



OSHA INSTRUCTION

U.S. DEPARTMENT OF LABOR

Occupational Safety and Health Administration

DIRECTIVE NUMBER: STD 3-0.1A **EFFECTIVE DATE:** June 18, 1999

SUBJECT: Plain Language Revision of OSHA Instruction STD 3.1, Interim Fall Protection Compliance Guidelines for Residential Construction

ABSTRACT

Purpose: This Instruction is a plain language re-write of OSHA Instruction STD 3.1, the Agency's interim enforcement policy on fall protection for certain residential construction activities.

Scope: OSHA-wide.

References: 29 CFR Part 1926 Subpart M.

Cancellations: OSHA Instruction STD 3.1, Interim Fall Protection Compliance Guidelines for Residential Construction, dated December 8, 1995.

State Impact: None

Action Offices: National, Regional, and Area Offices

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TABLE OF CONTENTS

I. PURPOSE. 1

II. SCOPE. 1

III. CANCELLATION. 1

IV. REFERENCE. 1

V. ACTION INFORMATION. 1

 A. Responsible Office. 1

 B. Action Offices. 1

 C. Information Offices. 1

VI. FEDERAL PROGRAM CHANGE. 1

VII. BACKGROUND. 1

VIII. AVAILABILITY OF ALTERNATIVE PROCEDURES 2

 A. Definition of “residential construction.” 2

 B. Listed Activities and Alternative Procedures. 2

 C. Questions. 3

IX. ALTERNATIVE PROCEDURES FOR GROUP 1: INSTALLATION OF FLOOR JOISTS, FLOOR SHEATHING, AND ROOF SHEATHING; ERECTING EXTERIOR WALLS; SETTING AND BRACING ROOF TRUSSES AND RAFTERS. 3

 A. General Requirements For Group 1 Activities. 3

 B. Additional Requirements For Specific Group (1) Activities. 5

X. ALTERNATIVE PROCEDURES FOR GROUP 2: WORKING ON CONCRETE AND BLOCK FOUNDATION WALLS AND RELATED FORMWORK. 10

 A. Trained Workers Only. 10

 B. Adequate Support. 10

 C. Bad Weather. 10

 D. Staging of Materials/Equipment. 10

 E. Impalement Hazards. 11

XI.	ALTERNATIVE PROCEDURES FOR <u>GROUP 3</u> : THIS GROUP CONSISTS OF THE FOLLOWING ACTIVITIES <i>WHEN PERFORMED IN ATTICS AND ON ROOFS</i> : INSTALLING DRYWALL, INSULATION, HVAC SYSTEMS, ELECTRICAL SYSTEMS (INCLUDING ALARMS, TELEPHONE LINES, AND CABLE TV), PLUMBING AND CARPENTRY.	11
	A. Trained Workers Only.	11
	B. Staging of Materials.	11
	C. Impalement Hazards.	11
	D. Restricted Access.	11
	E. Bad Weather.	11
XII.	ALTERNATIVE PROCEDURES FOR <u>GROUP 4</u> : ROOFING WORK (REMOVAL, REPAIR, OR INSTALLATION OF WEATHERPROOFING ROOFING MATERIALS SUCH AS SHINGLES, TILE AND TAR PAPER).	12
	A. General Requirements.	12
	B. Safety Monitors and Slide Guards (for roofs with an eave height of up to and including 25 feet).	13
	C. Slide Guards: Requirements for Materials, Configuration and Installation.	13
XIII.	CITATION POLICY.	14
	INDEX	Index-1

