REVIEW MATERIALS

For Questions 1 to 21

If you wish to print this document, we recommend that you duplex the pages.

OSHA AWARENESS SERIES FALL PROTECTION

COURSE 12909

6 Hours of Continuing Education

Kevin Wunderlin LLC
P.O. Box 268
Platteville, Wisconsin 53818-0268
Phone: 608 348-6688
Email: michael@uscontractorlicense.com

This course has been approved for continuing education for the following certifications/licenses.

KEVIN WUNDERLIN LLC
PO BOX 268
PLATTEVILLE, WI 53818

Course: 12909 OSHA AWARENESS - FALL PROTECTION
This course is valid for these credentials:

Credential Description	Cred Code	Credit Hours
Commercial Plumbing Inspector	CPI	6.0
Cross Connection Control Tester	CCCT	6.0
Dwelling Contractor Qualifier	DCQ	6.0
Industrial Journeyman Electrician	IJE	6.0
Journeyman Electrician	JE	6.0
Journeyman Plumber	PJ	6.0
Journeyman Plumber-Restricted Appliance	PJRA	6.0
Manufactured Home Installer	MHI	6.0
Master Electrician	ME	6.0
Master Plumber	PM	6.0
Master Plumber-Restricted Appliance	PMRA	6.0
Registered Electrician	BE	6.0
Residential Journeyman Electrician	RJE	6.0
Residential Master Electrician	RME	6.0
UDC-Plumbing Inspector	UPI	6.0
Utility Contractor	UC	6.0

Course expiration date is September 1, 2021

OSHA AWARENESS-FALL PROTECTION
Approved by the
Wisconsin Department of Safety and Professional Services
Safety and Buildings Division
Course Identification Number 12909
Expiration Date: September 1, 2021
Educational Credit Hours: 6 Hours

Course Provider
Kevin Wunderlin LLC
P.O. Box 268
Platteville, WI 53818-0268
(608) 348-6688
www.uscontractorlicense.com

OSHA AWARENESS—FALL PROTECTION

This course has been approved for 16 licenses/certifications which are administered by the Wisconsin Department of Safety and Professional Services-Safety and Buildings Division.

Commercial Plumbing Inspector	**Master Electrician**
Cross Connection Control Tester	**Master Plumber**
Dwelling Contractor Qualifier	**Master Plumber-Restricted Appliance**
Industrial Journeyman Electrician	**Registered Electrician Registration**
Journeyman Electrician	**Residential Journeyman Electrician**
Journeyman Plumber	**Residential Master Electrician**
Journeyman Plumber-Restricted Appliance	**UDC-Plumbing Inspector**
Manufactured Home Installer	**Utility Contractor**

On December 16, 2010 OSHA issued ***Compliance Guidance for Residential Construction*** which rescinded *the* ***Interim Fall Protection Compliance Guidelines for Residential Construction*** *This compliance directive from OSHA covers all aspects of individuals involved in the construction trades, including: Carpenters, Electricians, Heating and Ventilation Installers, Plumbers, Sprinkler Installers, Elevator Mechanics and Inspectors.*

This course is intended to assist employers and employees in their efforts to comply with the current OSHA Fall Protection Requirements for residential construction work, as falls are the leading cause of death for workers engaged in residential construction.

This course is a distance learning or e-learning course, which allows the attendee to complete the course on their time schedule.

MAIN TOPICS COVERED

An Illustrated Commentary (CFR 1926) *OSHA Subpart M-Fall Protection*

OSHA Introduction

WisCon: Informational Sheet on the *Onsite Safety and Health Consultation Service* offered by the *Wisconsin State Laboratory of Hygiene*. (Included in the Introduction section)

OSHA Guidance Document *Fall Protection in Residential Construction*

OSHA Fact Sheets

OSHA Residential Fall Protection Program Update

Exam

Sixty questions related to the Instructional/Reference Materials are used to test the attendee on their comprehension of the materials. A 70% score will need to be attained in order to pass this course.

The course attendee will receive the materials by one of the following delivery methods:

Online: The attendee will receive an email with the instructions and a link to the online course. The Reference/Instructional Materials and Exam will be available after registration is complete. The exam can be completed from the computer screen by use of "radio buttons". Answers are automatically saved. Reentry is done by the use of a personalized "resume code". Once the exam has been completed it is submitted. Grading will be done automatically by the computer program. The score and correct and incorrect answers are shown immediately.

