AECOM HUNT

Cold Weather Concrete Pour & Protection Procedure Requirements

09-23-2024

Date of Review:		Project Trade Contractor(s):	Projected Temp Range:
			Projected Pour Dates:
			Day 1:
			Day 2:
Project:	#		Day 3:

Cold Weather Concrete Pour/Protection Procedure Requirements

Special precautions are required when placing, finishing, curing, and protecting concrete against the effects of the cold weather. Weather conditions can change rapidly in winter, good concrete practices and proper planning are essential for a high quality product.

	✓	N/A	**Per ACI 306r** **When the average daily ambient temperature falls below 40°F for three (3) successive days and when the temperature is to fall below 40°F during the protection period.** *(+500 psi, typically 48 hours)*	*The average daily temperature is the average of the highest and lowest temperature during the period from midnight to midnight. When temperatures above 50°F (10°C) occur during more than half of any 24-hour duration, the period shall no longer be regarded as cold weather.*
	✓	N/A	Attach the Trade Contractors procedures for cold weather concrete.	
	✓	N/A	List the approved cold weather additives:	Confirm that color will not be affected.
	✓	N/A	The relative percentage of fly ash may be reduced, increasing the amount of Portland cement, which will increase the rate of set & strength. However, durability will likely be compromised ***ALWAYS SEEK A/E APPROVAL FIRST.***	*Reduce fly ash to increase set strength time.*
	✓	N/A	Concrete should be placed at the lowest practical slump, as this reduces bleeding and setting time. We should NOT be adding water...*Adding 1-2 gallons of water/cy will delay the set time by 1-2 hours which will increase the setting & strength gain* .***ALWAYS SEEK A/E APPROVAL FIRST.***	
	✓	N/A	Design Slump: / Target Slump:	
	✓	N/A	Concrete Thickness:	Less than 12" (Target Temp = 55°) / 12" – 36" (Target Temp = 50°) / 36" – 72" (Target Temp = 45°)
	✓	N/A	Requested temperature from the plant:	
	✓	N/A	Snow, Ice, & Frost must be removed prior to pour.	
	✓	N/A	**We must protect concrete from freezing until the concrete reaches about 500psi, which is typically 2 full days at 50°F. (concrete temp)** *This will be longer if the concrete temperature is lower.*	
	✓	N/A	Have all insulating materials ready and convenient. **Do not store in a deicer location.**	

	✓	N/A	Will Ground Warming / Protection be Required? If yes, type of warming / protection:	
	✓	N/A	Confirm if we have any shallow footings ***THE TIME OF WINTER CONSTRUCTION - THE FOOTINGS WILL NEED TO BE PROTECTED UNTIL THE FREEZE CONDITION ENDS TO {PREVENT UNINTENDED HEAVING OF THE SHALL FOOTINGS.***	
	✓	N/A	Rebar needs to be above 32°F prior to pour, which will require insulating rebar prior to pour.	
	✓	N/A	Will Rebar Warming / Protection be Required? If yes, type of warming / protection:	
	✓	N/A	Where will the protection be located prior to the pour?	
	✓	N/A	Concrete Protection… Type of warming / protection:	If blankets are used, review the blanket AECOM-Hunt temperature guide.
	✓	N/A	We need to “gradually” remove the insulation from the surface to avoid thermal shock.	
	✓	N/A	Corners and edges are most susceptible to heat loss and will need special attention.	
	✓	N/A	Form material has little impact on concrete temperature (hot or cold) and should only be on ±1 day.	
	✓	N/A	Once the forms are removed from the footings and foundations (after 500 psi) backfill as soon as possible to reduce the risk of soil pressure due to freezing.	
	✓	N/A	How long will the protection be in place after finishing:	
	✓	N/A	If fossil fuel is being used to heat the space, the heat source MUST be indirect, in order to prevent carbonization of the slab, which will cause dusting.	
	✓	N/A	Do not use a “jitterbug” or vibrating screed as this will produce a weak layer of paste on surface.	
	✓	N/A	If used, Review Information on Curing Compound *Generally, 40° to 50° is minimum*	Minimum Temp: | Coverage:

Additional Comments:

Sign & Date:	

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