

Cast In Column Anchor Rod Setting JHA

Worked instructional example

Work and worksite

A foundation crew will position supplied steel-column anchor rods and a removable setting template in released ground-level building-foundation forms. Current embedment drawings govern component identity, location, support and the actual pre-pour survey. The assembly remains restrained for a separate concrete operation; no column is erected. This fictional learning example describes planned controls and records no actual inspection or work authorization.

- The current approved embedment package identifies rod material, dimensions, orientation, projection, template and restraint arrangement. The responsible project parties establish applicable setting tolerances and inspection hold points; this example supplies no universal tolerance, embedment or template design.
- Forms, foundation access, reinforcement interfaces and permitted handling loads are released. Supplied rods require no cutting, welding, heating or bending. Survey personnel have stable reference points and protected access to the complete assembly.
- Footing and foundation activity 238110-07 is a partial connection: setting cast-in column anchorage before concrete only. Rebar-mat placement, post-installed anchors, damaged-thread repair, concrete placement, template removal, column leveling and erection are excluded.

Questions before work

- Which approved embedment drawing and setting criteria identify this foundation and complete anchor-rod assembly?
- What independent support will keep the template and rods stable while the survey and later placement crews work?
- Who resolves interference and accepts the actual pre-pour location evidence before concrete can conceal the assembly?

Task Hazard Control

1 Establish the approved embedment and setting package

Hazard: A wrong rod group, superseded drawing or guessed tolerance can leave a foundation incompatible with its column and encourage hazardous correction later.

Control: Foundation lead identifies the exact base location and obtains the approved rod schedule, embedment drawing, template detail and setting criteria. Agree responsibilities with the steel and survey leads, including who may resolve conflicts. Keep incomplete information held; a column erection plan or a delivered box of rods does not authorize the crew to design their own anchorage arrangement.

Verification: Lead matches foundation identity, current documents and named setting-review responsibilities.

Reasoning: Setting a concealed component requires an identifiable design and a decision path before assembly.

2 Prepare released support and protected access

Hazard: An unstable form, obstructed route or protruding steel can expose installers to falls, impalement or movement of an inadequately supported assembly.

Control: Crew confirms separately released forms and working positions and stages the actual template supports and handling arrangement. Coordinate reinforcement and services without displacing required bars or form restraints. Protect protrusions according to the actual fall exposure and keep access clear. Hold a conflict for responsible design review rather than cutting reinforcement or improvising a support on an unverified surface.

Verification: Lead checks access, support readiness, protrusion protection and reported interface conflicts.

Reasoning: A template fixes geometry only when its supports and the surrounding installation remain stable.

3 Match and assemble the supplied rod group

Hazard: Mixed grades, damaged threads or uncontrolled long components can create an incorrect embedded group and injure hands during fitting.

Control: Assigned installers compare every supplied rod and required nut or template component with its mark and schedule. Use stable assembly supports and planned assistance, keeping hands outside closing gaps. Follow the issued orientation and engagement detail and identify damaged parts for disposition. Do not straighten, rethread, weld or substitute rods to make an apparent fit; those changes require separate accepted work.

Verification: Installer records component identity, condition and required assembly findings before placement.

Reasoning: Similar thread size does not establish the intended rod material or embedded geometry.

Complete the work and hand over

4 Position and secure through the setting method

Hazard: An unsupported rod group can tip, shift or trap workers while the template is brought to its intended location.

Control: Use the accepted handling method to bring the supported assembly into the released form area. Qualified lifting personnel control any prescribed mechanical transfer. Install the designed restraints and establish the required position without relying on workers to hold the group. Keep supports effective through adjustment; unexpected interference or template movement stops the operation until the responsible setting lead obtains direction.

Verification: Lead verifies restraint and controlled position before the survey crew enters.

Reasoning: A restrained intermediate condition permits measurement without people becoming temporary supports.

5 Obtain the actual pre-pour survey and disposition

Hazard: A misplaced centerline, projection or rotated pattern can be concealed by concrete if an assumed check replaces required measured evidence.

Control: Designated survey personnel use accepted reference control to measure the required rod-group locations and geometry. Compare findings with the actual drawing and applicable project tolerances and submit discrepancies to the assigned authority. Installers correct only through an accepted instruction and obtain the required recheck. Do not enlarge the future baseplate holes or mark unmeasured positions satisfactory to avoid a hold.

Verification: Responsible parties review real survey findings and record the actual pre-pour disposition.

Reasoning: Measurement before concealment gives the project a chance to resolve the identified setting condition.

6 Preserve the assembly for placement handover

Hazard: A later worker may remove template restraint or mistake a setting acceptance for permission to place concrete or erect steel.

Control: Record rod-group identity, survey evidence, accepted dispositions and remaining holds. Protect exposed threads and maintain the designed supports, protrusion controls and clear access. Brief the placing lead on the assembly's protection and required monitoring interfaces. Keep concrete start, removable-template release and later foundation/steel erection acceptance under their separate processes; report any subsequent disturbance before relying on the earlier survey.

Verification: Receiving lead confirms retained restraint, documented setting status and separate next-stage holds.

Reasoning: The handover must preserve the measured arrangement until the later operation has established its own readiness.

Pause and reassess

- The rod group, template, current embedment criteria or accepted supporting conditions cannot be positively identified.
- Assembly support, supplied components, reinforcement clearance or survey geometry differs from the released package.
- A required measured finding, responsible discrepancy disposition or protection handover is missing, or the accepted assembly is disturbed.

Improve the controls

Needs improvement: The rods look centered; the column holes will absorb the difference.

More useful: Obtain actual setting measurements against the approved embedment package and hold discrepancies for the responsible project disposition.

Needs improvement: One worker can hold the template until the concrete arrives.

More useful: Install and verify the designed independent restraint before surveying or transferring the assembly to the placing crew.

Decisions that change the analysis

May the crew bend a supplied rod when its position conflicts with reinforcement?

No rod or reinforcement modification is authorized by this setting example. Keep the affected assembly supported and held, identify the conflict and obtain the responsible design disposition. Any revised component or setting detail needs its actual approval and verification before concealment; later anchor-rod repair and steel-erector notification remain separate requirements.

What must the crew record for actual use?

Record foundation and rod-group identities, current embedment and template documents, component checks, independent restraint findings, survey reference and required measured results. Identify discrepancies, actual dispositions, protection ownership and concrete-start restrictions. Preserve the real evidence; do not pre-enter a successful setting inspection or imply that steel erection has been released.

Training needs

- Instruction on the actual anchor-rod/template assembly, component identification, restraint sequence, survey interfaces and pre-concealment hold points.
- Instruction on long protruding rods, lifting and pinch paths, impalement exposure, protected foundation access and reporting a setting discrepancy without field modification.

Confirm applicable qualifications and actual training evidence for the people assigned. Related toolbox talks support discussion; they do not establish competence.

References and adaptation

AISC 303-22 Code of Standard Practice: anchor rods and embedded-item setting
<https://www.aisc.org/globalassets/aisc/publications/standards/a303-22w.pdf>

ASCC Guidance for Concrete Contractors 24: setting templates and survey coordination
<https://asconline.org/Home/News/articleType/ArticleView/articleId/390/Guidance-for-Concrete-Contractors-24>

OSHA 1926.701 General concrete-construction requirements and protruding reinforcement
<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.701>

References reviewed October 13, 2026. Use actual equipment and product instructions, project design and site requirements. This original draft supplies no fabricated inspection, signature or approval.