Email: All materials are sent via email in PDF form to the attendees email address. The PDF documents can be saved to a file on the computer or they can be printed out. A bubble answer sheet needs to be printed; filled in and returned to us for grading.

Compact Disc: All PDF files are burned to a compact disc and sent to the attendee. The attendee has a choice of saving the PDF's to his/her computer desktop, just opening the files and working off the CD or printing the materials. A bubble answer sheet needs to be printed; filled in and returned to us for grading.

Printed: The Instructional/Reference Materials and Exam is sent in booklet form to the attendees' home of office. The bubble answer sheet is completed and returned to us for grading.

Outline of the Main Topics:

CFR 1926 Subpart M

- **Scope, application, and definitions**
- **Duty to have fall protection**
- **Fall protection systems criteria and practices**
- **Training requirements**
- **Determining Roof Widths**
- **Personal Fall Arrest Systems**
- **Positioning Device Systems**
- **Sample Fall Protection Plan**

OSHA INTRODUCTION

- **Fact Sheet**
- **Compliance Assistance Quickstart**
- **WisCon--Onsite Safety and Health Consultation in Wisconsin**
- **Residential Construction Q and A's**

OSHA FACT SHEET

- **Inspections**
- **Preventing Falls**
- **Aerial Lifts**
- **Fall Protection in General Industry**
- **Portable Ladder Safety Tips**
- **Supported Scaffold Safety**
- **Supported Scaffold Inspections**

OSHA GUIDANCE DOCUMENT—FALL PROTECTION IN RESIDENTIAL CONSTRUCTION

- **Introduction**
- **Installing Roof Trusses**
- **Installing Ridge Poles and Rafters**
- **Installing Roof Sheeting**
- **Anchors**
- **Roofing-Weatherproofing**
- **Foundation Walls and Framework**
- **Installing Floor Joists and Floor Trusses**
- **Installing Subfloors**
- **Installing Walls**
- **Sheathing Walls**
- **Exterior Finishing**
- **Interior Finishing**

RESIDENTIAL FALL PROTECTION PROGRAM UPDATE

- **Recession of 1999 Interim Fall Protection Guidelines for Residential Construction**
- **Significant Changes in Policy**
- **Alternative Methods Allowed**
- **Definition of Residential Construction**
- **Non-Residential Construction**
- **Training Requirements**
- **Conventional Fall Protection Systems**
  - **Guardrail Systems**
  - **Safety Net Systems**
  - **Anchor Point**
  - **Full Body Harness**
  - **Connector/Lanyard**
- **Personal Fall Restraint System**
- **Other Work Methods**

FALL PROTECTION PLAN

- **Safety Monitor Duties**

Kevin Wunderlin

OSHA® FactSheet

Fall Protection in Residential Construction

The United States Department of Labor's Occupational Safety and Health Administration (OSHA) has issued a directive rescinding the Interim Fall Protection Compliance Guidelines for Residential Construction (STD 03-00-001).

Before issuance of this new directive, STD 03-00-001 allowed employers engaged in certain residential construction activities to use specified alternative methods of fall protection (e.g., slide guards or safety monitor systems) rather than the conventional fall protection (guardrails, safety nets, or personal fall arrest systems) required by the residential construction fall protection standard (29 CFR 1926.501(b)(13)). Employers could use the alternative measures described in STD 03-00-001 without first proving that the use of conventional fall protection was infeasible or created a greater hazard and without a written fall protection plan.

With the issuance of the new directive, all residential construction employers must comply with 29 CFR 1926.501(b)(13).

