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Hydraulic Lime Harling/Wet Dash

Introduction

The lime coating known as harling or wet dash is the most commonly applied external finish to be found on vernacular architecture in Ireland. The harling material is a combination of aggregates and lime, mixed into a slurry consistency and applied in a fluid state. Historically the harling was applied directly onto the masonry walls that had previously been evened out by pointing the wall flush and filling small holes with stone pinnings and mortar. Towards the end of the nineteenth century it became commonplace to apply one or two trowelled undercoats to flatten the background before casting on the lime harling.

An extension of this practice became known as dry dashing or pebble dashing, where dry shingle is cast into a wet adhesive coat. However, in traditional harling the finish coat is applied directly to the masonry background.

Preparation of the Masonry Background

Successful application of lime harling depends greatly on the amount of preparation that is carried out on the masonry background. External lime coatings are generally applied in relatively thin coats, therefore any masonry defects in the form of hollows or missing pointing must be corrected before the application of the harling coat. The correction of these defects should be carried out during masonry preparation and not rectified through coats of "dubbing out". Areas of varying thickness are prone to shrinkage, carbonation and curing problems. Careful background preparation plays a vital part in the weather resistance capability of the wall.

Materials to be used in background preparation, should, wherever possible, be matched to the existing fabric. In doing so, the repair will be compatible and produce a similar performance pattern. Where previous remedial work has taken place with unsuitable materials, (i.e. dense cement mortars), these should be removed and repaired with matching mortars or stone.

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The background must be free from dirt, grease and vegetation. These elements should be removed several weeks before repairs are underway. The removal of biological growths should be thoroughly carried out, as any remaining lichen, algae, etc, will grow back and attack the bonding between lime finishes and the background.

Suction Control and Bonding

Before the application of any new lime coatings, hydraulic or non-hydraulic, it is vitally important to check to the degree of suction within the background, poor or excessive suction can result in a weak bonding with the substrate caused by rapid de-maturing of the newly applied render, which will result and a weak and powdery interface which will lead to later failure and separation. Where there is little or no suction further action will be required to help bond the coating to the substrate. In situations where suction needs to be controlled, wetting down will be required, on dense blocks or near impervious masonry, simply dampening the surface with a mist spray may be all that is required, but on very porous surfaces such as old brickwork considerable wetting will be required. Wetting the wall by use of a hose, working from the top of the structure, downwards, may need to be carried out the previous day or several times throughout the day before rendering commences. The objective of the suction control is to achieve a thoroughly damp surface, but not wet, i.e., the surface must not have running or standing water remaining on the masonry or brick, this will form a barrier between the coating and substrate, also lime mortars adhere and stiffen through a certain amount of suction.

On dense or near impervious background, it may be necessary to apply a sand/splatter dash coat to the background to act as a mechanical key.

Salt Contamination

Where new lime coatings are to be applied to masonry that is salt contaminated, the masonry should be allowed to dry fully before applying new renders. This will allow salt to be detected on the masonry and mortar joint surfaces, if excessive salt is identified clay or lime mortar poulticing may be required. Specialist advice should be sought. If this technique is utilised, mortar joints containing salts should be raked out to a depth of 50mm and repointed (See repointing).

Salt contaminates should never be washed from the surface, as this will result in the crystallized salt returning to a soluble state and retreating back into the pores of the masonry or brick. Salts should be brushed from the surface and cleaned away from the structure.

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Techniques of Application

New applications of lime harling are generally applied in 2 coats with an approximate thickness 8mm to 6mm respectively, single coats can be applied, but it must be remembered that these thin coats will not have the same durability. The overall thickness will of course be effected by the size and shape of the aggregates used. To replicate a traditional harled finish, the selection of tools used and method of application is essential. The best tools for harling are the purpose made harling or scudding trowels (many plasterers use a small coal shovel with great effect), these tools allow an even spread of material over the whole blade of the trowel, which helps with an even coat of material against the wall. The technique of application requires that a small amount of the lime harling be scooped up with the trowel, and with a flick of the wrist dashed against the wall. This method requires a degree of practice to achieve an even material thickness. Forehand and backhand casting techniques will allow difficult and awkward areas to be reached and ensure total coverage. Variation of texture and pattern are typical of traditional harled finishes and are an indication of different casting techniques and style of tradesman's personal preference.

Machine applied sprayed finishes have been introduced into lime finishing, and although their performance is technically sound, the finished work bears little resemblance to a traditional finished harl.

Harling up to Details

Where details such as stone quoin of window dressing are encountered, which stand proud, the harling can be tucked neatly behind the finished edge, this will protect against water penetration, where stone details have no distinct edge the harling can be feathered out, this can be achieved by using progressively thinner material.

Harling Finishes

It is generally considered that there are 2 distinct styles of finish to lime hurling, the first style is the "as cast" style, where the material is simply left as cast onto the masonry without any further adjustments, the second style is a flatter finish in which the cast hurling is pressed back against the wall with the aid of a timber float to even out the surface. Both styles are traditional and choice of finish should follow existing examples.

Health and Safety

Harling by its nature of application carries a risk factor, and therefore personnel should wear protective equipment, particular attention to be given to eye and skin protection.

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