- I. PURPOSE.
 - A. This Instruction is a plain language re-write of OSHA Instruction STD 3.1, the Agency's interim enforcement policy on fall protection for certain residential construction activities.
 - B. Fall protection requirements for residential construction are set out in 29 CFR 1926.501(b)(13). In general, that provision requires conventional fall protection for work at or over six feet. However, OSHA Instruction STD 3.1 modifies those requirements. It permits employers engaged in certain residential construction activities to use alternative procedures routinely instead of conventional fall protection. No showing of infeasibility of conventional fall protection is needed before using these procedures. A fall protection plan is required but it does not have to be written nor does it have to be specific to the jobsite. Different alternative procedures are specified for different activities.
- II. SCOPE. This Instruction applies OSHA-Wide.
- III. CANCELLATION. OSHA Instruction STD 3.1, Interim Fall Protection Compliance Guidelines for Residential Construction, dated December 8, 1995, is cancelled.
- IV. REFERENCE. 29 CFR Part 1926 Subpart M.
- V. ACTION INFORMATION.
 - A. Responsible Office. Directorate of Construction.
 - B. Action Offices. National, Regional, and Area Offices
 - C. Information Offices. State Plan Offices, Consultation Project Managers
- VI. FEDERAL PROGRAM CHANGE. This Notice describes a Federal OSHA program change for which State adoption is not required.
- VII. BACKGROUND. On December 8, 1995 OSHA published an interim fall protection compliance policy for fall protection for certain residential construction activities, pending further rulemaking on Subpart M. This Notice is a plain language re-write of that policy; it does not make substantive changes to the policy. The Agency will solicit public comment on fall protection issues in residential construction in an Advance Notice of Proposed Rulemaking on Subpart M. After analyzing those comments, we will re-evaluate this policy.

VIII. AVAILABILITY OF ALTERNATIVE PROCEDURES. Alternative procedures are available to employers who are (1) engaged in residential construction, and (2) doing one of the listed activities.

A. Definition of “residential construction.”

1. For purposes of this instruction, an employer is engaged in residential construction where the working environment, materials, methods and procedures are essentially the same as those used in building a typical single-family home or townhouse.
2. Residential construction is characterized by:
 - Materials: Wood framing (not steel or concrete); wooden floor joists and roof structures.
 - Methods: Traditional wood frame construction techniques.
3. In addition, the construction of a discrete part of a large commercial building (not the entire building), such as a wood frame, shingled entranceway to a mall, may fit within the definition of residential construction. Such discrete parts of a commercial building would qualify as residential construction where the characteristics listed above are present.

B. Listed Activities and Alternative Procedures.

There are four groups of residential construction activities for which alternative fall protection plans are available. Each group has its own set of alternative procedures and will be discussed in Sections IX through XII. The groups are:

1. GROUP 1. Installation of floor joists, floor sheathing, and roof sheathing; erecting exterior walls; setting and bracing roof trusses and rafters.
2. GROUP 2. Working on concrete and block foundation walls and related formwork.
3. GROUP 3. This group consists of the following activities *when performed in attics and on roofs*: installing drywall, insulation, HVAC systems, electrical systems (including alarms, telephone lines, and cable TV), plumbing and carpentry.

4. GROUP 4. Roofing work (removal, repair, or installation of weatherproofing roofing materials such as shingles, tile and tar paper).

C. Questions.

- Do any of these plans have to be written and site specific? No.
- Does the employer have to determine that conventional fall protection is infeasible before being permitted to use an alternative procedure? No.

IX. ALTERNATIVE PROCEDURES FOR GROUP 1: INSTALLATION OF FLOOR JOISTS, FLOOR SHEATHING, AND ROOF SHEATHING; ERECTING EXTERIOR WALLS; SETTING AND BRACING ROOF TRUSSES AND RAFTERS.

The alternative measures for this group are set out in Appendix E to Subpart M. Appendix E requires the employer to implement a Fall Protection Plan. Such a plan must lay out the safest procedures to be followed at the work site to prevent falls. Although the plan need not be in writing, it must be communicated to all employees on site who might be subject to fall hazards.

NOTE: Height Limitation: The Appendix E plan may only be used on structures up to three and a half stories or 48 feet (including basement, two finished levels, attic). The 48' measure is from the base of the building, at the lowest ground level (including any excavation), to the point of greatest height. The following are the required elements of the Plan:

A. General Requirements For Group 1 Activities. Training, Implementation/ Supervision By Designated Individuals, Controlled Access Zones, Plan Administration (required for all Group 1 activities).

1. Training

Each employee performing work in Group 1 activities must be trained in the requirements of the Plan. The employer must ensure that the employees (1) understand the procedures and follow the instructions of the crew supervisor or foreman; (2) are able to recognize unsafe/hazardous conditions and are to report them to the employer; (3) can recognize when compliance with the Plan would create a greater hazard and are instructed to inform the Competent Person before proceeding when that occurs.