- Residential construction employers generally must ensure that employees working six feet or more above lower levels use guardrails, safety nets, or personal fall arrest systems. A personal fall arrest system may consist of a full body harness, a deceleration device, a lanyard, and an anchor point. (See the definition of "personal fall arrest system" in 29 CFR 1926.500.)
  - Other fall protection measures may be used to the extent allowed under other provisions of 29 CFR 1926.501(b) addressing specific types of work. For example, 1926.501(b)(10) permits the use of warning lines and safety monitoring systems during the performance of roofing work on low-sloped roofs.
  - OSHA allows the use of an effective fall restraint system in lieu of a personal fall arrest system. To be effective, a fall restraint system must be rigged to prevent a worker from reaching a fall hazard and falling over the edge. A fall restraint system may consist of a full body harness or body belt that is connected to an anchor point at the center of a roof by a lanyard of a length that will not allow a worker to physically reach the edge of the roof.
- If the employer can demonstrate that use of conventional fall protection methods is infeasible or creates a greater hazard, it must ensure that a qualified person:
  - Creates a written, site-specific fall protection plan in compliance with 29 CFR 1926.502(k); *and*
  - Documents, in that plan, the reasons why conventional fall protection systems are infeasible or why their use would create a greater hazard.

The new directive interprets "residential construction" as construction work that satisfies both of the following elements:

- The end-use of the structure being built must be as a home, i.e., a dwelling.
- The structure being built must be constructed using traditional wood frame construction materials and methods. The limited use of structural steel in a predominantly wood-framed home, such as a steel I-beam to help support wood framing, does not disqualify a structure from being considered residential construction.
  - Traditional wood frame construction materials and methods will be characterized by:
    - *Framing materials:* Wood (or equivalent cold-formed sheet metal stud) framing, not steel or concrete; wooden floor joists and roof structures.
    - *Exterior wall structure*: Wood (or equivalent cold-formed sheet metal stud) framing or masonry brick or block.
    - *Methods*: Traditional wood frame construction techniques.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For more complete information:

OSHA® Occupational Safety and Health Administration

U.S. Department of Labor
www.osha.gov
(800) 321-OSHA

12/2010

UNITED STATES
DEPARTMENT OF LABOR

Occupational Safety & Health Administration
www.osha.com

Compliance Assistance Quick Start

Link to Compliance Assistance Quick start page:
http://www.osha.gov/dcsp/compliance_assistance/quickstarts/index.html

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Are you ready to learn more about how to prevent workplace injuries and illnesses and comply with the Occupational Safety and Health Act, but aren't sure where to start? By following this step-by-step guide, you can identify many of the major OSHA requirements and guidance materials that may apply to your workplace. Small and new businesses may find Quick Start helpful as an introduction to the compliance assistance resources on OSHA's website.

This Quick Start feature is not comprehensive – there may be additional OSHA standards and guidance materials that also apply to your business. If you are in a state with an OSHA-approved state program, you are subject to state occupational safety and health regulations that may have more stringent or supplemental requirements. These state programs also provide compliance assistance services. Please contact your state program for additional information. In addition, you can request a free, confidential on-site consultation from the OSHA On-site Consultation Program.

Please read this DISCLAIMER before proceeding.

General Industry. This module applies to workplaces that are subject to OSHA's general industry standards, including manufacturing, wholesale, and retail establishments. OSHA's general industry standards also may apply to any industry to the extent that they supplement specific standards for an industry.

Construction Industry. This module applies to employers and workers engaged in construction work, which OSHA defines as construction, alteration, and/or repair, including painting and decorating (29 CFR 1910.12(b)).

Health Care. This module applies to employers and workers in the health care field.

Hispanic Outreach. This module helps employers with a Spanish-speaking workforce identify the Spanish-language outreach resources on OSHA's Web site. While this module includes links to Spanish-language resources, it is intended primarily for English-speaking and bilingual users.

UNITED STATES
DEPARTMENT OF LABOR

Compliance Assistance Quick Start: Construction Industry

Link to Compliance Assistance Quick Start: Construction Industry page:
http://www.osha.gov/dcsp/compliance_assistance/quickstarts/construction/index_construction.html

Follow the steps below to identify the major OSHA construction requirements and guidance materials that may apply to your jobsite. These steps will lead you to resources on OSHA's website that will help you comply with OSHA requirements and prevent workplace injuries and illnesses.

- **Step 1:** OSHA Requirements Related to Leading Hazards at Construction Sites
- **Step 2:** Other OSHA Requirements That May Apply to Your Jobsite
- **Step 3:** Survey Your Workplace for Additional Hazards
- **Step 4:** Develop a Jobsite Safety and Health Program
- **Step 5:** Train Your Employees
- **Step 6:** Recordkeeping, Reporting and Posting
- **Step 7:** Find Additional Compliance Assistance Information

For more information, see the Construction Quick Start Library. This includes a collection of forms, resources, publications, and sample programs that are incorporated into the Quick Start steps, plus additional compliance assistance resources. You can use this collection as a reference after completing the steps.

