

Precast Hollow Core Keyway Grouting JHA

Worked instructional example

Work and worksite

A precast crew will grout specified keyway joints between erected and released hollow-core planks in one building-floor bay. Manufacturer and project details govern preparation, complete filling, curing and construction-load restrictions. Protected access and required supports remain through joint completion and curing/load-release handover, before topping or later openings. This fictional learning example describes planned controls; it records no actual inspection or work authorization.

- The erection handover identifies stable planks, required supports, protected edges/openings, permitted access and loads. Manufacturer/designer disposition resolves unaccepted alignment or geometry; the crew does not jack or modify planks to fit.
- Current details and grout instructions establish preparation, mixing, filling, curing and acceptance. Materials and equipment remain within released bay limits until the applicable manufacturer/design load release is obtained.
- This is partial coverage of hollow-core erection activity 238120-25 and precast connections 238120-28. Lifting, bearing installation, strands, field openings, sleeve splices, baseplate grout and topping are excluded.

Questions before work

- Which actual erection and support records release this bay for joint work and the intended grout/material loads?
- What manufacturer and project details establish keyway preparation, complete filling, curing and required checks?
- Who preserves bay loading restrictions and obtains the actual release before materials, equipment or later openings are permitted?

Task Hazard Control

1 Accept the bay handover for joint work

Hazard: Unstable planks or an unreviewed material load can compromise the floor before its grout joints are completed.

Control: Precast lead obtains the identified bay's actual erection, bearing/support findings and joint-work access/loading limits. Match plank layout and joint details to current manufacturer/project documents. Hold unresolved stability, alignment or opening concerns for the responsible reviewer.

Verification: Lead checks bay identity, support restrictions and permitted work and material loads before staging begins.

Reasoning: An erected floor is not automatically released for unrestricted grout operations or construction loading.

2 Prepare protected access and grout staging

Hazard: Materials concentrated in one area, open edges or bags moved across an unsafe route can expose workers or overload a plank.

Control: Stage accepted material quantities at permitted locations. Maintain edge/opening protection and stable access; separate affected areas below from leaking grout. Plan handling, water and mixer positions without disturbing supports or assuming every plank permits the same load.

Verification: Precast lead checks actual staging locations, protected routes and the lower-area boundary.

Reasoning: The amount and location of grout-work materials are part of the released construction load condition.

3 Prepare the designed keyway joints

Hazard: Unaccepted geometry, debris or improvised removal can prevent joint filling or damage a plank and its prestressing system.

Control: Follow actual preparation requirements and check accepted joint geometry. Remove permitted contamination through the controlled method. Refer damaged, misaligned or obstructed joints rather than cutting, drilling or chipping planks; use only detailed joint containment/protection.

Verification: Assigned joint checker records preparation findings and obtains disposition for unaccepted locations.

Reasoning: A grout joint must be prepared as designed without treating the plank as ordinary cuttable concrete.

Complete the work and hand over

4 Mix and fill accepted joints

Hazard: Uncontrolled powder, cement contact or an incorrect mix can expose workers and leave incompletely filled joints.

Control: Trained crew handles the accepted grout with the specified dust, skin and eye controls and follows the actual batch and mixing instructions. Place grout through the accepted method to fill the designed keyways, monitoring required completion indications and leakage. Keep the crew, equipment and replenished materials within bay restrictions.

Verification: Grout lead records batch information and checks actual joint completion against the required acceptance method.

Reasoning: A filled-looking joint top does not establish that the designed keyway has been completely grouted.

5 Protect grout and preserve load limits

Hazard: Early traffic, drying or premature equipment loading can disturb joints before they achieve the required condition.

Control: Apply specified curing and protection; maintain barriers and bay-load limits with assigned checks and shift ownership. Record disturbed grout, leakage or incomplete joints for disposition. Do not conceal questionable joints with topping or infer release from surface appearance.

Verification: Precast lead records joint and curing findings and checks that load restrictions remain visible and effective.

Reasoning: Joint completion and required curing are separate from permission to load the connected floor.

6 Record completion and obtain the nextwork release

Hazard: An assumed handover can allow concentrated loads or field openings before joint and floor requirements are satisfied.

Control: Compile actual joint completion and curing records for the responsible manufacturer/design review. Obtain the applicable next-work or construction-load direction before changing bay restrictions. Collect residue through the site's controlled cleanup method and hand over unaccepted locations and retained supports; no strand work, topping or opening formation is authorized by this example.

Verification: Lead confirms the receiving person has the actual release basis and remaining joint, support and load restrictions.

Reasoning: The next operation requires its own accepted basis rather than a general statement that grouting is finished.

Pause and reassess

- Erection, support, plank alignment or construction-load information is missing or inconsistent with the bay's planned joint work.
- Joint geometry, damage, contamination, grout behavior or leakage does not meet the accepted manufacturer/project method.
- Curing protection is interrupted, traffic disturbs a joint, or proposed material and equipment loads exceed the released bay arrangement.

Improve the controls

Needs improvement: The planks are seated; stock all grout bags on the floor.

More useful: Confirm the actual bay load allowance and staging locations, retained supports and protected access before materials enter.

Needs improvement: The joint top looks full and hard; bring in equipment.

More useful: Record the specified completion and curing findings and obtain the actual manufacturer/design load release before changing restrictions.

Decisions that change the analysis

Is this the same as precast sleeve or baseplate grouting?

No. Sleeves complete reinforcement splices; baseplate grout fills bearing space. Keyways connect adjacent hollow-core floor planks through specified joint geometry. Erection hands over before this operation; its filling, curing and load-release criteria remain manufacturer and project specific.

What must the crew record for actual use?

Record bay and plank identities, current joint details, actual erection/support handover, permitted staging and loading, preparation findings, grout identity and batch records, completed and unaccepted joint locations, leakage or repair dispositions, curing checks and shift owner. Keep the actual next-work/load release and retained-support requirements with the handover; no universal grout ratio, strength or cure time is supplied here.

Training needs

- Manufacturer/project joint instruction on accepted geometry, preparation, complete filling, curing and referral of plank or joint discrepancies.
- Grout and mixer instruction on dust, cement contact, specified batch control and cleanup, together with protected access and bay-load restrictions.

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

References and adaptation

PCI Northeast: Hollowcore plank specifications, joint grouting and construction loading

https://www.pci.org/PCI_Docs/PCI_Northeast/Technical_Resources/12120_PCI_Hollowcore_Specifications_4-8-11.pdf

OSHA 1926.704 Precast concrete support requirements

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

OSHA 1926.701 Concrete construction loads and employee protection

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

OSHA 1926.1153 Respirable crystalline silica

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

References reviewed October 9, 2026. Use actual equipment and product instructions, project design and site requirements. This original draft supplies no fabricated inspection, signature or approval.