

PCI Erector Certification Program

Relevant Documents for a Company Audit



PCI, 8770 W. Bryn Mawr Ave., Suite 1150, Chicago, IL 60631-3517
Phone: 312-786-0300 | audit@pci.org | www.pci.org

POLICY 29 REQUIREMENTS

PA.1 – Ensure that all primary crew foremen are identified and are being audited. (Policy 29.8.2.3)

EXAMPLES OF EVIDENCE

Field quality audit reports (FQARs) and erector post audit declarations (EPADs) for all primary crew foremen actively erecting precast concrete products. Compare names in those documents to the list of Foreman PCI has provided.

PURPOSE

To document that the erector maintains program compliance with their internal quality assurance program by performing field quality audits on precast concrete projects being erected.

PA.2 – Confirm that the nonconformances from the previous Company Audit Report were addressed. (Policy 29.9.6.2)

EXAMPLES OF EVIDENCE

Documents or records (for example, Corrective Action Response forms) that support assertions that corrective actions have been implemented and maintained for previous nonconformances.

PURPOSE

To document that the erector maintains program compliance with their internal quality assurance program by taking actions for nonconformances issued by the certifying body.

PA.3 – Confirm that the erector has at least one employee who has current certification as a PCI-certified field auditor (CFA) or is currently registered for a CFA training class and is certified by the next company audit. (Policy 29.8.2.4)

EXAMPLES OF EVIDENCE

CFA certificate from PCI with a valid expiration date and certification number, or a CFA training course registration confirmation email from PCI.

PURPOSE

To document that the erector maintains an internal quality assurance program by employing qualified persons who validate their competency to the PCI erecting standards through the PCI personnel certification and training program.

PA.4 – Confirm that the erector has not applied the PCI logo to products; used the PCI-certified erector logo on items such as inspection reports, production or erection drawings, bracing plans, crane plans, or bid proposal documents; or used PCI logos in any other manner that may create the impression that PCI is in any way connected to or endorses any element of the organization's business operations. (PCI Policy 29.16.3)

EXAMPLES OF EVIDENCE

Erector inspection reports, erection drawings, bracing plans, crane plans, and/or bid proposal documents that do not contain any PCI logos. (The certification and affiliation logos can be applied on stationery, advertising material, publications, presentations, headed paper, business cards, web sites, invoices, transport documents, posters, and signs of the organization or company vehicles.)

PURPOSE

To document that the erector is not misusing any PCI logos in a way which gives the impression that any element of the erector's business operations is connected to or endorsed by PCI or implies product conformity.

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DIVISION 1 – PRECONSTRUCTION PLANNING

1.1 – Confirm that a preconstruction conference was held and covered appropriate items. (1.1.1 MNL 127)

EXAMPLES OF EVIDENCE

Preconstruction conference notes or minutes, calendar entries, phone logs, or emails.

PURPOSE

To document that all parties were on the same page regarding the project (for example, direction of erection, access, equipment selection, deliveries, capacity, and size limitations).

1.2 – Confirm that phases were identified during preconstruction planning for precast concrete installation, delivery of hardware, detailing connections, and turnover to other trades.

EXAMPLES OF EVIDENCE

Erection sequences, materials lists, preconstruction meeting notes, connection details, or emails.

PURPOSE

To document that the erector was part of the planning process and was aware of areas or phases.

1.3 – Confirm that site plan, drawings, and specifications were reviewed for project requirements prior to bid. (Specific site access provisions are clearly identified in bid proposal.)

EXAMPLES OF EVIDENCE

Site plans, drawings, memos, notes, sketches, transmittals, phone logs, or bid/proposal qualifications.

PURPOSE

To document that the erector was fully informed on the project requirements and limitations.

1.4 – Confirm that prior to the start of erection and scheduling of delivery equipment, the jobsite was inspected to determine accessibility for erection and delivery equipment. (2.1.1 MNL 127)

EXAMPLES OF EVIDENCE

Memos, sketches, notes, erection plans, erection checklists, meeting minutes, photographs, layout reports; minutes of pre-erection meetings; notes or emails regarding pre-erection layout or verification.

PURPOSE

To document that the erector had full knowledge of the site and conditions.

1.5 – Confirm that transportation and erection personnel obtained weights of units from the precast concrete producer. (2.1.4 MNL 127)

EXAMPLES OF EVIDENCE

Erection drawings or load lists with piece weights, precast concrete piece tickets, emails.

PURPOSE

To document that the erector considered the weights and locations of each piece to plan the lifts accordingly.

