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AFTERCARE OF LIME MORTARS

Protection and Curing

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 both non-hydraulic and hydraulic limes the long-term performance. The carbonation process takes place best in warm and moist conditions, which allows the new work 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 and frost conditions will 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,

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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 is scaffolded, 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; periodic damping down with sprayers will be needed also.

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 (in the case of non-hydraulic lime mortar, hardening will not take place 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 hessian, thermal blankets eg old carpets or polystyrene sheets. Non-hydraulic lime mortars may need up to 12 weeks of frost free conditions before being left exposed to cold conditions. Hydraulic plasters/mortars will stand up to cold conditions after 3-4 weeks of hardening, but where possible plan the work to the correct time period.

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