



# WINTER WORKING GUIDELINES

## LIME PUTTY MORTARS WINTER WORKING GUIDELINES

TGN 6

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The use of lime putty mortars externally during the winter months is not advocated, and certainly not when the temperature is below 5°C and falling. External work should be scheduled to avoid the period from October to March. Frost is a serious risk to new lime putty mortar and the low winter temperatures impede curing. Natural Hydraulic limes can be an alternative in appropriate situations.

### Protection

If external work is scheduled in winter, protection is vital. Complete enclosure of the area to be worked, preferably with gentle heating introduced to maintain a consistent background temperature will normally protect the work during cold periods.

Heating must be carefully managed as aggressive heating or rapid changes in temperature will also cause problems to curing mortar. Propane gas heating will also introduce additional carbon dioxide which may aid carbonation.

Protection should be left in place throughout the vulnerable time of year until the danger of frosts is over. Scaffolding should be adequate to support protective impervious sheeting and any potential wind loadings should be considered. Beware of any splash zones at the base of walls or from abutting roofs.

Covering new work with layers of bubble wrap, hessian and tarpaulins/waterproof sheeting may help to provide insulation and ensure protection from wind, strong sun and driven rain as well as frost. Plastic backed decorators dust sheets may also be useful. An air gap of at least 100mm should be left between the protection and the new work, with air allowed to adequately circulate and vent out, avoiding cold spots or rapid drying/overheating. In very harsh conditions this may not be sufficient to prevent frost damage.

Work protected by sheeting should be uncovered on warm, dry days to promote carbonation. Hessian alone is not a suitable protection in winter conditions as it may become water logged, rot and freeze whilst allowing wind to blow through it.



## Weather Forecasts/Frost

Regular reviewing of weather forecasts is essential and work should cease ahead of any frost forecast. The Brick Industry Association, Technical Note 1 states, "Mortar which freezes is not as weather-resistant or as watertight as a mortar that has not been frozen. Furthermore, significant reductions in compressive and bond strength may occur. Mortar having a water content over 6 to 8 percent of the total volume will experience disruptive expansive forces if frozen due to the increase in volume of water when it is converted to ice. Thus, the bond between the unit and the mortar may be damaged or destroyed."

Although putty mortars may achieve an initial set after several days they continue to carbonate for a lengthy period and are vulnerable to frost during this time. Whilst moisture remains in the mortar it can be vulnerable to frost for weeks and even months. There are no hard and fast timings as environmental factors on site vary. It is advisable to record the temperatures of each day of work to refer back too should issues arise in the future.

During periods of low temperature too much moisture can retard carbonation. If the substrate is already wet it will require less mist spraying than at warmer/drier times.

## Storage

All lime putty material stored on site should be kept off the ground and under cover in a frost free environment, ideally inside.

## Disclaimer

As with lime putty work at all times of the year a lack of appropriate tending can affect carbonation and lead to failures, but this risk is increased during colder weather. Please be aware we cannot be held responsible for the way in which materials are stored or used after delivery.

Important Notice: This information sheet is not intended as a specification for work undertaken during the winter. It is based on experience and knowledge of best-practice only and provided in good faith.