1.6 – Confirm that selection of crane was decided by a systematic process involving the following steps: access, boom, capacity, and obstructions. (1.6 and 3.3 MNL 127)

EXAMPLES OF EVIDENCE

Worksheets, charts, or diagrams for crane sizing, checklists, crane location drawings, annotated site plans.

PURPOSE

To document that the crane was sized properly for successful lifts.

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1.7 – Confirm that crane operating locations were firm and large enough to level the crane for safe, efficient operation. (2.1.3 MNL 127)

EXAMPLES OF EVIDENCE

Worksheets, charts, or diagrams for crane sizing, checklist, crane location drawings, annotated site plans.

PURPOSE

To document that crane locations were evaluated, and the reach and capacity could be achieved from those positions.

1.8 – Confirm that prior to commencing work, the erector furnished the precast concrete producer with a list of specific pieces in order of their installation. (2.1.2 MNL 127)

EXAMPLES OF EVIDENCE

Piece sequences by piece mark.

PURPOSE

To document that the erection (piece by piece) was conveyed to the precast concrete producer for efficient and safe delivery and erection.

1.9 – Confirm that a careful review and inspection of the jobsite was performed to identify overhead, underground, and other obstructions that could limit mobility. (1.3 MNL 127)

EXAMPLES OF EVIDENCE

Hazard analysis checklists, notes regarding hazards or lack of hazards, memos, minutes, photos, emails.

PURPOSE

To document that underground, overhead, or adjacent site-specific hazards were identified so that erection could be planned around them or the obstructions could be mitigated.

1.10 – Confirm that after selecting hoisting equipment, properly sized rigging was selected to permit the precast concrete units to be lifted and installed safely. (2.2.2 MNL 127)

EXAMPLES OF EVIDENCE

Drawings or rigging diagrams per piece size or type, notes, worksheets (when required).

PURPOSE

To document that each similar piece's rigging was planned for and rigging was available.

1.11 – Confirm that the erector determined the rigging requirements using the following information: weight, handling requirements, and size of unit. (2.2.2 MNL 127)

EXAMPLES OF EVIDENCE

Shop tickets, requests for shop tickets, drawings, notes, worksheets or rigging diagrams (when required).

PURPOSE

To document that each piece's specific rigging needs (lifting hardware, cost of goods, etc.) were considered when designing the rigging for a successful lift.

1.12 – Confirm that for nontypical sizes and shapes, the erector obtained exact information about how a unit would be erected. (1.10 MNL 127)

EXAMPLES OF EVIDENCE

Drawings, notes, emails regarding handling, worksheets (when required).

PURPOSE

To document that the erector had the knowledge to handle the piece properly without putting undue stresses on it or damaging it.

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1.13 – Confirm that pre-erection meetings with controlling contractor, precast concrete producer, and erector were held and documented, as appropriate.

EXAMPLES OF EVIDENCE

Meeting minutes with the erection foreman, checklists, notes, calendar entries, phone logs, emails.

PURPOSE

To document that the information about the project was transferred to the erection crew before erection started.

1.14 – Verify that the erector received confirmation from a responsible project entity that the minimum cast-in-place concrete strength was achieved or the supporting structure was ready to receive precast concrete. Notes were kept of all discrepancies that exceed specified tolerances. (1.8 MNL 127)

EXAMPLES OF EVIDENCE

Erection reports, checklists, meeting minutes, sign-off forms, phone logs, written notations or emails indicating that the erector received verbal notification.

PURPOSE

To document that the cast-in-place or precast concrete support had sufficient strength to support the precast concrete pieces that would rest on it.

1.15 – Confirm that layout was completed as required before and during erection. All dimensions and details taken were checked against erection drawings. Discrepancies between site conditions and the erection drawings were noted in writing and sent to the precast concrete producer and/or the controlling contractor. (1.8 MNL 127)

EXAMPLES OF EVIDENCE

Layout reports, as-built surveys, daily reports, memos, phone logs, photographs, emails, other correspondence.

PURPOSE

To document that existing conditions were verified (embed plates, anchor bolt locations, distances between support structures) prior to the start of erection.

DIVISION 2 – PRACTICES AND PROCEDURES

2.1 – If rigging assembly components were custom made for a particular situation, verify that a competent person or professional engineer designed such components. (2.2.2 MNL 127)

EXAMPLES OF EVIDENCE

Shop drawings, notes, memos, worksheets, diagrams.

Worksheets or diagrams showing rigging sized for precast concrete units by configuration, weight, and handling insert type, when required.

PURPOSE

To document that each similar piece's rigging was planned for and rigging was available.