NOTE: If you have Spanish-speaking employees, visit OSHA's Spanish-Language Compliance Assistance Resources page and OSHA en Español. If you employ teen or young workers, visit OSHA's Young Workers page.

Go to Step 1 »

UNITED STATES
DEPARTMENT OF LABOR

Link to Region 5 page:
http://www.osha.gov/oshdir/r05.html

Region 5

Regional Office
230 South Dearborn Street, Room 3244
Chicago, Illinois 60604
(312) 353-2220
(312) 353-7774 FAX

Area Offices
Illinois | Indiana | Michigan | Minnesota | Ohio | Wisconsin

In case of emergency call 1-800-321-OSHA

UNITED STATES
DEPARTMENT OF LABOR

Link to Wisconsin Area offices page:
http://www.osha.gov/oshdir/wi.html

WISCONSIN (MAP)

You have selected a state that has 2 types of offices:

- Area Offices
- Consultation Project Offices

Appleton Area Office
1648 Tri Park Way
Appleton, Wisconsin 54914
(920) 734-4521
(920) 734-2661 FAX

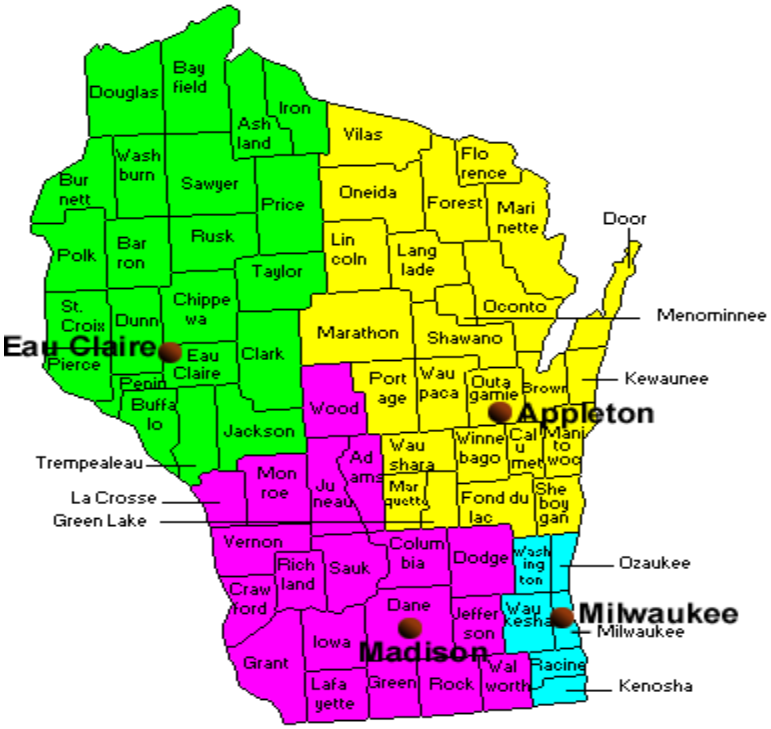
Eau Claire Area Office
1310 W. Clairemont Avenue
Eau Claire, Wisconsin 54701
(715) 832-9019
(715) 832-1147 FAX

Madison Area Office
4802 E. Broadway
Madison, Wisconsin 53716
(608) 441-5388
(608) 441-5400 FAX

Milwaukee Area Office
310 West Wisconsin Avenue, Room 1180
Milwaukee, Wisconsin 53203
(414) 297-3315
(414) 297-4299 FAX

Link to Wisconsin Map page:
http://www.osha.gov/oshdir/wi-state-map.html

Wisconsin



The SHARP Program

The Safety and Health Achievement Recognition Program (SHARP) is an honors program for companies who have excellent health and safety program management sytems in place. To achieve SHARP status, a company must:

- Have a history of maintaining an injury and illness rate below the national average for your industry
- Participate in a comprehensive consultation visit identifying all safety and health hazards
- Participate in a full evaluation of the health and safety management program in place for the company
- Involve employees in the consultation process
- Correct all serious, other-than-serious, and regulatory hazards found
- Have all basic elements for managing health and safety in place

After a thorough review, and recommendation from the consultation program manager, the company will be recommended to OSHA for recognition in the SHARP program. The company receives recognition during an awards ceremony where they receive thier SHARP certificate. Companies in the SHARP program are exempt from programmed OSHA inspections during the period that the SHARP certification is valid.

