

AFTERCARE OF NON-HYDRAULIC LIME MORTARS

After the placing of lime renders, plasters or coverings, controlled curing and protection will be needed to ensure maximum strength and durability are achieved. Carbonation is the principle reaction, which gives non-hydraulic limes their long-term performance. The carbonation process takes place best in warm and moist conditions, which allows the new works to dry slowly. Therefore, during and after completion of the work, it is essential to ensure ambient conditions.

Rapid drying by the sun, wind or artificial heat will all have a detrimental effect on the final outcome of the lime finishes.

Temperatures below 5°C will slow the carbonation process. Frost conditions will cause the carbonation process to cease and damage un-carbonated areas through the action of freeze-thaw (expansion/contraction) resulting in feeble and crumbly finishes.

Excessive shrinkage is a result of rapid drying, and this can lead to separation between coats and background. Rapid drying of the surface of new mortars, can also lead to the pores of the mortar becoming blocked with fine material, transported to the surface by the passage of water evaporation too quickly from the mix, this will inhibit the carbonation process taking place deeper into the new mortar.

The best way to control and protect the carbonation process is to form a microclimate for the new work. Where the new work has scaffolding, this can be a reasonably simple job. Scaffold netting is very useful for reducing the effects of wind. In addition to this, in warm or hot conditions, damp hessian sacking can be placed against the new work and then covered by sheeting to stop rapid drying. Plastic sheeting should not be placed directly next to the new work as this may induce sweating and also inhibit the carbonation process through lack of air.

Disclaimer

Although we have taken great care to ensure that this information and advice is correct, we respectfully suggest that you take further advice to take into account site specific conditions. Therefore, we cannot accept any responsibility for any loss or damage in carrying out work using these guidelines.

This new work should be damped down for a minimum period of 10 days after completion and longer if possible. The emphasis should be on damping down as opposed to saturating new work, as non-hydraulic lime mortar will not harden if kept continually wet. Provision should be made for damping down over weekends, holidays etc.

In cold weather, the work must be protected from frost attack, by using thermal blankets eg polystyrene sheets. Non-hydraulic lime mortars may need up to 12 weeks of frost free conditions before being left exposed to cold conditions. If possible plan all external works in the seasons which are free from frost.

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