Frost?

The severe cold of last winter brought with it hardship for working with lime and there were many failures (as there was also with cement). This winter has already proven to be worse and it is not yet over, although many of us have taken adequate precautions. The following, however, may be helpful.

Paul Livesey* has reported from the UK that tests have shown that moderately hydraulic lime mortar (3.5 NHL), moist cured, at +15 C developed reasonable frost resistance after 14 days. Those cured at 10 C took 28 days and those cured at 5-10 C took up to 56 days.

This would appear to mean that if we work in winter conditions of between 5 to 10 C we need to keep work covered at least 56 days to ensure proper protection from possible frost damage.

He further adds that in the North of England and Scotland they usually get a first frost late October, but a dangerous persistent frost by late November. Looking at average temperatures indicates that mortar placed by 1st Oct would have some resistance by mid-Oct; mortar placed by 7th Oct would take until end-Oct and mortar placed after mid-Oct would have little resistance until late Nov. Of course this varies with precise location and degree of protection.

As there are lessons to be learnt from this it is being passed on for your own use and benefit.

If the temperature drops below 0 C for any prolonged time during the curing period other problems such as permafrost damage can arise.

Cappings: As an addendum, and as reported on in our last Newsletter, cappings can be particularly vulnerable to damage. In such cases, and particularly where ‘breathability’ is not an issue, the addition of a fatty acid admixture water repellent such as SIKA 1+ or BASF Rheofit 799 or Oscrete Tegla WR to the mortar mix can be beneficial. But always mix to manufactures instruction for lime mortar (not cement based mortars). Apply in normal manner and protect as standard procedure.

Al the foregoing is given by way of information only and are not recommendations, and no liability will be accepted on the part of the BLFI or its Members etc.

If you have any problems or questions please visit our Web Forum and participate in the discussions.

Your Committee.

* Paul Livesey has written in our recent Newsletter on bulk density and is to give a BLFI CPD Course at Drimnagh Castle in May.