2.2 – If the erector employs personnel who perform rigging, confirm that the erector has developed training programs, including means of testing, to ensure that the personnel are competent to perform the operations. (2.2.1 MNL 127)

EXAMPLES OF EVIDENCE

Training records, employee records, other evidence of on the job training that includes all required items, including manufacturer's recommendations; evidence that employees were tested to ensure that they are competent to perform operations and inspect rigging.

PURPOSE

To document that riggers are trained and have retained the knowledge through testing.

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2.3 – Verify that the erector has retained a weld testing agency, weld consultant, or competent person to establish weld procedures and certification for welding personnel. (2.4.2.2 MNL 127)

EXAMPLES OF EVIDENCE

Written welding procedure specifications for all types of welding performed; documentation that all welders have been qualified according to the welding procedure specifications.

PURPOSE

To document that appropriate weld procedures have been developed and that welders are certified to perform the welds.

2.4 – Confirm that if base connections would not provide sufficient stability for columns and walls to be left free-standing, temporary guying and bracing were provided until final structural stability was achieved. (2.3.1 and 4.4.1 MNL 127)

EXAMPLES OF EVIDENCE

Guying and bracing plans (stability plans); documentation of the size, type, and location or frequency of bracing; or notations indicating that bracing analysis was not required.

PURPOSE

To document that bracing analysis was performed and that a bracing plan, if needed, was provided.

DIVISION 3 – EQUIPMENT

3.1 – Crane operators: Confirm that the erector has competent and careful operators who are physically and mentally fit, and are thoroughly trained in handling the loads and the safe operations of specific equipment they will be expected to operate. (3.2 MNL 127)

EXAMPLES OF EVIDENCE

Documentation verifying that the crane operator is appropriately certified for the crane being operated.

PURPOSE

To document that all crane operators have been evaluated and are certified for the crane they are operating.

3.2 – All other equipment operators: Confirm that the erector has competent and careful operators who are physically and mentally fit, and thoroughly trained in handling the loads and the safe operations of specific equipment they will be expected to operate. (3.2 MNL 127)

EXAMPLES OF EVIDENCE

For equipment requiring a qualified and/or certified operator, documentation verifying that employees have proper credentials as required. Examples of equipment with operator requirements are powder-actuated tools; aerial lifts (mobile elevated work platforms); swing staging; and forklifts.

PURPOSE

To document that all operators are qualified/certified for the equipment they are operating.

DIVISION 4 – SAFETY

4.1 – Confirm that the erector has developed a written safety program. (4.1 MNL 127)

EXAMPLES OF EVIDENCE

Written company safety policy that includes, but is not limited to, the following:

- Goals and objectives
- Leadership by management
- Responsibilities for managers, supervisors, and employees
- Holding all levels of management responsible
- Employee involvement in developing a safety culture

PURPOSE

To document the company's safety program.

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4.2 – Verify that a specific jobsite erection safety plan was developed. (1.7 MNL 127)

EXAMPLES OF EVIDENCE

A written fall protection plan (when required) that conforms to the OSHA Fall Protection Standard (29 CFR Part 1926 Subpart M).

PURPOSE

To document the establishment of a site-specific fall protection plan for that project.

4.3 – Confirm that the erector requires all personnel to use proper tools and equipment, for their assigned tasks, and to wear necessary proper personal protective equipment (PPE) such as safety harnesses, hard hats/helmets, and eye, foot, and hearing protection. (4.2 MNL 127)

EXAMPLES OF EVIDENCE

Adequate documentation of the PPE plan in the company's safety policy.

PURPOSE

To document the company's PPE program.

4.4 – Confirm that the erector has developed a specific written hazard communication (HAZCOM) program. (4.2 MNL 127)

EXAMPLES OF EVIDENCE

Written company HAZCOM policy/program; a complete set of relevant Safety Data Sheets; adequate documentation of the PPE plan, as determined by HAZCOM program, in the company's safety policy; silica exposure plans (if applicable).

PURPOSE

To document that the company's HAZCOM policy is complete and current.

4.5 – Confirm that the safety program requires investigation of all accidents resulting in injury to workers and/or damage to equipment or product, regardless of their nature. (4.1 MNL 127)

EXAMPLES OF EVIDENCE

OSHA 300 forms completed by the company; these document information regarding any safety incidents in the field and follow-up investigations.

Documentation of close calls (near misses).

Documentation demonstrating the timeliness and thoroughness of investigations and corrective actions.

Proof of additional training resulting from accidents and investigation.

PURPOSE

To document that the company conducts accident/near-miss investigations and that the information is used in training to improve safety.

