



BUILDING DEPARTMENT

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COLD WEATHER CONCRETE REQUIREMENTS

Code Sections 2021 IBC 1904 & IRC R403

Cold air temperatures during curing of concrete and masonry work can affect their characteristics permanently. Concrete cures slower in cold temperatures. Because the cure time is longer in cold weather additional protection and precautions are necessary. When concrete is exposed to temperatures less than 30 degrees F without protection the concrete may freeze. Depending on how early in the curing process the freezing occurs, permanent damage and reduction in strength may take place. In most cases, however upon warming up curing will continue and design strengths may eventually be reached, but most of the time durability under stress will adversely be affected.

Based on these standards, the Eagle Mountain City Building Department has established the following cold weather requirements. These requirements shall be followed unless specific engineering has been provided and approved by the building official. These requirements may not be adequate for special types of concrete, such as structural slabs, engineered walls, engineered beams, and foundation walls that will be loaded immediately. Specific engineering and approval is required for these.

1. Rebar, forms, fillers and ground against which concrete will be placed shall be free from ice, snow, and frost.
2. Wind protection is required when air temperatures are below **35 degrees F** otherwise, rapid cooling takes place.
3. During freezing weather, placement of concrete should be scheduled for times when proper protection can be provided so that concrete *will not* freeze during the lower night time temperatures.
4. Protection shall meet *at least* the following minimum standards:
 - 30 F- 25 F** Weather resistive membrane for **3** days minimum
 - 25 F- 20 F** Insulated blankets or other approved coverage with a weather resistive membrane for **3** days minimum.
 - 20 F- BELOW** Provide supplemental heat under weather resistive membrane for **3** days minimum.

NOTE: *All protective equipment must be on the job site at the time of the inspection. Projects that are not in compliance with the above requirements are subject to a stop work order until the contractor can show that all minimum codes requirements will be achieved.*