Resources

For more information on workplace health and safety, please visit one of these websites:

www.osha.gov

www.cdc.gov/niosh

www.slh.wisc.edu/wiscon

WisCon Requests

WisCon offers on-site consultation services to Wisconsin employers through the Wisconsin State Laboratory of Hygiene, part of the University of Wisconsin - Madison.

Safety-Focused Requests
141 NW Barstow Street, Fourth Floor
Waukesha, WI 53188-3789
1-800-947-0553

Industrial Hygiene-Focused Requests
2601 Agriculture Drive
Madison, WI 53718
608-226-5240

Federal Enforcement

(U.S. Department of Labor)

Appleton, Wis., Area Office
1648 Tri-Park Way
Appleton, WI 54914
920-734-4521 (Phone) / 920-734-2661 (Fax)

Milwaukee, Wis., Area Office
Henry S. Reuss Federal Plaza
310 West Wisconsin Avenue, Suite 1180
Milwaukee, WI 53203
414-297-3315 (Phone) / 414-297-4229 (Fax)

Madison, Wis., Area Office
4802 East Broadway
Madison, WI 53716
608-441-5388 (Phone) / 608-441-5400 (Fax)

Eau Claire, Wis., Area Office
1310 A. Clairemont Ave.
Eau Claire, WI 54701
715-832-9019 (Phone) / 715-832-1147 (Fax)

WisCon

Onsite Safety & Health Consultation in Wisconsin

WSLH *Wisconsin State Laboratory of Hygiene*

Part of the University of Wisconsin - Madison

WisCon Program

The Wisconsin State Laboratory of Hygiene, part of the University of Wisconsin – Madison, and in conjunction with the U.S. Department of Labor, currently offers on-site consultation services to assist Wisconsin employers in meeting the obligations and responsibilities covered under the federal Occupational Safety and Health Act.

- **There is No Charge** for consultation services to private sector employers. The program is funded by the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) and the Wisconsin State Laboratory of Hygiene.
- **The program is voluntary**: We respond to requests from the management of small businesses to assist them in providing their workers with a safe and healthy place of employment.
- **No penalties or enforcement action**: Your only obligation as a requesting employer is a commitment to correct all serious hazards that are identified within a reasonable time schedule. Of course, imminent dangers must be corrected immediately.
- **Skilled and Knowledgeable Staff**: The program employs a wide range of safety and health professionals with considerable experience working with Wisconsin's employers. Safety specialists, industrial hygienists, ergonomists, engineers and occupational health nurses work in unison to cover all aspects of workplace health and safety.

WSLH
Wisconsin State Laboratory of Hygiene

THE UNIVERSITY of WISCONSIN MADISON

An on-site consultation visit can provide assistance to:

- **Identify Workplace Hazards**
- **Conduct Industrial Hygiene Monitoring**
- **Conduct limited Ergonomic Assessments**
- **Recommend and assist in developing Controls**
- **Evaluate and assist in developing and implementing necessary programs**
- **Evaluate and assist in developing and implementing a Comprehensive Safety and Health Management Program**
- **Conduct limited Training and Education**

The Consultation Process

STEP 1 - CALL: As an owner or manager of a small business, call 1-800-947-0553 (or 608-226-5240 for an industrial hygiene-focused request), e-mail, or send a letter to the consultation program.

STEP 2 - SCHEDULE: A consultant will call you to schedule a consultation visit at your convenience. First priority is given to workplaces where employees are currently experiencing illnesses. Priority is also given to small employers in high hazard industries.

STEP 3 - ON-SITE VISIT: The consultant will arrive at your workplace for the on-site visit consisting of:

1. An opening conference where you can explain your workplace and health and safety concerns to the consultant. The consultant will explain the program and answer any questions that you may have.
2. A records review, where the consultant will review your OSHA-300 injury and illness logs, as well as any other health and safety programs that you have.
3. A walk-through inspection to view the worksite and identify potential hazards.
4. Industrial hygiene monitoring may be conducted on that day, or may be conducted later.
5. Conduct either a complete or a partial assessment of the safety and health management program.
6. A closing conference to discuss observations and recommendations.

