STANDARD OPERATING PROCEDURE

Concrete Pouring SOP

Document no.	SOP-CON-006
Revision	1.0
Owner	Site Supervisor
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Review cycle	Every 12 months

1. Purpose

To make sure concrete is placed, consolidated, finished and cured correctly so the finished structure meets the design strength, tolerance and surface requirements.

2. Scope

Applies to all concrete pours on the construction site, from formwork inspection through placement, finishing and curing, for slabs, footings and structural elements.

Definitions

Slump test	A field test measuring the consistency of fresh concrete to check it matches the ordered mix design before placement.
Segregation	Separation of the coarse aggregate from the cement paste during placement, which weakens the finished concrete.
Curing	Keeping placed concrete moist and at a suitable temperature for a set period so it gains strength properly.

3. Responsibilities

Concrete Crew	Places, consolidates and finishes the concrete, and applies curing measures after finishing.
Site Supervisor	Confirms formwork and reinforcement sign-off, schedules the pour and coordinates the delivery and pump.
Quality Inspector	Inspects formwork and reinforcement before the pour, tests delivered concrete, and verifies curing and stripping timing.
Pump Operator	Positions and operates the concrete pump or chute safely and controls the flow rate during placement.

RACI matrix

Activity	Concrete Crew	Site Supervisor	Quality Inspector	Pump Operator
Inspect formwork and reinforcement before pour	I	A	R	-
Test delivered concrete on arrival	C	I	R/A	I
Place and consolidate concrete	R/A	I	C	R

Activity	Concrete Crew	Site Supervisor	Quality Inspector	Pump Operator
Finish and cure the surface	R/A	I	C	-
Approve formwork stripping	I	C	R/A	-

R = Responsible, A = Accountable, C = Consulted, I = Informed

4. Materials and PPE

Materials, tools and systems

- Approved concrete mix design and delivery ticket
- Slump test cone and testing kit
- Concrete pump, chute or bucket
- Vibrator for consolidation
- Screed board and finishing tools (float, trowel)
- Curing compound or curing blankets and plastic sheeting
- Formwork and reinforcement inspection checklist

Personal protective equipment

- Hard hat
- Safety glasses
- Rubber boots resistant to wet concrete
- Chemical-resistant gloves
- High-visibility vest

5. Procedure

Step	Task	Owner	Done
5.1	**Inspect formwork and reinforcement** Before ordering concrete, the quality inspector checks formwork alignment, bracing and cleanliness, and confirms reinforcement placement, cover and tie-off match the drawings, then signs off the pour. **Checkpoint:** The pour does not start until formwork and reinforcement are signed off against the drawings.	Quality Inspector	☐
5.2	**Schedule the concrete delivery** Confirm the mix design, quantity and pour sequence with the supplier, and schedule the pump or chute and crew to arrive together with the first truck.	Site Supervisor	☐
5.3	**Check the delivery ticket and slump on arrival** On arrival, check the delivery ticket against the ordered mix design and batch time, then perform a slump test and reject the load if it falls outside the accepted range. **Warning:** Never add water on site to adjust slump beyond what the mix design and supplier allow.	Quality Inspector	☐
5.4	**Position the pump or chute** Set up the pump line or chute to reach the pour area safely, keeping the discharge point close to its final position to reduce the drop and movement of wet concrete.	Pump Operator	☐
5.5	**Place concrete in sequence** Place concrete in the planned sequence and in layers, keeping the discharge point close to its final resting place and avoiding dropping or dragging it long distances that could cause segregation.	Concrete Crew	☐

Step	Task	Owner	Done
5.6	**Consolidate with a vibrator** Insert the vibrator vertically at regular intervals into each layer, holding it long enough to release trapped air without over-vibrating, and avoid contact with reinforcement or formwork.	Concrete Crew	☐
5.7	**Screed and level the surface** Strike off excess concrete with a screed board guided by the formwork edges or screed rails to bring the surface to the correct level and slope.	Concrete Crew	☐
5.8	**Finish the surface** Float and trowel the surface to the specified finish once bleed water has evaporated, timing the finishing to avoid trapping water or damaging the surface. **Checkpoint:** Finishing starts only after surface bleed water has disappeared.	Concrete Crew	☐
5.9	**Apply curing measures** Apply curing compound, cover with curing blankets, or keep the surface continuously moist as soon as the finish allows, protecting it from rapid drying, wind and temperature extremes.	Concrete Crew	☐
5.10	**Maintain curing for the required period** Keep the curing method in place for the period set by the mix design or project specification, checking coverings periodically to confirm they remain intact.	Site Supervisor	☐
5.11	**Approve formwork stripping** Confirm the concrete has reached the strength required for stripping, based on test cylinder results or the specified time, before authorizing formwork removal.	Quality Inspector	☐
5.12	**Clean up and record the pour** Wash down equipment away from drains in a designated washout area, and record the pour date, quantity, mix design, slump result and any issues in the site log.	Site Supervisor	☐

6. Quality checks

- Formwork and reinforcement are signed off against the drawings before every pour.
- Slump test results are recorded for every truck and fall within the accepted range.
- Test cylinders are taken and cured for strength testing on structural pours.
- Curing measures remain in place for the full period specified for the mix.
- Formwork is not stripped before the concrete reaches the required strength.

7. Records

- Delivery tickets and slump test results
- Formwork and reinforcement inspection sign-off
- Test cylinder records and strength results
- Pour log with date, quantity and issues noted

8. KPIs

- Percentage of loads accepted on first slump test
- Number of formwork or reinforcement rejections before pour
- Average time between finishing and curing application

9. Common mistakes

- Adding water on site to make a stiff load easier to place.
- Starting to trowel before bleed water has left the surface.
- Skipping curing measures because the crew is in a hurry to move on.
- Stripping formwork before test results confirm the concrete has reached strength.

10. Revision history

Revision	Date	Description	Reviewed by
1.0	September 15, 2026	Initial release	Ilia Pirozhenko

Approval

Prepared by	Approved by	Date

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