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Lime wash on new lime renders or lime plasters
Lime wash is the preferred finish on traditional buildings as it allows the structure to "breathe", allowing any damp present to evaporate away rather than be trapped in the wall. It has a matt finish and helps consolidate and improve the surface of both old and new plaster physically and visually. A range of colours as well as white are available. Because lime washes are porous paints they shade in depth of colour to reflect the dampness of the background material.
Generally lime wash should be applied thinly and be allowed to dry out slowly. It will develop a fine finish over several coats; we recommend a minimum of four on new render and plaster.
Historically, many ingredients were added to lime washes to modify their performance such as common salt, casein, tallow and linseed oil.

Preparation
The surface to be lime washed should be brushed and washed free of any loose particles, dust, dirt, lichen etc. If there is mould growth the surface should be treated with a fungicide (e.g. a weak bleach solution) which should be rinsed off before lime washing.

Damping
It is very important for dry surfaces but may not be necessary if lime washing new lime render or lime plaster which has yet to totally dry out. Spray the area before lime washing with water as this prevents the water in the lime wash from being sucked out too quickly on application.

First Coat
Whisk the lime wash thoroughly before use as the putty will settle out. Brush the lime wash onto the dampened area with a large emulsion brush. Work it well into any cracks or joints but don't let it build up too thickly as it can craze on drying out. Remember it's a wash and will look transparent on application but will dry opaque. Coloured lime washes dry to a much lighter shade than the wet lime wash.

Subsequent Coats
Four coats are recommended on new external lime render, three coats on new internal lime plaster. Ideally leave each coat to cure for a minimum of 24 hours. For each further coat, follow the same procedure of misting well before lime washing and allowing to dry out slowly, with light spraying if necessary. Protect external lime wash from the weather if necessary. A thin coat curing slowly in the presence of moisture will form a more crystalline, hardwearing surface compared to a chalky finish if a thick coat dries out too quickly. After the initial carbonation and curing process lime wash will continue to strengthen for several weeks.

Frost
As lime wash is a water-based paint, it shouldn't be applied in low temperatures of less than 5ºC or if there's a risk of frost.

Quantities
A litre of lime wash will cover 3 - 6 square metres for one coat, depending on the smoothness and porosity of the surface being lime washed.

Lime wash onto old lime wash

1. Remove flaking lime wash with a stiff brush e.g. a churn brush to get rid of loose material. As it is possible that chalkiness/dust on the original lime wash is reducing the quality of key of the new lime wash its important to make sure that the original surface is well wetted; generally it easier to ensure that the walls are adequately wetted with a spray rather than a brush.
2. This may involve two or three sprayings, some ½-1 hour prior to lime washing to soak well into the surface and a top up a few minutes prior to lime washing.
3. For the same reason of improving the key for the first coat, apply this coat thinly. As we make a relatively thick lime wash you can dilute this first coat with a little clean water if necessary and ensure that it dries out slowly. This may involve light spraying if necessary to slow down the drying process where the background is especially "thirsty" or the weather windy or hot.
4. It may be prudent to test how well this first coat has bonded on a trial panel before proceeding to additional coats.
5. Ideally leave each coat to cure for a minimum of 24 hours. For any further coats, follow the same procedure of misting well before lime washing and allowing to dry out slowly, with light spraying if necessary. Protect external lime wash from the weather if necessary. A thin coat curing slowly in the presence of moisture will form a more crystalline, hardwearing surface compared to a chalky finish if a thick coat dries out too quickly. After the initial carbonation and curing a lime wash will continue to strengthen for several weeks.

If adding casein into a lime wash, mix the casein with some warm water prior to adding to the lime wash. **Always add water to powder** and slowly whisk to form a paste and leave to stand for 30 minutes. Slowly whisk in more water until a similar consistency as the lime wash is achieved. Leave to stand for a further 15 minutes and then whisk well into the lime wash.

Poor bonding of a new lime wash onto an existing lime wash can result from:

1. Additives in the original lime wash such as tallow or raw linseed oil, which reduce the porosity and hence the key for the new lime wash.
2. Surface dusting or chalking which may detract from a sufficiently consolidated surface for the new paint to key onto.
3. Applying the new lime wash too thickly. Lime wash is already relatively thick and easy to apply with or without added casein and must be applied thinly.
4. Over rapid drying caused by insufficient damping down prior to lime washing or insufficient slowing down of the drying process e.g. by spraying or physical protection.
5. Applying in low temperatures or when there's a risk of frost.

Lime wash onto Masonry & Emulsion paints

It is difficult to lime wash onto surfaces painted with masonry or vinyl emulsion paint. There are a number of factors to be considered.

1. The previous paint system isn't very porous, and the benefits of the lime wash are therefore aesthetic rather than letting the building "breathe". Because the background material isn't porous the lime wash, being water based, isn't able to soak into the pores of the material. Instead it will tend to sit on the surface. This will make it prone to flaking or weathering at a faster rate than usual.
2. A sample area should be tested to judge adhesion of the lime wash, the ease of painting and the degree of coverage achievable with two or three coats.

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3. It may be necessary to add ingredients to the lime wash to improve its adhesion and durability. Traditionally both casein (from skimmed milk) and common salt have been added. There are also a number of old recipes using various sources of albumin, such as egg white, milk, blood and plant seeds. Albumin is a simple protein that combines with slaked lime to produce hardening properties. We have used casein paint as an additive at the rate of 0.5-1kg of casein paint to 20 litres of lime wash and this has improved adhesion in several cases.

4. Preparation is very important; the surface to be lime washed should be brushed and washed free of any loose particles, dust, dirt, lichen etc. If there is mould growth the surface should be treated with a fungicide (e.g. a weak bleach solution) which should be rinsed off before lime washing.

5. Alternatives

For painting onto emulsions or gypsum plasters we recommend casein paint and natural emulsions which will adhere well to these less porous surfaces. Casein has a deep matt and very slightly chalky finish and is best suited where the background is dry and there's low condensation. Both paints can be mixed with a wide range of pigments to give a wonderful range of colours. For external use we recommend an excellent silicate masonry paint to which a wide range of pigments can be added to make a fabulous range of colours.

Safety

Lime wash is caustic. Always wear eye protection and protective gloves and clothing and follow the safety instructions on the labels.

Our advice and information are given in good faith. It's important that users satisfy themselves that they've chosen an appropriate product and have a suitably skilled workforce.