STEP 4 - MONITORING RESULTS: If industrial hygiene monitoring was conducted, the consultant will provide you with the monitoring results by fax, e-mail or letter.

STEP 5 - REPORT: The consultant will evaluate all of the information and provide you with a written report detailing the findings and recommendations, including the action plan that you discussed during the closing conference. Our report to the employer and other acquired information is confidential.

STEP 6 - CORRECTION OF HAZARDS: You correct all of the serious hazards found within the agreed upon abatement schedule. If appropriate, extensions in time may be granted upon written request. Hazard abatement is required so that each consultation visit achieves its objective: effective employee protection.

ADDITIONAL VISITS: A follow-up visit may be scheduled to provide abatement assistance or to conduct additional monitoring to verify abatement if needed.

An internal referral may be made, and another consultant may schedule a visit to your site. For example, a safety consultant might find potential health hazards and request an industrial hygiene visit to assist you. Or, an industrial hygiene consultant may identify ventilation needs and request one of our engineers to assist you.

WISCONSIN STATE
LABORATORY OF HYGIENE

Using the Consultation Program

How To Get Started

Because consultation is a voluntary activity, you must request it. Your telephone call or letter sets the consulting machinery in motion. The consultant will discuss your specific needs with you and set up a visit date based on your work schedule and the time needed for the consultant to adequately prepare to serve you. We encourage a complete review of your firm's safety and health program; however, if you wish you may limit the visit to one or more specific issues, or even training needs.

Opening Conference

When the consultant arrives at your worksite for the scheduled visit, he or she will first meet with you to briefly clarify and review their role and the obligation you incur as an employer. In most cases, this will also be the time the consultant reviews any accident records, written programs and may also ask questions on how the employer manages safety.

Walk Through

Together, you and the consultant will examine conditions in your workplace. Recent changes in changes to consultation procedures at the federal level now require employee participation in the consultation process. We strongly encourage employers allow employee participation in the walk-through. Better informed employees can more easily work with you to identify and correct potential injury and illness hazards in your workplace. Talking with employees during the walk-through helps the consultant identify and judge the nature and extent of specific hazards.

The consultant will study your entire workplace or the specific operations you designate and discuss the applicable OSHA standards. Consultants also will point out other safety or health risks that might not be cited under OSHA standards, but nevertheless may pose safety or health risks to your employees. They may suggest and even provide other services such as self-inspection or safety and health training that you and your employees can use to further your knowledge and prevent future situations which may expose employees to hazards.

A comprehensive consultation will include (1) a review of written programs, (2) an appraisal of all mechanical and environmental hazards and physical work practices, (3) an appraisal of the present job safety and health management program or assistance in the establishment of one, (4) a conference with you or your managers on their findings, (5) a written report of the consultants findings and recommendations, and (6) training and assistance with implementing recommendations (optional).

Closing Conference

On the day of their visit, the consultant will review their findings with you in a closing conference. You will learn not only what you need to improve, but also what you are doing right. At that time you can discuss problems, possible solutions and any abatement period to eliminate serious hazards identified during the walk-through.

In rare instances, the consultant may find an "imminent danger" situation during the walk-through. If so, you must take immediate action to protect employees exposed to such a hazard. In situations that would be judged a "serious violation" under OSHA criteria, you are required to eliminate or control that hazard within an agreed upon time period . The consultants will offer general approaches and options to you. They may also suggest additional sources for technical help.

Hazard Abatement and Follow Through
Following the closing conference, and usually within two weeks, the consultant will send you a detailed written report reviewing their findings and any hazard abatement periods. If any "serious" hazards were identified, a posting of the hazards ir required. The posting would be included with the consultant's report.

Consultants may contact you from time to time to check your progress. You, of course, may always contact them for further assistance.

As stated, abatement is required for serious hazards so that each consultation visit achieves its objective -- effective employee protection which leads to safer and ultimately more efficient operations. If you fail to eliminate or control identified serious hazards (or an imminent danger hazard) within the limits agreed upon or an agreed-upon extension, the situation may be referred from Consultation to an OSHA enforcement office for appropriate action. This is required through the Cooperative Agreement the Department of Commerce maintains with the U. S. Department of Labor. Such situations very rarely occur.

