



## **TIPS FOR BUILDING IN COLD WEATHER**

### **Laying blocks or placing concrete in cold weather?**

**Here's some precautionary advice - but please also remember to always read manufacturers' guidance on products and systems**



The time of year is upon us when you may find yourself or your builders working in very cold weather. You can take certain measures to avoid future problems. It is particularly important when laying concrete, bricks and blocks in temperatures of 5°C or below.

If you place concrete in sub-zero temperatures substantial damage can occur to the point where the strength is seriously affected. Even if temperatures do not drop below zero, the concrete strength develops much more slowly than it does in warmer months.

We would offer you the following advice for you when building in very cold weather.

### **Building material storage**

During the winter months, you should cover stacks of bricks and blocks to provide protection against rain, snow and frost. Bricks and blocks that are saturated can suffer frost damage when laid. It is best to protect your materials with a cover or allow them to dry out before laying.

### **Concrete**

To maximise the strength of concrete it is essential you protect it from freezing. Fresh concrete if poured needs to develop sufficient strength to resist the forces associated with freezing water. Ice formation results in the disruption of the cement paste mixture causing irreparable loss in strength. Early freezing can result in a reduction of up to 50% in the ultimate strength. If you take adequate precautions, concrete's compressive strength is normally sufficient to resist significant expansion and damage after a couple of days from placing. So what do you do in this period to protect it?

The concrete supplier may use a combination of precautions to overcome the likely effects of cold weather. They may use adjust the mixture either by increasing cement concrete or may add chemicals to accelerate hardening. They can simply lay warmer concrete. Be sure when placing an order for your concrete to ask what precautions the supplier takes.

Once placed, you might consider placing mineral wool insulation quilt on the top of the fresh concrete to keep it as warm as possible. Polythene sheets can provide further protection ; used alone, they do not have an insulation value but the air gap helps maintain the temperature of the concrete.

You can find further information at [www.concrete.org.uk](http://www.concrete.org.uk).



## **Brick/ block laying**

You should not lay blocks and bricks in temperatures lower than 3°C. So keep an eye on the weather forecast for your area when you are planning work.

If a mortar bed freezes, only a very limited bond will form. Like concrete, mortar can be made stronger. However, this may have a damaging effect itself when the wall is dry. It is particularly important when laying blockwork that you check with the manufacturer's recommendations for the appropriate mix to use in cold weather.

You should always store materials clear of the ground and protect them from wind and snow. Keep sand and lime in a dry place.

For partially completed walls, when the temperature drops or is expected to drop to below 3°C, you should provide adequate protection of completed work. You should protect the completed work by draping hessian over the walls. You should secure this at the base of the wall to stop it from blowing away. To prevent the hessian from becoming wet you can overlay with a polythene sheet. It is always best to minimise its contact with the outside of face brickwork. Allowing the brickwork to become wet during cold periods can lead to excessive efflorescence during the drying out period.

You can find further information at [www.brick.org.uk](http://www.brick.org.uk).



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