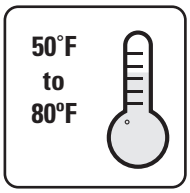
Top Ten Tips for Cold Weather Tile Installation

When working in cold weather, it is important to consider four key temperatures: water temperature, powder temperature, ambient temperature, and surface temperatures. Low temperatures for any of these four parameters can inhibit a product's cure. Once a critically low temperature is reached, the cement curing reaction stops, which can cause jobsite failures.

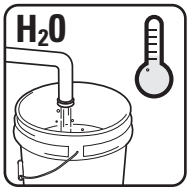
1 Ensure the powder temperature is between 50-80˚F prior to mixing. Store bags in a conditioned space, if possible. Powder makes up about 78-86% of the final weight, which means that cold powder will lead to an artificially long working time.



2 As possible, plan your job to avoid ambient temperatures that dip below 60ºF. Low temperatures during installation can permanently affect bond strength. This might mean protecting the installation with tents and/or heaters if in an unconditioned space. Once the installation has dropped below the required temperature, the cement stops curing, permanently damaging the installation.

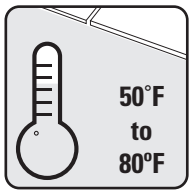
3 Consider using a fast set product. Since they achieve final set faster, the installation is less likely to be affected by temperature fluctuations.

4 Be aware of your water temperature. If necessary, condition your water to be room temperature (50-80ºF) before mixing.



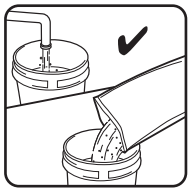
5 If reusing buckets, be sure to clean any residual product out of them before starting your mix. Cross-contaminating cement based products can affect the product's working time and performance.

6 Be aware of your substrate and tile temperature. It should be between 50-80ºF. This is especially critical when installing over, on, or below grade installations as the substrate temperature can be vastly different from the ambient temperature. If possible, use a temperature gun thermometer to ensure the substrate is warm enough to install tile.

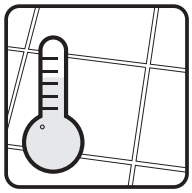


7 Always add the powder to the water before mixing with a low speed drill. TEC® recommends a low speed (300-350 RPM) drill for grout and mortar installations. Allow the product to slake (if required) before remixing. Be careful to not over mix the grout or mortar.

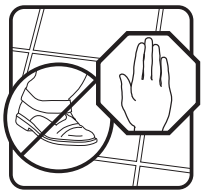
8 Mix using the recommended water amount, being sure not to exceed the maximum. Do not add additional water to the product after slaking. This can cause issues with bond.



9 Once you are done installing, double check that the area is set to remain at a temperature between 50-80ºF for at least 48-72 hours after installation. This might mean tenting or adding heaters to the installation area.



10 Longer foot traffic protection may be necessary. This is because cold temperatures can extend both the pot life and final set of mortars and grouts.



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