Benefits
Knowledge of your workplace hazards and ways to eliminate them can only improve your own operations and the management of your firm. You will get professional advice and assistance on the correction of workplace hazards and benefit from on-site training and assistance provided by the consultant to you and your employees. The consultant can help you establish or strengthen an employee safety and health management program, making safety and health activities routine considerations. An effective management program can lead to greater efficiency, improved worker attitudes and to the overall profitability of your company.

SHARP- Program
The Consultation Program also has a recognition program for employers who are willing to make a commitment to a safe workplace. The name of the program is SHARP (Safety and Health Achievement Recognition Program). This program provides incentives and support to smaller, high-hazard employers to develop, implement and continuously improve effective safety and health programs at their worksite(s). The program recognizes employers who have demonstrated exemplary achievements in workplace safety and health by receiving a comprehensive safety and health consultation visit, correcting all workplace safety and health hazards, adopting and implementing effective safety and health management systems, and agreeing to request further consultative visits if major changes in working conditions or processes occur that may introduce new hazards. Employers meeting these specific program requirements may be exempt from general scheduled OSHA inspections for a year or more.

The Consultants Will:

- Assist you to develop or maintain an effective safety and health management program
- Help you recognize and control hazards in your workplace
- Suggest general approaches or options for solving a safety or health problem
- Identify kinds of help available if you need further assistance
- Provide you a written report summarizing findings
- Provide certain types of training and education for you and your employees

The Consultants Will Not:

- Issue citations or propose penalties for violations of OSHA standards.
- Report possible violations to OSHA enforcement staff.
- Guarantee that your workplace will "pass" an OSHA inspection.

Wisconsin Safety and Health Consultation Program - WisCon
Health Issues
State Laboratory of Hygiene
University of Wisconsin – Madison
2601 Agriculture Drive
Madison, WI 53718
(608) 226-5240
(608) 266-1550 FAX

Safety Issues
141 NW Barstow Street
Waukesha, Wisconsin 53188-3789
(262) 512-5198
(262) 521-5369 FAX
Toll Free: 1-800-947-0553

RESIDENTIAL CONSTRUCTION Q & A's

These Q & A's are designed to provide information about standards relating to fall protection in residential construction. The Occupational Safety and Health Act requires employers to comply with safety and health standards promulgated by OSHA or by a state with an OSHA-approved state plan. However, this document is not itself a standard or regulation, and it creates no new legal obligations.

Which OSHA standards address fall hazards in construction work?

29 CFR Part 1926, Subpart M, which became effective on February 6, 1995, contains general fall protection requirements for construction work. Additional fall protection requirements can be found throughout Part 1926.

What are the Subpart M requirements for residential construction?

Under 29 CFR 1926.501(b)(13), workers engaged in residential construction six (6) feet or more above lower levels must be protected by conventional fall protection (i.e., guardrail systems, safety net systems, or personal fall arrest systems) or alternative fall protection measures allowed under 1926.501(b) for particular types of work. A personal fall arrest system may consist of a full body harness, a deceleration device, a lanyard, and an anchor point. (See the definition of "personal fall arrest system" in 29 CFR 1926.500). If an employer can demonstrate that fall protection required under 1926.501(b)(13) is infeasible or presents a greater hazard it must implement a written, site-specific fall protection plan meeting the requirements of 29 CFR 1926.502(k). The fall protection plan must specify alternative measures that will be used to eliminate or reduce the possibility of employee falls.

There is a "Sample Fall Protection Plan" in Appendix E of Subpart M. Why did OSHA prepare this appendix?

OSHA included Appendix E in Subpart M to show employers and employees what a compliant fall protection plan might look like.

Why did OSHA issue Instruction STD 3.1 "Interim Fall Protection Compliance Guidelines for Residential Construction" in 1995?

