

Precast Concrete Column Erection JHA

Worked instructional example

Work and worksite

A specialist precast crew will crane-set one identified concrete building column into its engineer-designed foundation pocket or connection. The released receiving and temporary-support arrangement will secure the column before crane support is released; permanent grout placement is a later operation. This fictional learning example describes planned controls; it records no actual inspection or work authorization.

- The producer/erection design identifies column weight, lifting inserts, approved orientation, receiving details and temporary restraint.
- Foundation/pocket readiness, hoisting access and receiver positions must be released for the actual column.
- This covers only the column portion of the broader precast framing activity. Beam/girder erection, hollow-core planks, wall panels, grouting and removing temporary supports are excluded.

Questions before work

- Which producer-approved lift points and handling orientation apply to this identified column?
- What actual foundation/pocket checks and initial connection requirements precede placement?
- How will the installed restraint provide stability before rigging release and remain protected until permanent completion?

Task Hazard Control

1 Accept the column and receiving design

Hazard: A damaged column or unsuitable receiving pocket can fail or prevent stable seating.

Control: Erection lead checks member identification, condition and current producer/design documents. Verify receiving support, dimensions and foundation release; refer damage or mismatches to the responsible technical party before lifting.

Verification: Lead compares the identified column with the receiving details and records open findings.

Reasoning: The column and its foundation connection must be accepted as a matched system.

2 Prepare restraint and receiving positions

Hazard: The newly set column can overturn if required support cannot be installed from safe access.

Control: Stage the specified temporary restraint and connection parts and establish protected receiver positions. Maintain the planned placement exclusion, clear alignment access and prepare the approved initial securing method before the column is suspended.

Verification: Erection lead checks restraint readiness and the crew's installation positions.

Reasoning: A crane must not hold a column while the crew improvises its support.

3 Inspect lifting components and rig

Hazard: Unsuitable inserts, damaged hardware or the wrong lifting orientation can release the precast member.

Control: Qualified rigging personnel use the producer-approved points and compatible inspected hardware for the identified load. Confirm the applicable precast insert/hardware design criteria and approved handling orientation; reject unresolved defects or substitutions.

Verification: Rigging lead checks the load identification, insert condition and approved gear arrangement before hoisting.

Reasoning: A lifting insert's appearance alone does not establish its capacity or compatibility.

Complete the work and hand over

4 Lift and land in the released receiver

Hazard: A swinging column or closing pocket gap can strike or trap a receiver.

Control: Maintain the controlled lift route and designated signals. Keep people outside the moving-load path except required erection personnel in planned positions; use the agreed alignment method without placing hands or feet in closing gaps.

Verification: Lift lead monitors balance, clearance and receiver positions through landing.

Reasoning: The column's long shape makes small movement significant at the receiving end.

5 Secure before crane release

Hazard: An apparently seated column can topple when the hook is unloaded or a brace is incomplete.

Control: Install the specified initial connection and temporary support under the erection design. Check actual seating and restraint criteria; keep crane support until the designated erection lead confirms the required stable condition. Do not substitute the steel-column four-rod rule for this precast design.

Verification: Erection lead records the installed connection/support findings before authorizing rigging release.

Reasoning: Support requirements come from the precast receiving design, not another trade's example.

6 Release rigging and preserve restrictions

Hazard: Later work can remove restraint, load an unfinished connection or enter the pocket area prematurely.

Control: Remove rigging from protected access after the designated release and preserve temporary restraint. Mark incomplete permanent connections and transfer loading, grout and access restrictions to the next crew; support removal needs its separate completion release.

Verification: Erection lead and receiving supervisor confirm restrictions and remaining connection work.

Reasoning: Setting the column does not complete permanent connection or grouting work.

Pause and reassess

- Member damage, insert uncertainty or mismatch with the receiving design.
- Unexpected column movement, poor seating or inaccessible restraint installation.
- The initial connection, temporary support or lift boundary cannot meet the released criteria.

Improve the controls

Needs improvement: Set it in the pocket and unhook.

More useful: Erection lead checks actual seating and the specified initial connection and temporary support before authorizing crane release.

Needs improvement: Use the same lifting gear as the last panel.

More useful: Qualified rigging personnel verify this column's producer-approved points, orientation and compatible inspected hardware against its identified load.

Decisions that change the analysis

Does the steel-column four-anchor-rod rule define this precast connection?

No. The actual precast erection and connection design governs the receiving arrangement, with applicable precast and hoisting requirements. Steel-column anchorage instructions cannot be substituted for producer/engineer details.

What must the crew record for actual use?

Record member identity, producer/erection document revisions, receiving/foundation release, insert and rigging findings, installer/signal roles, actual seating and restraint checks, crane-release decision and incomplete permanent-connection restrictions.

Training needs

- Producer/erection-system instruction for assigned precast column receivers, connection and temporary-support installers.
- Qualified rigging/signal instruction as applicable, plus task-specific suspended-load, pinch-path and protected-access briefing.

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

References and adaptation

OSHA 1926.704 Precast concrete

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.704>

OSHA 1926.251 Rigging equipment for material handling

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.251>

OSHA 1926.21 Safety training and education

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.21>

References reviewed October 9, 2026. Use actual equipment and product instructions, project design and site requirements. This instructional example supplies no actual inspection results, signatures or work approval.