Training and retraining violations shall be cited under 29 CFR 1926.503(a) and 1926.503(c). Subsection 1926.503 (b) may not be cited for residential construction.

NOTE: Any concerns raised by employees at any time during construction must be addressed (determined to be valid or not) before work proceeds.

2. Implementation/Supervision.

a. Competent Person.

The employer must designate a Competent Person, who will be charged with implementing the Plan. The Competent Person must continually monitor compliance with the Plan, including the provision of training and the proper use of Controlled Access Zones.

b. Qualified Person.

The employer must designate a qualified person to approve any changes to the Plan.

c. Crew Supervisor/Foreman.

The employer must designate a crew supervisor or foreman and charge him or her with the responsibility of immediately correcting any unsafe practice or condition.

3. Controlled Access Zones.

For purposes of this Instruction, a Controlled Access Zone (CAZ) restricts access to a clearly designated area where a Group One activity (installation of floor joists, floor sheathing, roof sheathing; erecting exterior walls; setting and bracing roof trusses and rafters) is taking place. The CAZ must meet the following requirements:

a. Boundaries.

The competent person shall determine the boundaries of the CAZ and clearly mark them with signs, wires, tapes, ropes or chains.

b. Monitor.

The crew supervisor/foreman shall monitor the workers in the CAZ to ensure that they do not engage in unsafe practices.

c. Restricted Access.

Access to the CAZ must be restricted to authorized entrants. An authorized entrant is a worker who has received the training described above. The competent person must identify each entrant as an authorized entrant after the employee has successfully completed the training.

d. Final Check.

Before work begins in the CAZ, the competent person must ensure that all protective measures in the Plan have been implemented.

4. Plan Administration.

a. Employer Enforcement.

The employer is required to enforce the Plan. The crew supervisor/foreman, as well as individuals in the Safety and Personnel Department, must have the right to issue disciplinary warnings to employees, up to and including termination, for failure to follow the requirements of the Plan. Unsafe practices or conditions must be corrected immediately.

b. Changes To The Plan.

-- *Designation of qualified person*: the employer must designate a qualified person to approve changes to the Plan.

-- *Approval required*: changes to the Plan may not be made unless approved by the qualified person.

-- *Plan Review*: the qualified person must review the Plan as the job progresses to determine if additional practices, procedures or training need to be implemented. The employer shall notify and, if necessary, train workers in the new procedures.

c. Accident Investigations/Plan Review.

All accidents resulting in injury to workers shall be reported and investigated. To help prevent further accidents, the investigation must be documented so that the cause and means of prevention can be identified. In the event of a fall or other serious incident, the Plan shall be reviewed to determine if additional practices, procedures, or training need to be implemented.

B. Additional Requirements For Specific Group (1) Activities.

1. Installing Roof Trusses and Erecting Rafters.

a. Walls Up To 8 Feet.

Interior scaffolds must be installed along the interior wall, below the area where the trusses/rafters will be located. This can often be accomplished with “sawhorse” scaffolds constructed of 46 inch sawhorses and 2 x 10 planks.

b. Walls Over 8 Feet.

If using scaffolds and ladders throughout the process would create a greater hazard, the following general requirements and specific procedures apply.

(1). Walls over 8 feet. General requirements.

(a) Falling Objects/Restricted Access.

Once truss/rafter installation begins, workers not involved in that activity shall not stand or walk below or adjacent to the roof opening or exterior walls in any area where they could be struck by falling objects.

(b) Bracing.

Trusses/rafters must be adequately braced before any worker may use them as a support.

(c) Designated, Trained Workers.

The employer must designate the trained workers who will work on the top plate, and those who will work on the peak.

(d) Restricted Duties.

Top plate workers shall have no other duties during truss/rafter erection.

(2) Procedures for working on the top plate.

(a) Installing The First Two Trusses.

The first two trusses/rafters must be set from ladders. The ladders must lean on side walls at points where the walls can support the load imposed by the ladder and worker. After the first two trusses/rafters have been set, a worker will climb a ladder onto the interior top plate to secure their peaks.

