



Product Definition:

One of the most widespread forms of using lime is in paint form: water with lime paste aged at least six months and diluted with water, but also in the form of 'tempera' which comes from the Latin 'temperae' (to mix). These lime/water plus additives mixes give compounds certain properties, such as improving their adhesion and plasticity when applying them.

These paints provide also not only decorative but also protective factors.

Apart from their traditional finishes, they can also have contemporary effects without losing their mineral appearance and with a simple commissioning work.

Bear in mind that, unlike decorative plasters, these finishes were mainly applied by non-professional labour, especially in rural environments, giving rise to numerous application techniques and finishes, depending on the geography - geology, pigment types, tools and ornamentation nature.

The Lime Paint/Patina, referenced in this Technical Data Sheet, is a thin, mineral, breathable, greasy hydrated lime-based coating CL90 S UNE-EN459-1:2001 (calcium lime free of impurities).

This coating has been developed in accordance with DIN 18363, which regulates the organic matter content to a maximum of 5% on the dry extract.

Perfect for covering walls in decorative styles such as: wabi-sabi, shabby chic, post-industrial and all vintage styles.

* Product free of coalescing agents, toxic solvents, plasticisers, optical brighteners, biocides and/or anti-mould that are harmful to human health or the environment.

* Has good permeability to water vapour molecules (breathability), does not build up static electricity, does not emit harmful gases or radiation both during the painting process and after the paint has been applied and dried.

* Eco-friendly.

Suggested Applications:

Wall decoration with a pleasant mineral matt appearance which can lead to historical evocation, but it can also have contemporary applications. It can be used in museums, hospitals, nurseries, homes, clothing stores, hotels, façades, etc., due to its great properties:

- Great ageing, especially when applied to mineral surfaces containing limestone derivatives.
- High water vapour permeability.
- Mineral, fireproof nature.
- Light and heat radiation reflection.
- Good regulating capacity of water produced by condensation.
- Alkaline coating that prevents the development of fungi and bacteria until the carbonation process ends.
- Allergenic levels close to zero.
- Free of solvents and heavy metals.
- Does not affect natural static electricity.
- Raw materials are obtained by non-polluting processes which are close to the manufacturing area.
- May be used for different decorative finishes.



Physical Location:

Indoor-outdoor. Indoors, even in aggressive environments (wash rooms and kitchens), with the protections indicated below. As the product is absorbent, it requires a treatment to prevent substances that affect its aesthetics from penetrating.

Technical Data:

PH: 11 ± 0.5

DENSITY: $1.50 \pm 0.05 \text{ g/cm}^3$

PRESENTATION VISCOSITY: White thick liquid (always stir before application for homogenisation).

SOLID CONTENT: $62 \pm 5 \%$

PACKAGING: 5 and 10 kg.

LIFE SPAN IN CONTAINER: Approximately 14 months in stable environmental conditions ($+5^\circ\text{C}$ min. and $+32^\circ\text{C}$ max. without opening the tin). Avoid frost and high temperatures.

*Our containers are made of recycled polypropylene, using much less energy in its transformation/manufacturing than was needed to manufacture the original containers.

COMPONENT DECLARATION: Water, calcium carbonates, calcium hydroxide paste, vegetable glue, vinyl emulsion (free of APEO and butyldiglycol) $\leq 5\%$ -3% on dry extract DIN 18.363.

Application Technical Data:

FINISH: Matt or high satin depends on the degree of polishing (compacting) with the tool chosen for finish coat application, but fundamentally depends on the final protection/seal chosen.

COLOURS: Obtained from the Colour Chart Dye Toners, added to the neutral paint (i.e. just as it appears on the container).

*Outdoors: Only use the Dyes/Toners referenced in the Colour Charts as Outdoors.

Production of special colours: To check on amounts and colours, contact the technical-commercial department.

For special façade colours (much more problematic with the colour difference between batches due to the difficulty for finding clear cuts on it when compared to indoors), calculate the material performance well (kg/m^2) so that the wall does not show two different batches in which there may be small differences in intensity and tint. In this event, it is best to find a clear cut to start on with the other batch and / or mix with the excess from the first (don't use up all of the first batch).

THINNER: Ready to use product, however, water can be added.

MAXIMUM THICKNESS PER COAT: 250-300 microns.

INTERVAL BETWEEN COATS: 12 to 14 hours under 20°C and 55% relative humidity conditions. Do not let more than 5 or 6 days to pass by between coats.

