 30 L
Substrate temperature	: +5°C min. / +35°C max.
Ambient temperature	: +5°C min. / +35°C max.
Reaction to fire	: Class A1
Compressive strength	: CS I
Flexural Strength	: $\geq 0,2 \text{ N/mm}^2$
Adhesion strength	: $0,1 \text{ N/mm}^2\text{-FP:B}$
Water absorption	: W0
Water Vapour permeability coefficient	: $\mu 10$
Thermal conductivity (λ_{dry})	: $\leq 0,16 \text{ W/mk}$ (tab. mean value, $P=50\%$)
Pot life	: at least 50 minutes at 23°C
<u>Consumption:</u>	
14.5 – 16.5 L/m ² of LIME PLASTER UNDERCOAT , for a layer thickness of 15mm	

Instructions for Use

SURFACE PREPARATION

All substrates should be clean, free of dust, oil, residues of other building materials, etc. before applying the plaster. Cracks or dents on the substrate must be suitably filled and allowed to set. The substrate must be sprayed with water, before applying **LIME PLASTER UNDERCOAT**, in order to prevent rapid absorption of the mixing water. In such case, the surface film should be allowed to dry, so as not to inhibit adhesion of the mixture.

MIXING

All equipment and containers should be clean, free of dust, residues of previous mixtures and/or other building materials, etc. so as to not adversely affect the setting time and the mechanical properties of the product.

Depending on the desired consistency, mix 11,5L of clean water with every 30L (1 bag) of **LIME PLASTER UNDERCOAT**.

Mix using a low speed electric mixer until a homogeneous, free of lumps mixture is achieved and the right consistency is obtained. Extended mixing should be avoided, in order to decrease the possibility of crashing the perlite granules.

The pot life of the mixture is at least 50 minutes, depending on weather conditions. In this case, stir periodically without adding additional water. In case the mixture has started to set before it's used, then dispose immediately without using it. In any case, do not add additional water for remixing and/or for improving its workability.

APPLICATION CONDITIONS

Use only at temperatures between +5°C and +35°C. During winter or periods of low temperatures (5-10°C), it is advisable that warm water (approx. 30°C), is used for the mixing and if possible, the application to be performed during noon time. On the contrary, use cool water (approx. 20°C), for the mixing during summer and generally at ambient temperatures exceeding or expected to exceed 35°C.

APPLICATION

LIME PLASTER UNDERCOAT can be applied either by using level guides or not, depending on the nature of the substrate (new constructions or restoration of traditional buildings) and the required result.

Apply directly to the surface using a trowel or a float. The initial setting time is 70-80 minutes, but the surface "film" remains workable for a few days, if sprayed with water. Then rub with a wooden or plastic float. After 24hrs, the surface can be made smooth using a spongy or a wooden/plastic float or with a steel trowel. Follow the same procedure the next day, if required, for better results or in case imperfections and/or capillary cracks occur.

It is important that the final surface is sprayed with water for 5-6 weeks after its application (see *note 1*).

DECORATION

The crystallization procedure of the plaster may take several months. Especially for the under layers which come in direct contact with the substrate, crystallization may take up to several years. In the contrary, outer layers which react with the atmospheric air or even during period with high temperatures, crystallization is accelerated. Premature painting of the surface with non-permeable paints may result on the slowing down and/or inhabitation of this procedure. For practical purposes, lime plaster should remain unpainted for several months, depending on weather conditions.

IMPORTANT NOTES

- The lime used during the production of the plaster is already slaked so no further slaking is required.
- The product presents high sensitivity to weather conditions during its application. Hot weather or exposure to direct sunlight, may result to premature loss of moisture and/or cracks, so is advisable that special care is taken as to prevent adverse effects.
- The plaster remains relatively workable for a few days after its application, if sprayed with water. Therefore, caring of the final surface is applicable during this period of time.
- It is important that the plaster is sprayed with water systematically for 5-6 weeks after its application (see *note 1*).

CLEANING OF EQUIPMENT

Clean all tools and mixing equipment thoroughly with plenty of water after completion of work, while the plaster hasn't set. Use mechanical methods to remove hardened material.

REMARKS / LIMITATIONS

- Use only fresh, clean water for both mixing and cleaning.
- Avoid using material which was stored in open bags for a long period of time.
- Never add water or new material to the mixture which has started to set.
- Do not add cement, gypsum or any other materials to the supplied product as this may negatively affect the end result of the product.
- Use warm water for the mixing during high ambient temperatures.
- Avoid using the product under extreme weather conditions, such as direct sunlight and strong winds.

PACKAGING

30L multiwall paper bags (one layer of which is made of PE-HDPE)

STORAGE / SHELF LIFE

Store under dry conditions and away from direct sunlight, in a sheltered, free from water and moisture area. Store in closed bags preferably in the original packaging, onto a pallet or generally without direct contact with the floor.

The product has a shelf life of up to 6 months from production date, when stored properly in the original, unopened bag.

Health and Safety Measures

- Causes skin irritation.
- Causes serious eye irritation.
- May cause respiratory irritation.
- Harmful if swallowed.
- Keep out of reach of children.
- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Wash hands and face thoroughly after handling.
- Use in well-ventilated areas.
- Use personal protective equipment as required.
- Please refer to Safety data Sheet for more information and advices regarding the safe handling, storage, use and disposal of the material.

Note 1: Calcium oxide (CaO) is the resulting product of subjecting calcium carbonate (CaCO_3) to high temperatures (900°C). The hydration procedure of calcium oxide leads to creation of calcium hydroxide (Ca(OH)_2), dry or moist. For the production of Lime Plaster Finish, dry calcium hydroxide ($\leq 1\%$ moisture) is used.

Mixing Lime Plaster with water initiates the carbonation procedure, forming again crystals of calcium carbonate. This procedure is very slow and may take up to several months, due to low presence of carbon dioxide (CO_2) in the atmospheric air.

By systematically spraying the surface of the plaster with water, results of disruption of the already formed crystals and their recrystallization to a new, of higher strength crystal structure which improves the mechanical properties of the plaster.

Note 2: All Technical Data provided on section "Technical Specifications" are based on laboratory trials and tests, under conditions which may significantly differ from the ambient application conditions. Therefore, the actual technical characteristics may vary due to conditions or circumstances beyond company's control.

Note 3: The information provided by our Technical Data Sheets or given by our employees, agents or distributors concerning the use of our products, is based upon extensive research and experience and are provided in good faith in order to help you.

We guarantee the consistent high quality of our products; however, as we have no control over site conditions of the executions of work, we cannot accept any liability for any loss or damage, which may arise as a result thereof.

Note 4: All lime based products, must be stored in dry sheltered places, on wooden pallets. Even under these circumstances, the products are influenced by the atmospheric moisture after a period of time. Since this period is not defined or standard, we strongly advise our customers not to use hardened products or if, generally, its quality due to storage is uncertain.