

COLD WEATHER CONCRETE

Previously, it was common to curtail the placement of concrete on building projects during periods of cold weather. Currently, with updated codes and a better understanding of the effects of cold weather on concrete along with improved methods of protection and monitoring, there is no reason good concrete pours cannot be conducted during these times.

The following may be used as the basis for the allowance or denial of concrete pours in cold weather. As our codes reference ACI 318, Standard Specifications for Cold Weather Concreting, it is the intent to closely follow that standard. An alternative to the procedure outlined here is a report from a Kansas licensed P.E., which confirms that the cold weather provisions of ACI 318 have been met for a given project.

COLD WEATHER DEFINED

The following provisions apply to concrete pours conducted when the actual air temperature is below 30 degrees F. A cold weather situation is based only on actual and not forecast temperatures. Also, only pours scheduled for a given day will be approved during cold weather.

SITE INSPECTION

The inspector will check to ensure that the sub-grade is not frozen and that there is no ice or snow in the forms. The reinforcement shall be free from ice as well. Also, the protection components shall be on site at the time of the inspection. Those components may include blankets, heated enclosures or other insulating material as approved, including straw held in place with tarps or polyethylene sheeting.

PLACEMENT AND MONITORING

Air entrained concrete shall be used for the purposes of this procedure. Driver batch tickets may be requested if necessary. When cold weather conditions exist, surface concrete temperatures shall be maintained at 55 degrees F. for three days. This may be reduced to two days if an approved accelerator is used. **Confirmation of the above temperatures shall be on a form provided by a Risk Reduction inspector and placed with the approved plans on-site prior to any further inspections taking place.**

If footings were required to be protected from freezing, foundation walls will not be allowed to be poured for at least 48 hours.

EXCEPTION: If protection from freezing can be maintained for the time period specified above, the wall may be poured after 24 hours has elapsed from the time of the original footing pour.

When this procedure mandates protection of footings and foundation walls, the inspector shall give only partial approval on the initial inspection. **Final approval will be given when proof of protection from freezing has been received.** If the inspector determines that the concrete has not been adequately protected, testing may be required to ensure that the required strength has been developed.