(b) Remain On The Top Plate.

Workers will remain on the top plate and use the previously stabilized trusses/rafters as support while the other trusses/rafters are erected.

(3) Procedures for working at the peak.

(a) When Workers May Work On Peaks/Ridge Beam.

Workers detaching trusses from cranes or securing trusses at the peaks may be positioned at the peak of the trusses/rafters. Workers may be stationed on the top of the ridge beam where that is the only feasible way to secure rafters to the ridge beam.

(b) Stable Work Position

Workers at the peak, in the web of trusses, or on top of the ridge beam shall work from a stable position. They must either sit on a ridge seat (or the equivalent) or position themselves in previously stabilized trusses/rafters and lean into, and reach through, the trusses/rafters.

(c) Limited Fall Hazard Exposure.

Workers must not remain on or in the peak/ridge any longer than necessary to complete the task safely.

2. Roof Sheathing Operations. The competent person must determine when the roof system is stable enough to support a conventional fall protection system anchorage. The following provisions apply until the roof system can be used as an anchorage point; at that time personal fall arrest systems must be used.

a. Qualified Workers.

Only qualified workers shall install roof sheathing.

b. Secure Footing/Weather.

The employer must ensure that workers remove slip hazards before walking on sheathing. Such measures include removing mud from shoes or boots. When wet weather is present, roof sheathing shall be suspended unless safe footing can be assured. If winds exceed 40 miles per hour, sheathing operations are to be suspended, unless wind breakers are erected.

- c. **Staging of Materials.**
To minimize exposure to fall hazards, materials must be staged so that workers on the roof have quick and safe access to them.
 - d. **Falling Objects/Restricted Access.**
Workers not involved in roof sheathing shall not stand or walk below or adjacent to the roof opening or exterior walls where they could be struck by falling objects. The competent person shall clearly designate the restricted area before placement of the first piece of sheathing. The competent person may order a brief halt to the sheathing work to allow other workers to pass through the restricted area, as long as suspending work does not create a greater hazard.
 - e. **Slide Guards.**
 - *Bottom Row:* The bottom row of roof sheathing may be installed by workers standing in truss webs and leaning over the sheathing. After the bottom row is installed, a slide guard of at least four (4) inches nominal in height shall be securely attached to the roof. It must extend across the full width of the roof.
 - *Slide Guard Intervals: Roof Pitch Up To (and including) 9 in 12:* Additional slide guards are required at 13 foot intervals as successive rows of sheathing are installed.
 - *Slide Guard Intervals: Roof Pitch Over 9 in 12:* Additional slide guards are required at four foot intervals.
- NOTE: These slideguard requirements, which come from Appendix E, differ from those for Group 4 Activities (roofing work).

3. **Installation of Floor Joists and Floor Sheathing.**

- a. **Designated, Trained Workers.**
The employer must designate the trained workers who will do this work.

- b. **Staging of Materials.**
To minimize exposure to fall hazards, materials must be staged so that workers have quick and safe access to them.
- c. **Restricted Access.**
While this work is taking place, workers not directly assisting in it shall not be permitted within six (6) feet of the leading edge.
- d. **Installation Process: Floor Joists/Trusses.**
The first floor joist or truss must be rolled into position and secured by workers on the ground, ladders, or sawhorse scaffolds. Successive joists/trusses must be rolled into place. They are then to be secured from a platform. The platform is to be built from a sheet of plywood laid over the previously secured floor joists or trusses.
- e. **Installation Process: Floor Sheathing.**
The first row of floor sheathing must be installed by workers on the ground, ladders, or sawhorse scaffolds. After the first row of sheathing has been installed, workers shall work from the established deck.

4. **Erection of Exterior Walls.**

- a. **Designated, Trained Workers.**
The employer must designate the trained workers who will do this work.
- b. **Warning Line.**
A painted warning line six (6) feet from the perimeter will be clearly marked before any wall erection activities take place.

NOTE: As discussed above, this work must be done within a CAZ. A crew supervisor/foreman is required to monitor this work and warn anyone who approaches the unprotected edge. The warning line does not replace the monitor; it is an additional safety measure.

