

Working with Lime Mortar in Winter Conditions

Winter conditions will have the greatest effect on the setting of hydraulic lime mortars. Protection must be given against rain, drying winds, snow and in particular frost.

If bricklaying has to proceed during the winter, then the workface (scaffold) needs to be fully enclosed and possibly heated, effectively creating a microclimate. All materials must be covered and kept dry and the mixing and preparation area needs to be enclosed as well.

1. In wet conditions plastic sheeting should be used on the scaffolding but can also be draped over the work. Special attention should be given to the top of the masonry wall to stop water entering through the vertical joints. Protection should remain in place until the surface of the mortar has achieved a set. Ensure any run off water from upper levels is well clear of any new work.
2. In drying winds (but in cold conditions) dry hessian and a plastic sheet or bubble-wrap should be draped over the completed area to control evaporation and cooling of the wall.
3. When snow and frosts are forecast or when the temperature is expected to fall below 8°C, protection is advisable in the form of insulation, as this will encourage the mortar to continue setting by keeping residual heat in. To achieve this use dry hessian and cover with a protective plastic sheet (or use bubble wrap), hung within 100mm of the surface.

Frost damage will occur as a result of a lack in protection whilst the mortar is damp. Layers should be kept in place until the mortar is firm and a set has occurred (this may take several days to achieve in severe conditions). In general, **Mortar should not be used if the temperature is at 5°C and falling or 3°C and rising.** However, if adequate protection and heat source can be provided and maintained in the working area, it is possible to progress work with caution outside of these parameters. With adequate screening of the work face (should budget allow) warm air heating can be introduced to maintain consistent temperature on the work face. Allow some ventilation to prevent any rapid drying of the surface.

4. If frost damage does occur do not remove the crust; this will provide protection to the mortar beneath and when the temperature starts to rise, the mortar will continue to set once more. A decision to remove the damaged crust and re-point should be made once a full set is achieved and should take into account the finish required and the depth of damage.

EXPLANATION: Damp conditions coupled with low temperatures will increase the setting time. To reduce these influences ensure the masonry units are not overly wet when laid.

Registered Address: Unit 2 Paddock Road Industrial Estate, Caversham, Reading, Berkshire, RG4 5BY
Tel: 01189 469 153 (head office) +44 (0)845 873 3888 (orders) 01189 946 9176 (fax). Company Reg no: 6561874.

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