QC Cast-in-Place Concrete Checklist

Section 03.30.00

Batch ticket for each truckload lists design compressive strength, maximum water–cement ratio, admixture dosages, and batch time and matches approved mix design before discharge begins.

Observations

Total water added at site including truck-added water does not exceed design water–cement ratio; slump after water addition remains within specified limits and is documented on inspection log.

Observations

Concrete temperature at point of placement falls within specified range for prevailing weather conditions and is recorded for every truck.

Observations

Free fall of concrete into forms is limited to maximum 5 ft unless chutes, pumps, or tremie pipes are used to prevent segregation.

Observations

Internal vibration is performed with equipment operating at ≥8000 vpm; insertion spacing does not exceed 1.5× vibrator head diameter and lasts 5–15 seconds per insertion, achieving full consolidation without over-vibration.

Observations

Reinforcing steel, post-installed anchors, sleeves, and other embedded items remain in required positions with minimum concrete cover measured and documented before pour begins.

Observations

Concrete placement proceeds continuously between planned construction joints, preventing unintended cold joints; any scheduled joint surface is clean, roughened, and pre-wetted per specification before new concrete is placed.

Observations

Formwork remains plumb, tight, and without excessive deflection or leakage during placement; any movement beyond tolerance (¼ in. in 10 ft) triggers immediate stoppage and corrective action.

Observations

Air content of air-entrained mixes measured at site (ASTM C231) falls within specified tolerance, with readings documented at required testing frequency.

Observations

Slump test performed at point of discharge (ASTM C143) yields values within specified tolerance range; results are logged for every load tested.

Observations

Compressive-strength test cylinders molded (ASTM C31) at required frequency, properly tagged, initial-cured on site, and transported to laboratory within mandated time window.

Observations

Initial curing or protective covering begins within 30 minutes of finishing to prevent moisture loss, using the specified method (wet cure, curing compound, or membrane).

Observations

Hot-weather concreting measures are implemented when ambient temperature exceeds 90 °F, including cooled mix water, sunshades, placement within 90 minutes of batching, and continuous moisture curing.

Observations

Cold-weather concreting provisions activate when ambient temperature is below 40 °F, maintaining concrete temperature ≥50 °F for curing period using heated enclosures or insulation blankets.

Observations

Embedded conduit, piping, and sleeves are securely fixed and capped to prevent movement or concrete infiltration; locations match layout within ½ in. tolerance.

Observations

Surface bleed water is allowed to dissipate completely before finishing operations commence, preventing entrapped water and future scaling.

Observations

Construction joint keyways, waterstops, and dowels are installed straight and at correct elevation prior to adjacent pour, with waterstop centers aligned with joint plane.

Observations

Final surface tolerance for slabs meets FF/FL values specified (e.g., FF 35 / FL 25); laser profiling or straightedge readings are documented after finishing.

Observations