

Engineered I Joist Floor Framing JHA

Worked instructional example

Work and worksite

A framing crew will install engineered wood I joists, rim members and specified temporary restraint for a building floor from protected access. The area below is excluded from other work. This fictional learning example records planned controls; it supplies no actual inspections or work authorization.

- The actual joist layout, bearing details, connections and installation instructions are available.
- Temporary stability and fall protection must remain effective before decking creates a working surface.
- This excludes trusses, unapproved product alterations and treating loose joists as a completed floor.

Questions before work

- Which joist layout and manufacturer instructions govern installation?
- What provides lateral stability before decking?
- How will workers reach connections without walking unsupported joists?

Task Hazard Control

1 Confirm layout and support

Hazard: Wrong bearing or product selection can cause instability during installation.

Control: Foreperson checks joist marks, layout, bearing and supports against the current framing documents. Hold substitutions or unresolved support details.

Verification: Compare delivered products and support locations with the layout.

Reasoning: Similar looking engineered products can have different details.

2 Establish protected access and exclusion

Hazard: Workers can fall between joists or strike people below with dropped material.

Control: Use the planned access and fall protection, protect openings and separate the area below. Do not use an incomplete joist line as an improvised walkway.

Verification: Lead checks the access route and protection before carrying components into position.

Reasoning: A structural member may not be a safe working platform.

3 Stage and handle the joists

Hazard: Long slender members can roll, strike workers or be damaged by poor handling.

Control: Stage on suitable supports, use coordinated handling or appropriate equipment and preserve the product's required orientation and condition.

Verification: Lead checks handling points and rejects damaged members for disposition.

Reasoning: Handling damage can undermine later stability.

Complete the work and hand over

4 Install bearing and temporary restraint

Hazard: Unrestrained joists can roll and cause a progressive fall or collapse.

Control: Install the specified bearing, connections, blocking and temporary restraint in the planned sequence. Keep the growing assembly stable before adding material or workers.

Verification: Foreperson checks the developing assembly against installation documents.

Reasoning: Temporary restraint is a separate requirement from final decking.

5 Resolve a service opening or misfit

Hazard: Unapproved holes or flange cuts can weaken a joist.

Control: Pause and use the actual manufacturer hole guidance and required design disposition. Do not cut or notch I joist flanges to make a service fit.

Verification: Lead records the affected member and obtains the required detail before alteration.

Reasoning: Service convenience cannot determine structural alteration.

6 Release the assembly for the next phase

Hazard: Early loading or removal of restraint can expose the decking crew to collapse.

Control: Maintain temporary support and communicate permitted loading, unfinished connections and opening protection. Release the next phase only through the framing plan.

Verification: Foreperson checks actual completion and briefs the decking crew.

Reasoning: Installed joists are not automatically ready for stored bundles.

Pause and reassess

- Product, bearing or connection details differ.
- Temporary restraint or fall protection is missing.
- Damage, a service-hole conflict or an unapproved load is found.

Improve the controls

Needs improvement: Be careful around the equipment.

More useful: Stage on suitable supports, use coordinated handling or appropriate equipment and preserve the product's required orientation and condition.

Needs improvement: Check the area before starting.

More useful: Foreperson checks joist marks, layout, bearing and supports against the current framing documents. Hold substitutions or unresolved support details.

Decisions that change the analysis

Can this be used for solid sawn joists?

This example covers engineered I joists. Solid sawn joists and other floor systems need their own product instructions, support, restraint and connection details before the analysis can be adapted.

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

- Product-specific installation and restraint instruction.
- Fall protection training for the actual access and system.

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

References and adaptation

APA Engineered wood alteration guidance
<https://dinosaur.apawood.org/spring-2022-designers-circle>

OSHA 1926.501 Duty to have fall protection
<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.501>

OSHA 1926.502 Fall protection systems criteria
<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.502>

OSHA 1926.503 Fall protection training
<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.503>

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.