Safe Application of Limewash

General Guidance Notes

Lime is an extremely versatile building material that has been used in some form or other on virtually all pre 20th Century buildings. Since then material developments have clearly advanced especially within the paint industry with a vast array of paints available to today's consumers to cover a myriad of surfaces. However, there are still many occasions where limewash will be the most appropriate and economic form of decoration for older buildings.

Discussing older buildings it's solid wall construction we refer to, those without a cavity and often no damp-proof course. This type of construction will always contain varying degrees of moisture and be reliant on the building fabric, including paints to manage moisture movement. Modern materials such as cement based mortars and renders, along with modern masonry and emulsion paints are often counterproductive as they are generally impervious and hold moisture captive within this type of building. If the moisture is allowed to accumulate, this can result in deterioration and failure within the building fabric as "moisture is the engine of decay".

Research carried out at all levels has proven limewash to be one of (if not) the most permeable type of decorative finish available. Combine this with the fact that it has been used for thousands of years throughout the world, there is no doubt that it is a tried and tested decorative medium.

Limewash, in its simplest form, is calcium hydroxide suspended in water. After application, the water evaporates and atmospheric carbon dioxide combines with the wash to form calcium carbonate in a process known as carbonation. During the carbonation process the limewash hardens, develops its colour and bonds to the substrate.

A successful application of limewash should form a thin sheet of limestone on the surface.

Carbonation can be an extremely slow process and as much as practically possible the limewash should not be allowed to dry too quickly. An application process of one coat per day should be followed. It is also important that weather conditions are suitable. Limewash should not be applied in strong drying winds or under strong direct sunlight and certainly not if rain threatens.

If works have to be carried out or continued under unfavourable conditions, adequate measures should be taken to protect the works. For example, under strong direct sunlight, the coat of wash should be misted with a sprayer. For further advice please contact us.

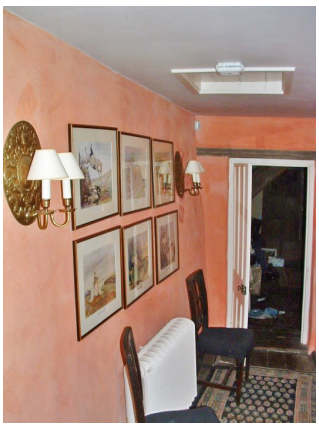
Preparation

Limewash works best when applied to more porous substrates, such as lime plaster, clay brick, soft stone etc. While it may appear to adhere to impervious surfaces, it's unlikely that it will provide as durable a

coating as the lack of suction will impair its overall effectiveness.

Its use on timber, although practiced in the past, should be questioned today by the novice, not that we are advising against its use.

Surfaces should be clean and free from grease and vegetable matter, such as lichens etc.



All loose and/or flaking material should be removed.

Any organic growth should be treated in an appropriate manner, such as using a biocide (in accordance with manufacturer's instructions), and all treated material prepared/removed prior to the application of limewash.

Application

It is important that a rule of one coat per day is followed, this allows each coat time to carbonate. Recoating too soon may result in the previous coat pulling away from the surface and can prevent sufficient carbonation.

Apply limewash using a large, long hair brush. Application should be vigorous, working the wash into the substrate, using horizontal, vertical and diagonal strokes.

Limewash has to be applied as a thin coat and evenly across the surface. Working in areas of 1m2 work the limewash into the surface with a scouring action with the brush in a circular motion. Limewash should always be applied in a manner where a wet edge is maintained, this will help avoid scarring and lines from excess build-up of material.

If limewash is applied too thickly or heavily, this can result in crazing and cracking; should this occur with unacceptable results, wash the surface with hot water and a stiff bristle brush (i.e. a churn brush).

Ready mixed limewash is supplied in plastic containers; upon opening the container mix the limewash thoroughly using appropriate tools. Mixers that can be attached to an electric drill are very useful (and can be purchased through Cornish Lime), however a simple stick can also be effective.

As limewash is suspended in water, the lime will fall out of suspension to the bottom of the tub, so constant and continued stirring is important. Stir vigorously until the contents are one, this need to be repeated every ten to fifteen minutes during application and the last brushful should be as thin as the first.

Health & Safety COSHH Assessment

Limewash is alkaline so every effort must be made to prevent any from getting into ones eyes, in the event of this happening rinse the eye(s) thoroughly for several minutes, should discomfort continue seek medical attention straight away. It is advisable to keep a bottle of proprietary eyewash to hand for irrigation purposes.

The wearing of gloves along with other personnel protective equipment is advised as limewash is alkaline and it can dry the skin along with more serious dermatological affects.

There are no risks from fumes, vapours or burning when heated. Wear overalls or similar when working with lime wash as it can be a messy operation by virtue of the way it should be applied. Adequate protection of fittings is advised.

Splashes should not be left too long before wiping up. For further information please contact Cornish Lime.