

SECTION 5

CONCRETE BATCH PLANT

OBJECTIVE

The purpose of batch plant observation is to verify that the concrete supplier is exercising adequate quality control to produce concrete that will meet the project requirements for materials, their batch proportions, and mixing and adjustment for moisture.

The Statement of Special Inspections, prepared by the responsible design professional, will define the special inspection task(s) required. Qualified special inspectors who diligently perform the duties listed below while under the direct supervision of the materials engineering laboratory can best achieve this objective.

OBSERVATION DUTIES

A. Documents

1. Verify that the class of concrete ordered is being delivered and conforms to approved mix designs.

B. Equipment

1. Check the trucks for worn out or damaged fins, for excessive buildup of hardened concrete, and for the presence of wash water from the previous delivery.
2. Check the National Ready-mix Concrete Manufacturers Association truck rating plate and verify that load capacities are not exceeded.
3. Check the current "weights and measures" seal on scales.
4. Verify that the moisture-metering device is operable.
5. Verify that the scales start at and return to zero after each weighing operation.
6. Verify that the metering devices for admixtures have been calibrated recently and are operating.

C. Materials, Storage, and Handling

1. Visually check the sand and coarse aggregate for method of storage, handling, source, grading, cleanliness, and moisture condition.
2. Obtain samples of aggregates when specified or when it appears that they may not conform to the required gradation or cleanliness.
3. Obtain grab samples of cement and pozzolanic materials when required by project specifications.
4. Check cement temperature when required.
5. For lightweight aggregates, check loose moist unit weight regularly and verify whether the plant is making proper adjustments to batch weights to compensate for variations in weight as well as in moisture.

D. Batching of Materials

1. Record the volume in cubic yards for each class of concrete delivered. Verify that each mix proposed for delivery is of the proper designation and proportions approved for the project. Where discrepancies occur, request that the dispatcher clarify with the general contractor.
2. Verify that the specified materials are dispensed to the weigh hopper and record the adjusted batch weights for all ingredients in the desired proportions of the concrete mix.
3. Verify that the proper adjustments have been made for variations in moisture of aggregates.
4. Record the mixing time and check whether it is sufficient.
5. Visually estimate the slump of the concrete and report immediately to the operator any slumps outside of specified tolerance.
6. Coordinate with the job site and verify the "as delivered" slump, air content, unit weight, mix temperature, general workability, and preparation of test samples.

E. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.