

Working with Mortar in Hot & Cold weather

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Seasonal tips for working with masonry. **SUMMER** Summer Moisture Content: If too much water is drawn out of the mortar before it sets, the bond joint will not be good. Most clay bricks, calcite bricks and stone do not require pre-wetting because of minimum absorption. However in extremely hot weather, the clay bricks and manufactured stone (calcium silicate) should be treated. The objective is to have water inside the brick, but the surface should be dry. Bucket dipping does the opposite, giving too much water on the surface and none inside. Let water run over a stack of bricks the day before use and let stand at least 5 hours before use to surface dry. Pre-soak wooden mortar boards so that they do not draw water out of the mortar on its way to the joint. **Summer Working Temperature:** Keep all material in the shade to prevent over heating. **Summer Working Techniques:** Do not over mix the mortar as this will cause excessive air entrainment which can reduce bonding and mortar strength. Work quickly so that the mortar is not exposed to drying for more than a minute between applying to the brick and setting on the wall. **WINTER** Winter Moisture Content Brick absorption and cement hydration properly draw water out of the mortar during the setting process. This produces a good bond and leaves microscopic spaces for ice crystals if they are to form. This process does not work if the brick is frozen, or the mortar too cold to move through the chemical process toward setting before it freezes. Keep bricks sheltered but ventilated to reduce their moisture content. Heat sand before mixing if necessary, with a propane heated metal tube buried in the sand pile. Use less water in the mix than in the summer, and use warm water. Do not use anti-freeze or calcium chloride admixtures but you could use an accelerator. **Winter Working Temperature:** Tent all material in small areas to keep above 5 degrees C. **Winter Working Techniques:** Do not tool until thumbprint hard. Cover any unfinished work to protect from snow and ice. These recommendations have been developed by the Ontario New Home Warranty Program technical services department. If you are working on heritage brick you should check out the U.S. Heritage Group.

Keywords:

Shrinkage, Brick, Tiles, Mortar, Masonry, Freezing, Techniques