

Rig Mounted Concrete Core Drilling JHA

Worked instructional example

Work and worksite

A two-person crew will make a released horizontal core through an existing ground-floor concrete wall using an anchored electric drill stand and wet drilling system. Both faces of the wall can be controlled. This fictional learning example records planned controls; it supplies no actual inspections or work authorization.

- A structural and service investigation must release the hole, depth, anchorage and core removal method.
- No post tensioned or prestressed concrete, overhead drilling, unknown coating, occupied receiving face or elevated access is included.
- This replaces neither a structural alteration design nor an electrical isolation procedure.

Questions before work

- What evidence releases the hole and stand anchors?
- How will the core be restrained and both wall faces protected?
- Which wet drilling, electrical and silica-control arrangements fit this rig?

Task Hazard Control

1 Release the hole and receiving face

Hazard: The bit can strike a service or damage a structural element; the core can emerge into another work area.

Control: Foreperson obtains the structural and service release, marks the permitted location and depth, and controls both faces. Unresolved reinforcement or services keep drilling on hold.

Verification: Operator compares the markings with the current release and confirms access to the receiving face.

Reasoning: A surface mark cannot establish hidden conditions.

2 Arrange water and electrical supply

Hazard: Water can contact electrical equipment, spread slurry or obstruct an exit.

Control: Use a supply and protective electrical arrangement suitable for the wet equipment and site requirements. Route hoses and cords away from access and contain discharge before drilling.

Verification: Designated competent person checks the supply arrangement; crew checks the collection route and exit.

Reasoning: The wet method creates an electrical and housekeeping interface.

3 Install and inspect the drill stand

Hazard: An inadequately secured stand or incompatible bit can move violently or eject parts.

Control: Install the stand using the actual anchorage method and manufacturer criteria for the released substrate. Inspect bit, drive, guard and controls. Do not substitute a vacuum mount for the planned anchor arrangement.

Verification: Operator verifies stand installation and equipment checks against the unit's instructions before loading the feed.

Reasoning: Stand attachment must resist the actual drilling forces.

Complete the work and hand over

4 Drill within the released limits

Hazard: Contact with rotating parts, unexpected binding, noise and silica exposure can injure the crew.

Control: Operate from the designated position with guards intact and the approved wet dust-control method functioning. Keep hands clear, maintain the two-face boundary and stop for binding, lost water or unexpected material.

Verification: Operator checks water delivery before feed and monitors the rig; silica competent person checks the employer's applicable control plan.

Reasoning: The tool and wet-control method must remain matched throughout the cut.

5 Restrain and remove the core

Hazard: A released concrete cylinder can fall, crush hands or overload the removal method.

Control: Use the planned core restraint and removal equipment before breakthrough. Stop the drill and secure energy before handling the core; keep people out of the receiving and drop area.

Verification: Foreperson confirms restraint and receiving-face clearance before final breakthrough.

Reasoning: Breakthrough is a separate task with a falling-object exposure.

6 Protect the opening and clean up

Hazard: An open penetration, wet slurry or dried dust can expose the next crew.

Control: Secure the required opening protection, collect slurry while wet and follow site disposal arrangements. Use an appropriate wet or HEPA cleanup method and hand over the penetration status.

Verification: Foreperson confirms protection and cleanup at both faces before releasing the area.

Reasoning: The receiving face needs the same closeout attention as the operator's side.

Pause and reassess

- Service or structural release is unclear or unexpected material is encountered.
- Stand moves, water fails, electrical protection trips or the bit binds.
- Receiving-face protection or core restraint cannot be maintained.

Improve the controls

Needs improvement: Be careful around the equipment.

More useful: Install the stand using the actual anchorage method and manufacturer criteria for the released substrate. Inspect bit, drive, guard and controls. Do not substitute a vacuum mount for the planned anchor arrangement.

Needs improvement: Check the area before starting.

More useful: Foreperson obtains the structural and service release, marks the permitted location and depth, and controls both faces. Unresolved reinforcement or services keep drilling on hold.

Decisions that change the analysis

Which silica pathway applies to this wet core rig?

Table 1 row vi addresses rig-mounted core saws and drills with integrated water at the cutting surface and proper operation and maintenance. With that method fully and properly implemented, the row does not require a respirator for the silica task. If it is not implemented, use the applicable alternative exposure-control pathway. Other hazards can still require respiratory protection.

What must be recorded before this example is used on a job?

Replace the scenario with the actual work, identify additional hazards with the crew, and record the applicable instructions, responsible people, inspection findings, unresolved actions and required authorization. A planned verification is not an inspection result.

Training needs

- Rig setup, safe feed, isolation and core handling for the actual unit.
- Silica-control instruction under the employer's applicable exposure plan.

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 1926.300 Hand and power tools

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.300>

OSHA 1926.1153 Respirable crystalline silica

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1153>

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.