

A RECOMMENDED PRACTICE - COLD WEATHER READY MIXED CONCRETE

Ready mixed concrete can be produced and placed throughout the winter months if the proper precautions are taken. Setting time and the rate of strength gain of the concrete are significantly influenced by temperature. The lower the temperature of concrete and surrounding air, the slower the set and strength gain of the concrete. The setting of concrete is a physical-chemical reaction, and the speed of this reaction doubles when temperatures increase approximately 18° F., and with a decrease in temperature, the condition is reversed.

A typical relationship between temperature and setting time of concrete might be:

<u>TEMPERATURE*</u>	<u>APPROXIMATE SETTING TIME</u>
100° F.	1/2 hour
90° F.	3 hours
80° F.	4 hours
<u>70°</u>	<u>6 hours</u>
60°	8 hours
50°	11 hours
40°	20 hours

* Assuming the temperature of the concrete as mixed and air temperature are identical to the stated temperature. Concrete mixed at 70° F. and placed in a 34° F. atmosphere will cool down and the setting time will slow down considerably. Concrete mixed at 52° F. and placed in an 88° F. atmosphere will warm up and the setting time will speed up.

Slower setting and delayed finishing will be experienced during the winter months because of erratic day-to-day temperatures.