- c. **Staging of Materials.**
To minimize exposure to fall hazards, materials must be staged so that workers have quick and safe access to them.
- d. **Limit Fall Hazard Exposure.**
Workers constructing exterior walls shall complete as much cutting of materials and other preparatory work as possible away from the edge of the deck.

NOTE: Wall openings (more than six feet above the lower level), floor holes and roof holes: As soon as sheathing has been installed around a floor hole, roof hole, or wall opening that is not going to be sheathed (such as a hole for a doorway, stairwell or skylight), it must be covered, or protected by a guardrail.

X. ALTERNATIVE PROCEDURES FOR GROUP 2: WORKING ON CONCRETE AND BLOCK FOUNDATION WALLS AND RELATED FORMWORK.

This Instruction specifies the alternative procedures for protecting employees working from the top surface of block foundation walls, concrete foundation walls, and related form work. These procedures are:

- A. **Trained Workers Only.**
Only trained workers shall be allowed to work on the top of the foundation wall/form work, and only as necessary to complete the construction of the wall.
- B. **Adequate Support.**
All formwork shall be adequately supported before any worker may work on top of the form work.
- C. **Bad Weather.**
When adverse weather (such as high winds, rain, snow, or sleet) creates a hazardous condition, operations shall be suspended until the hazardous condition no longer exists.
- D. **Staging of Materials/Equipment.**
Materials and equipment for the work shall be conveniently located to the workers on the top of the foundation/formwork.

- E. Impalement Hazards.
Materials and other objects which could pose impalement hazards shall be kept out of the area below where workers are working or shall be properly guarded.

XI. ALTERNATIVE PROCEDURES FOR GROUP 3: THIS GROUP CONSISTS OF THE FOLLOWING ACTIVITIES *WHEN PERFORMED IN ATTICS AND ON ROOFS*: INSTALLING DRYWALL, INSULATION, HVAC SYSTEMS, ELECTRICAL SYSTEMS (INCLUDING ALARMS, TELEPHONE LINES, AND CABLE TV), PLUMBING AND CARPENTRY.

This Instruction specifies the procedures for this group. They are:

- A. Trained Workers Only.
Only trained workers shall be allowed to work in attics and on roofs, and only as necessary to complete the construction of the system being installed.
- B. Staging of Materials.
Materials and equipment for the work shall be located conveniently close to the workers.
- C. Impalement Hazards.
Materials and other objects which could pose impalement hazards shall be kept out of the area below where workers are working, or properly guarded.
- D. Restricted Access.
While attic or roof work is in progress, workers not involved in such work shall not stand or walk below or adjacent to any openings in the ceiling where they could be struck by falling objects.
- E. Bad Weather.
When adverse weather (such as high winds, rain, snow, or sleet) creates a hazardous condition, operations shall be suspended until the hazardous condition no longer exists.

NOTE: The provisions of this Instruction do not apply to interior finishing work when done outside of attics or roofs areas. Subpart M applies to such work with respect to stairways, stairway openings, walkways, floor or window openings, floor holes or other elevated openings or open sides.

XII. ALTERNATIVE PROCEDURES FOR GROUP 4: ROOFING WORK (REMOVAL, REPAIR, OR INSTALLATION OF WEATHERPROOFING ROOFING MATERIALS SUCH AS SHINGLES, TILE AND TAR PAPER).

Restriction on Application for Roofing Work. The alternative procedures in this Instruction may only be used for this work where: (a) the roof slope is 8 in 12 or less, **and** (b) the fall distance, measured from the eave to the ground level, is 25 feet or less.

A. General Requirements.

1. Trained Workers Only.
Only workers who have been trained to be proficient in the alternative methods of fall protection shall be allowed onto the roof. In addition, each affected employee shall be trained to ensure specific awareness of the fall hazards associated with work on roofs with rake edges ("rake edges" are inclined roof edges, such as those on the gable end of a building).
2. Slip Hazards
The roof surfaces shall be inspected for slipping hazards. The employer shall either eliminate any such hazards or take effective measures to have workers avoid them. The employer shall have workers wear appropriate footwear to reduce the potential for slipping.
3. Bad Weather.
When adverse weather (such as high winds, rain, snow, or sleet) creates a hazardous condition, roofing operations shall be suspended until the hazardous condition no longer exists.
4. Roof holes/openings.
The employer shall have any damaged portions of the roof deck repaired as soon as practicable. Any holes (including skylight openings) or other areas where employees would not have safe footing shall be covered or surrounded by guardrails that comply with the requirements of 1926.502.
5. Ladders/Scaffolds.
If ladders or scaffolds are used, they shall be erected and maintained in accordance with the requirements of Subparts X and L of OSHA's construction standards. In addition, employees shall be trained in accordance with the requirements of Subparts X & L.