DRYING: 48 hours until completely dry (20°C and 55% relative humidity). Progressive hardening by carbonation.

APPLICATION TOOLS: Lime brushes, trowel and appropriate projection equipment.

PROTECTIONS FOR THE LIME PAINT/PATINA: In order to prevent penetration of dirt or other contaminants in certain locations, such as façades, transit areas, etc., it is necessary to apply any of our protective systems listed below:

-Water-based single-component varnish: indoors and outdoors. For indoors, dilute the product with water at 50%. For outdoors, apply directly.

-Marmorino stucco wax:

*If you have any questions, please contact the technical-commercial department.



Application conditions:

PREVIOUS PREPARATIONS: Surfaces must be dry, firm/set up, well adhered, free of salts, free of any biological contamination such as mould, algae, lichens, free of environmental contamination (grease stains, soot, substances of unknown nature, etc.); i.e., free of any visible or invisible substance or contaminant that prevents the perfect attachment and finish of the Lime Paint/Patina or its previous primers, if any.

Types of Surfaces	Application Method
Indoor ceramic surfaces and ceramic vitreous tiles (glass tiles with joints)	Apply Repair/Levelling Spackle, Quartz Primer, and then Lime Paint/Patina.
Cement, lime, or mixed plastering	Clean the dust and be sure that the surface is not gritty and is set up. Apply Quartz Primer and then Lime Paint/Patina.
Renovation and smoothing spackling and plastering.	Same as in the previous case.
Concretes, special mortars	It is necessary to be careful with the additives it contains and try to learn about its nature to make a good prescription (release agents, anti-retraction agents, antifreeze, plasticising admixtures, setting accelerants, plasticisers ...).
Emulsion paints (matte or satin latex paints). *On these surfaces the application can only be performed indoors.	Verify that they are well adhered and do not have any problems. Apply Quartz Primer and then Lime Paint/Patina.
Synthetic enamels, polyurethanes. *On these surfaces the application can only be performed indoors.	Verify that they are well adhered, do not have any problems, and that at least 1 month has passed. Sand, apply Impritex 4x4, then Quartz Primer, and finally Lime Paint/Patina.
Cardboard/Water-resistant plaster, normal and flame retardant.	Apply Quartz Primer and Lime Paint/Patina.
Granites-marbles	As in the 'ceramics' section.
Sprayed plaster and perlite plaster with or without fine plaster finish.	Clean the dust and be sure that the surface is not gritty and is set up. Apply Quartz Primer and then Lime Paint/Patina.
Wood shavings boards (waterproof MDF)	Apply 2 undiluted coats of Insulating Base coat, a coat of Quartz Primer and then Lime Paint/Patina.

GENERAL OBSERVATIONS

- Working temperature, both ambient and surface (outdoor-indoor): 7°C minimum and 32°C maximum, even if the temperature is 7°C in adverse weather conditions (abrupt temperature drop) do not apply the Lime Paint/Patina coat, because at this temperature it takes time to expel the contained water and it may freeze.
- It is advisable to provide adequate protection outdoors, in order to prevent pigment bleeding in high-toned colours when in contact with the rain, and also because of atmospheric pollution, in order to avoid fast dirtying in certain locations.



- While the paint is being applied outdoors (on façades), it must be protected from the direct action of water to avoid bad hardening of the coat or if the coat is hard, 'colour bleeding' before being able to apply appropriate protection.
- Moisture coming from the interior, i.e. the water that the paint can receive through the part where it adheres to the surface, can be a cause of its destruction.
- Architectures of unprotected sharp edges must be adequately protected at the ending points: rain gutter, wall/roof-terrace joints...
- Avoid application outdoors, on horizontal surfaces, or inclined planes.
- When painting wash rooms, rapid drying of the wall must be ensured by using good ventilation. This is essential to avoid rapid growth of lichens and mould.
- Before placing self-adhesive stencil templates to add decorative patterns or other types of masking, you should wait 48 hours for the stucco to harden.
- Once you have started a wall, don't interrupt the section to avoid joints.
- Depending on the applicator, and as it is a handmade process, the final 'drawing' may vary.
- The resulting colour will be more or less intense depending on the amount of pressure applied to the tool.
- Large work surfaces should be carried out without joints. It is therefore necessary to carry out this work using teams with a sufficient amount of people, or, if applicable, planning the necessary quarterings.
- Pisa is exempt from responsibilities for damage and problems in regards to stains, detachment, lack of cohesion, exposures, produced by deficiencies of the direct surface or structure.

