

Rebar Installation JHA

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Learning and planning resource. Adapt with the people doing the work, verify actual controls and follow required authorization. This document supplies no completed field inspections, signatures or work approval.

Work and worksite

This fictional example follows a reinforcement crew installing a slab-on-grade mat with short vertical starter bars. Bundles are delivered to a designated laydown area, mechanically moved close to use, and distributed into position before tying. It does not cover elevated bridge decks, freestanding cages, post-tensioning, or workers climbing vertical reinforcement. Those changes require additional structural, lifting, and fall-protection planning. Its sequence separates handling and tying work from structural, lifting, and fall-protection approvals.

- Obtain the bar schedule and actual bundle weights; identify where delivery equipment, pedestrians, and other trades may cross.
- Check the ground and proposed storage supports, nearby electrical lines, excavations, and openings. Define routes across the mat without relying on walking loosely supported bars.
- Identify protruding bars onto which a worker could fall. Select a guarding system capable of preventing impalement for the actual exposure, rather than choosing a cap by appearance.
- Identify the mechanical handling method, authorized operator, rigging responsibilities where applicable, and a suitable cutting and bending station.

Actual project records needed: Location, crew and responsible people; equipment models and instructions; permits/releases; emergency arrangements; actual checks and approvals.

Task | Hazard | Control | Verification

Prepare the laydown and work area

Hazard: Unstable ground, obstructed routes, exposed bar ends, or nearby equipment can cause trips, impalement, or struck-by injuries.

Control: The supervisor separates the laydown area from pedestrian travel, identifies sound support for stored steel, and establishes protected access to the placement area. Guard protruding reinforcement before adjacent work exposes people to a fall onto it. Resolve overhead electrical and excavation interfaces before delivery equipment enters.

Verification: Walk the delivery and pedestrian routes and identify which protruding bars require impalement protection.

Reasoning: Hazard identification should follow where people move and could fall, not simply count visible bar ends.

Unload and stabilize bundles

Hazard: A bundle can roll or shift when landed or unbanded; suspended or elevated steel can crush nearby workers.

Control: Use equipment and attachments suitable for the bundle's weight and shape. Keep workers outside the load path and place the steel onto prepared supports that prevent rolling. Release restraints only after stability is established. If cranes and rigging are used, apply the separate lift arrangements and required qualified roles.

Verification: Confirm weight, equipment capacity, support spacing, exclusion area, and the method for safely removing banding.

Reasoning: A bundle's stability can change the moment a strap or sling is released.

Move bars to the installation position

Hazard: Long bars can strike coworkers, contact obstructions, or strain workers during lifting, turning, and carrying.

Control: Mechanically move material near the point of use. For remaining manual transfers, select a manageable load and enough assistance, agree movement commands, and keep the path clear. Carry and turn as a coordinated team without trapping hands between bars and fixed objects. Set steel down onto prepared supports.

Verification: Confirm the bar ends clear obstructions and that the crew has a planned set-down point before lifting.

Reasoning: Bar length, balance, repetition, and available space matter as well as its weight.

Cut or bend scheduled bars at the work station

Hazard: Moving blades or bending pins can crush hands; abrasive cutting can eject fragments and sparks.

Control: Use the specified guarded cutter or bender, support the bar, and keep hands outside the machine's danger area. Permit only trained operators. Stop and isolate equipment before adjustment or clearing a jam. If an abrasive method is introduced, assess wheel compatibility, guarding, sparks, fire exposure, noise, and required eye and face protection separately.

Verification: Verify the tool, guards, emergency stop or stopping control, material supports, and exclusion of bystanders.

Reasoning: Gloves address sharp surfaces; they do not prevent a cutter or bender from crushing a hand.

Place bars and establish support

Hazard: Bars can shift underfoot; unsupported reinforcement can overturn, and workers can fall onto exposed starters.

Control: Install supports and ties in the specified sequence while preserving stable walkways. Do not climb or use an incomplete mat as an improvised platform. Maintain impalement guarding as bars are added. Any change to walls, columns, or freestanding cages needs adequate support against overturning and collapse under 1926.703(d)(1).

Verification: Verify the current work area is stable and protected before the next bars are brought into it.

Reasoning: The finished structural arrangement does not establish the stability of every temporary installation stage.

Tie reinforcement and manage repeated work

Hazard: Repeated stooping and forceful wrist movement can strain workers; tie-wire ends can puncture hands and eyes.

Control: Use suitable powered or extended-handle tying tools where compatible with the work, arrange material within comfortable reach, and vary duties to reduce prolonged awkward postures. Maintain tool guards and keep hands clear of the tying mechanism. Use appropriate hand and eye protection and turn wire ends away from contact areas.

Verification: Observe several actual ties: can workers reach the location without sustained bending or excessive force?

Reasoning: An ergonomic control should change the effort or posture of the task, rather than only remind people to lift correctly.

Clear scraps and hand over the reinforcement

Hazard: Loose wire, offcuts, missing guards, and changed access can expose the next trade to trips and impalement.

Control: Collect wire and offcuts into suitable containers, stabilize remaining stock, and restore displaced protection. Identify incomplete areas and keep them restricted. Hand over placement restrictions and guard locations to the formwork and concrete crews; arrange the required reinforcement inspection separately from this task analysis.

Verification: Confirm the access route, guards, and unfinished work status with the receiving crew.

Reasoning: Protection must survive the handover; a tidy completed row is not evidence that the site remains controlled.

Pause and reassess

- Reassess for an elevated deck, vertical cage, crane pick, overhead electrical line, or a different delivery attachment.
- Pause for rolling bundles, unstable mat supports, missing impalement guards, or unplanned cutting and welding.
- Review the handling method when bar length, bundle weight, crew size, or repetition increases.

Correct the condition, revise the analysis, communicate the change and obtain required authorization before restarting.

Improve the control

Needs improvement: Put caps on all rebar.

More useful: Identify where a person could fall onto projecting steel and install a guarding system that prevents impalement for that exposure.

Needs improvement: Back strain: lift properly.

More useful: Deliver bars near use, use mechanical movement and supported staging, and select tools that reduce repeated bending during tying.

Decisions that change the analysis

Every starter has an orange cap. Is the impalement hazard resolved?

Only if the guarding is suitable for preventing impalement under the actual conditions. A small visibility or scratch-protection cap should not be assumed to stop a falling worker.

The crew starts assembling a tall cage using this slab-mat example. What changes?

The cage's temporary stability, lifting points, erection sequence, access, and fall exposure need a separate assessment and support design as appropriate before assembly proceeds.

References and adaptation

OSHA 1926.701 — Reinforcing steel and impalement

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.701>

OSHA 1926.703 — Reinforcement support and wire mesh

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.703>

OSHA — Interpretation on rebar caps and impalement protection

<https://www.osha.gov/laws-regs/standardinterpretations/2006-04-24-0>

NIOSH — Musculoskeletal Health Research to Benefit Construction Workers

<https://www.cdc.gov/niosh/bulletin/2018/msd-construction.html>

OSHA 1926.501 — Fall protection for formwork and reinforcement

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.501>

OSHA 1926.251 — Rigging equipment for material handling

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

OSHA 1926.1425 — Keeping clear of crane loads

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1425>

This original walkthrough was informed by review of uploaded examples, then rewritten for the stated fictional scenario using current primary references. It does not reproduce a source document or its approval record.

Walkthrough and draft builder: <https://www.toddjeromejenkins.com/jha-jsa-examples/rebar-installation-jha>