

Job / site _____ Pour / element _____ Date _____ Least dimension _____ in Forecast low, protection period _____ °F

THE NUMBERS · ACI 306R Table 5.1, by least dimension

Concrete temperature, °F	< 12 in	12–36 in	36–72 in	> 72 in
Min. as placed & maintained	55	50	45	40
Min. as mixed, air above 30°F	60	55	50	45
Min. as mixed, air 0 to 30°F	65	60	55	50
Min. as mixed, air below 0°F	70	65	60	55
Max. drop, first 24 h off protection	50	40	30	20

40°F Cold weather starts here. Air at, or expected to fall below, 40°F during the protection period → this sheet applies.

500 psi The survival line. Below it, one freeze does permanent damage. Protect until it's reached — usually about two days at 50°F.

3 / 2 days Minimum protection from freezing: 3 days conventional mix, 2 days high-early (Type III, accelerator, or +100 lb cement/yd³). Loaded or strength-gated elements: longer — the spec decides.

+20°F Warmer isn't better. Heated air around the concrete no more than 20°F above the placed minimum. Every 20°F colder ≈ double the set time.

BEFORE THE TRUCK LOADS · on site, the day before

- ☐ Subgrade thawed, and staying thawed — no frost, ice or snow in the forms or on the steel
- ☐ Forms, rebar, embeds and anything the concrete touches **above freezing**
- ☐ Winter mix ordered: **as-mixed temperature** from the table for today's air, water heated and blended with the aggregate first
- ☐ Accelerator **per spec** — non-chloride around steel; calcium chloride ≤ 2% of cement, never prestressed, aluminum or galvanized
- ☐ Air-entrained if the element will see freeze-thaw in service
- ☐ Blankets / enclosure **on site now**, not promised — edges and corners doubled
- ☐ Fired heaters **vented outside** — CO for the crew, carbonation dusting for the slab
- ☐ Thermometers under the blanket at an **edge and a corner**, not the middle
- ☐ Field-cured cylinders (or maturity sensors) to prove 500 psi and the stripping strength
- ☐ Protection period agreed with the spec; **taper-off plan** inside the 24-hour drop limit
- ☐ No water curing into a freeze; cover instead
- ☐ Finish window fits the daylight with the slower set — **first truck earlier**, spacing tighter

TEMPERATURE LOG · at least twice a day until protection comes off, then through the taper

Day	Date	AM air °F	AM concrete, edge	AM concrete, corner	PM air °F	PM concrete, edge	PM concrete, corner	Protection intact	Initials
Pour day								☐	
Day 2								☐	
Day 3								☐	
Day 4								☐	
Taper								☐	

Concrete below the "placed & maintained" minimum → add protection or heat now. A drop past the 24-hour limit after protection comes off → put it back on.

THE FIVE GO/NO-GO QUESTIONS · 5 AM, the site forecast, the whole protection period

- 1** Do overnight lows through the **whole protection period** stay inside what the protection on site can hold? ☐ yes ☐ no
- 2** Is the subgrade thawed — **and staying thawed**? ☐ yes ☐ no
- 3** Is every line of the checklist above ticked **on site**, not promised? ☐ yes ☐ no
- 4** Does the finish window fit the daylight, with the slower set figured in? ☐ yes ☐ no
- 5** If the answer changes at 5 AM, does everyone rolling toward the pour find out in time? ☐ yes ☐ no

Any "no" → protect it, fix it, or call it. Pour / No pour / Moved to: _____