Application methods:

There are many application methods with very different finishes. The technique used to develop our colour chart is described below. Once the surface is well prepared with the above indications we will move on to the application:

'Lime in arches' finish.

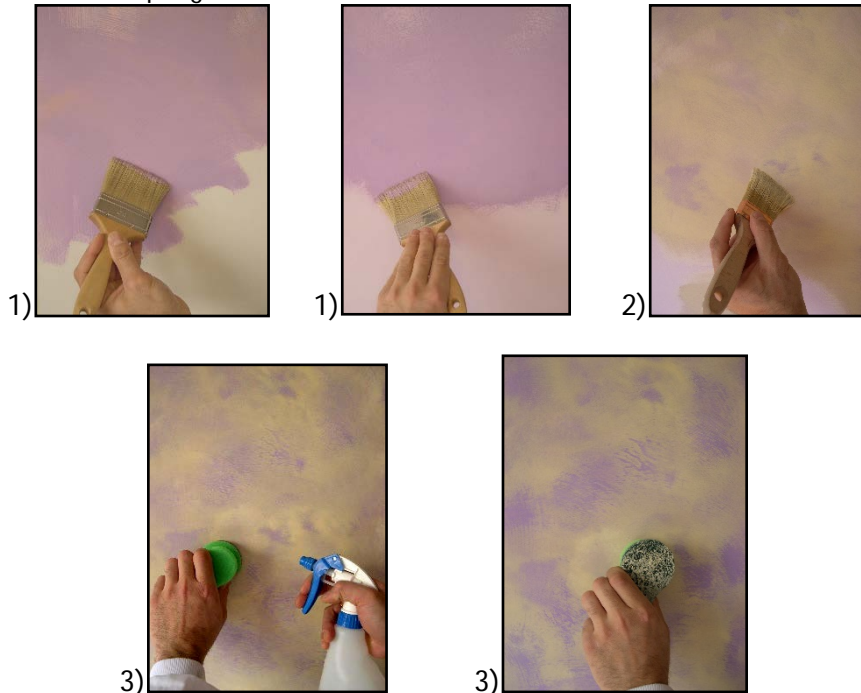
- 1) Apply a coat of the material in 'arches' using the brush/lime brush. Leave to dry for 18-24 hours at 20°C and 55% relative humidity.
- 2) Apply a second coat using the same technique, in 'arches', but this time spreading it strongly (scrubbing the surface with the brush/lime brush). More or less shades (mottled effect) will appear depending on the rubbing applied.





'Worn effect' finish.

- 1) Apply two coating coats in 'arches' using the brush/lime brush, with an interval between coats of 14-18 h at 20C° and 55% relative humidity. Leave the second coat to dry for 24 h. Spread energetically, aiming at leaving the thinnest possible coat. Apply a third coat of paint before continuing with point 2).
- 2) Apply a colour that contrasts with the previous one, also in arches. Leave to dry for 14 to 18 h in the same environmental conditions.
- 3) Wet with water using a vaporiser approx. 0.5m². Then, rub aiming at fading some areas of this last coat, using a sponge or our 'double-use' sponge. To achieve a bolder effect, clean those areas that are wearing out, with a smooth sponge.



Technical data of the applied and dry material:

HARDNESS: 70 Shore C units after 30 days.

RESISTANCE TO FLEXO-TRACTION (UNE-EN 196-1:1996)

2 N/mm² after 1 day

6N/mm² after 7 days

8 N/mm² after 28 days

RESISTANCE TO COMPRESSION (UNE-EN 196-1: 1996)

2 N/mm² after 1 day

3.6 N/mm² after 7 days

7.6 N/mm² after 28 days

ADHESION: 6 Kg/cm²

RESISTANCE TO ABRASION: Excellent after 30 days.

WATER VAPOUR PERMEABILITY: Sd = 0.005 m (KNUDSEN)

REFRACTION TO LIGHT IN WHITE COLOUR: 68%.

WASHABILITY: Medium. Improves noticeably after applying any of our protective systems.

CLEANING OF TOOLS: Water and soap.

PRECAUTIONS: Alkaline material, protect eyes and skin.

THEORETICAL PERFORMANCE: Depending on the product's roughness, planimetry, and absorption.

0.25-0.35kg/m² in 1 coat