4.6 – Confirm that employees have signed and dated an acknowledgement sheet verifying that they received, read, and understand the company safety policies. (4.2 MNL 127)

EXAMPLES OF EVIDENCE

Signed and dated acknowledgements from all employees indicating that they received and read a copy of the company safety rules.

PURPOSE

To document that each new employee has been given a safety orientation before starting to work.

4.7 – Confirm that safety training extends beyond the orientation period and erection crew safety meetings, such as toolbox meetings, are conducted weekly to discuss topics designed to increase worker safety. (4.2 MNL 127)

EXAMPLES OF EVIDENCE

Documentation that demonstrates the company maintains proper safety training programs in addition to new employee training.

Documentation of safety orientation meetings at the start of projects.

Documentation of weekly toolbox safety meetings, including the subject matter and attendance logs.

PURPOSE

To document that the company's safety training is ongoing.

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4.8 – Verify that the erector has a program to train employees before they work with hazardous chemicals and when new hazardous chemicals are introduced on the jobsite. (4.2 MNL 127)

EXAMPLES OF EVIDENCE

Documentation of new chemical or hazard training for employees.

PURPOSE

To document that employees are trained to safely handle the hazardous chemicals they will be working with.

4.9 – Ensure that all personnel have received or are given fall protection training in accordance with the OSHA Fall Protection Standard (29 CFR Part 1926 Subpart M). (4.4.3 MNL 127)

EXAMPLES OF EVIDENCE

Documentation showing that the company has a fall protection training program; signed and dated employee participation forms.

PURPOSE

To document that all workers that work at elevations are trained on the fall protection systems to be used.

DIVISION 5 – TOLERANCES

5.1 – Confirm that the erector notified the precast concrete manufacturer immediately whenever out-of-tolerance units prevented proper connection or fitting so that corrective action could be taken for remaining units. (5.2 MNL 127)

EXAMPLES OF EVIDENCE

FQARs and EPADs; punch lists; project nonconformance and/or deficiency documentation; interviews of erector personnel, contractors, and the precast concrete producer; daily erection reports; site visit checklists.

PURPOSE

To document that the erector adhered to tolerances during erection activities.

DIVISION 6 – QUALITY CONTROL

6.1 – Confirm the adequacy of quality control. (6.2 MNL 127)

EXAMPLES OF EVIDENCE

Daily erection reports; inspection/site visit checklists; welding, grout, and connection inspection documents; documentation of nonconformances, deficiencies, and remediation; repair procedure documents; repair records; punch list records (if available); third-party inspection reports (if available).

PURPOSE

To document that Quality Control inspections take place daily on erected product and corrective actions have been taken on any issues identified.

6.2 – Confirm that welding techniques followed American Welding Society requirements. (6.2 MNL 127)

EXAMPLES OF EVIDENCE

Daily field reports; the erector's weld inspection documentation; documentation of third-party inspections (if available).

PURPOSE

To document that welds were reviewed and/or inspected.

6.3 – Confirm that the materials for grouting operations were verified for conformance to the grouting specification. (6.2 MNL 127)

EXAMPLES OF EVIDENCE

Strength test reports (when required); grout mixture designs (when required).

PURPOSE

To document that grout was reviewed and/or inspected.

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6.4 – Verify that in situations where a unit could not be erected within the tolerances assumed in the connection design, the erector notified the precast concrete producer and controlling contractor to check the structural adequacy of the installation and determine whether the connection design should be modified. (5.5 and 5.2 MNL 127)

EXAMPLES OF EVIDENCE

Documentation that connection modification and repair methods were designed and/or approved by the precast concrete specialty structural engineer; repair records, repair photos.

PURPOSE

To document that all connection modifications were designed and completed as designed.

6.5 – Confirm that the erector noted cracks and major damage that occurred during erection and promptly reported the items to the precast concrete producer. (6.2 MNL 127)

EXAMPLES OF EVIDENCE

Daily erection reports; daily correspondence where damage is noted.

PURPOSE

To document that all damage and repairs were identified and corrective actions were taken.

6.6 – Confirm that the erector produced a daily project erection report. (6.3.2 MNL 127)

EXAMPLES OF EVIDENCE

Daily erection report with the following information:

- Project Identification
- Date
- Weather
- Major equipment
- Names of foremen and size or names of crew
- Work performed (with downtime explained)
- Number of pieces erected
- Problem identification and resolution
- Corrective work (with reasons for this work)
- Accidents, close calls, and dangerous situations

PURPOSE

To document the work done each day for quality assurance purposes.