Limetec Hydraulic Lime Mortar

Protection and Curing

After the application of lime mortars, renders or coverings, controlled curing and protection will be needed to ensure maximum strength and durability are achieved. The chemical reaction which gives hydraulic lime its long-term performance is known as the 'hydraulic set'. 'Carbonation', (the reabsorbing of carbon dioxide), also takes place. This process is best achieved 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 5ºc will slow the carbonation and hydraulic setting 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, 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 scaffold, 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 can be placed against the new work and then covered by sheeting to stop rapid drying.

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. 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 e.g. polystyrene sheets. Hydraulic plasters/mortars will stand up to cold conditions after 3-4 weeks of hardening. It should be remembered that prolonged periods of cold temperature will slow the overall hardening process and extended periods of protection will be called for.

Mortar should not be used if the temperature is at 5°C and falling. Attention must be given to the weather forecast before and for at for at least 24 hours after laying masonry.

Work should not be carried out if the temperature reaches 30°C. In warm weather it is advisable to damp down the brick/stone to avoid the substrate taking moisture from the mortar **[see working with Lime Mortar in Winter Conditions or check with Limetec for advice].**