6. Access To Roof.
Employers shall not allow workers to ascend or descend the roof's slope within 6 feet of the rake edge except where that limitation would prevent the performance of work.
 7. Location of Materials.
Supplies and materials shall not be stored within 6 feet of the rake edge, or three feet where tile roof systems are being installed.
 8. Impalement Hazards.
The area below the eaves and rakes shall be kept clear of materials and other objects which could pose impalement or other hazards, or properly guarded.
- B. Safety Monitors and Slide Guards (for roofs with an eave height of up to and including 25 feet).
1. Roof Slope (Any Roof Type): Up to 4 in 12. The employer must use either a safety monitoring system that complies with §1926.502, or roofing slide guards. If slide guards are used, they must be built and installed in accordance with the requirements set out below.
 2. Roof Slope (Except Tile or Metal Roofs): Over 4 in 12 (and up to 8 in 12): Slide guards are required.
 3. Roof Slope (Tile or Metal Roofs): Up to (and including) 8 in 12: The safety monitoring system may be used instead of slide guards.
 4. Roof Slope (Any Roof Type): Over 8 in 12: Alternatives to the requirements of the standards are not available.
 5. Eave Height Over 25 feet (Any Slope, Any Roof Type): Alternatives to the requirements of the standards are not available.
- C. Slide Guards: Requirements for Materials, Configuration and Installation.
1. Roof Slope: 6 in 12 or less:
 - a. Material. All slide guards must be constructed of 2"x 6" (nominal) stock.

b. Installation. No more than three rows of roofing material (installed across the lower eave) shall be applied before installing the slide guards. The roof jacks (or similar supports) shall be installed using nails long enough to withstand an employee sliding into the guard.

c. Configuration. The face of the slide guard must be perpendicular (about 90 degrees) to the surface of the roof. There must be continuous slide guards along the eave.

2. Roof Slope: Over 6 in 12 (up to and including 8 in 12):

a. Material: 2"x 6" stock.

b. Installation: Continuous slide guards shall be installed along the eave, as described above. Additional slide guards shall be installed below each work area at intervals not to exceed eight feet. They shall be installed using the following procedure: the employee, while standing on the slide guard below, secures the roof jacks for the next slide guard with nails and then installs the planks. The employee then climbs up to the new slide guard to continue the roofing work. This sequence is repeated as work proceeds up the roof.

c. Configuration: The continuous slide guards at the eave must be at about 90 degrees to the roof surface, as described above. The additional slide guards need not be continuous -- but they must be long enough to protect the work area. They do not have to be at 90 degrees to the roof surface.

d. Removal: Once the roofing material is installed to the ridge, the employee is to climb down to the next lower slide guard and remove the upper slide guard. The employee repeats this process down the roof until all the slide guards are removed. Only when the roofing job is completed may the slide guards at the eave be removed.

XIII. CITATION POLICY.

If an employer (engaged in residential construction) does not provide conventional fall protection, the compliance officer must determine if STD 3-0.1a provides alternative procedures for the activity in question. If alternative procedures are available, the compliance officer must determine if they have been implemented. If there is a

deficiency in the implementation of the alternative procedures, the fall hazard shall be cited as a violation of 1926.501(b)(13). No other provision may be cited for a fall hazard addressed by 1926.501(b)(13). Deficiencies in training required by 1926.20 may also be cited where appropriate.

INDEX

1926.501(b)(13)	1, 15
Adverse Weather	10-12
Bad Weather	10-12
Ladders or Scaffolds	12
Roof Slope	12-14
Slide Guards	8, 13, 14
Trained Workers	6, 8-12