Once the final rule for Subpart M was published, representatives from the residential construction industry, including the National Association of Home Builders (NAHB) and the National Roofing Contractors Association (NRCA), expressed ongoing concerns about complying with 1926.501(b)(13). For example, industry representatives were concerned about the feasibility of establishing proper anchor points on wood-framed

structures. In response to their concerns and to give OSHA time to revisit some feasibility issues, the Agency issued Directive STD 3.1. The directive allowed employers doing specified residential construction activities to comply with the requirements of Subpart M by implementing the alternative fall protection and work procedures prescribed in the directive. The alternative procedures could be used without a prior showing of infeasibility or greater hazard and without a written fall protection plan. The Agency did not intend STD 3.1 to be a permanent policy.

Why did OSHA reissue STD 3.1 as STD 3-0.1A in 1998?

OSHA issued STD 3-0.1A (later redesignated as STD 03-00-001) as a plain language replacement for STD 3.1. In STD 03-00-001, the Agency made some changes to the original interim guidance to clarify the scope of the directive and the Agency's enforcement policy with respect to fall protection requirements for the specific construction activities covered by the directive. In STD 03-00-001, OSHA indicated that it intended to reevaluate the interim policy after soliciting additional public comment.

Why did OSHA issue an Advanced Notice of Proposed Rulemaking (ANPR) for Subpart M in 1999?

OSHA issued an ANPR for Subpart M in 1999 in part to obtain information from the public that it could use to evaluate the effectiveness of and need for STD 03-00-001. In the ANPR, the Agency noted that there had been progress in the types and capability of commercially available fall protection equipment since 1926.501(b)(13) was promulgated in 1994. OSHA also stated in the ANPR that it intended to rescind STD 03-00-001 unless persuasive evidence was submitted showing that it is infeasible or presents significant safety hazards for most residential construction employers to comply with 1926.501(b)(13).

Did OSHA rely on sources of information in addition to the comments received in response to the ANPR in evaluating whether to continue the interim enforcement policy contained in STD 03-00-001?

Yes. A Residential Fall Protection Work Group within OSHA's Advisory Committee on Construction Safety and Health (ACCSH) has reported to ACCSH on a number of presentations they have seen from home builders and fall protection equipment manufacturers describing new ways of providing safe and effective fall protection in residential construction. ACCSH has recommended rescission of STD 03-00-001 on two separate occasions – first in 2000 and again in 2008. Also in 2008, both the Occupational Safety and Health State Plan Association (OSHSPA) and the NAHB submitted letters to OSHA advocating for withdrawal of STD 03-00-001. The NRCA has continued to oppose rescission of STD 03-00-001 with respect to roofing work, but a representative of that organization conceded at an ACCSH meeting in December 2009 that nowadays it is "very tough" to establish that conventional fall protection is infeasible or creates a greater hazard.

Now that OSHA has rescinded STD 03-00-001, what do residential construction employers have to do to protect employees from fall hazards?

- Employees working six (6) feet or more above lower levels must be protected by conventional fall protection methods listed in 1926.501(b)(13) (i.e., guardrail systems, safety net systems, or personal fall arrest systems) or alternative fall protection measures allowed by other provisions of 29 CFR 1926.501(b) for particular types of work.

- An example of an alternative fall protection measure allowed under 1926.501(b) is the use of warning lines and safety monitoring systems during the performance of roofing work on low-sloped roofs. (4 in 12 pitch or less). (See 1926.501(b)(10)).

- OSHA allows the use of an effective fall restraint system in lieu of a personal fall arrest system. To be effective, a fall restraint system must be rigged to prevent a worker from reaching a fall hazard and falling over the edge. A fall restraint system may consist of a full body harness or body belt that is connected to an anchor point at the center of a roof by a lanyard of a length that will not allow a worker to physically reach the edge of the roof.

- When the employer can demonstrate that it is infeasible or creates a greater hazard to use required fall protection systems, a qualified person must develop a written site-specific fall protection plan in accordance with 1926.502(k) that, among other things, specifies the alternative fall protection methods that will be used to protect workers from falls.

When will residential construction employers that were covered by STD 03-00-001 have to start complying with 1926.501(b)(13)?

The effective date of STD 03-11-002 is June 16, 2011.

Why was compliance directive STD 03-00-001 rescinded?

Falls continue to be the leading cause of death among construction workers. Statistics show that fatalities from falls are consistently high for residential construction activities. OSHA considered the comments received in response to the 1999 ANPR and was not persuaded that compliance with 1926.501(b)(13) is infeasible or presents significant safety hazards for most residential construction employers. The recommendations from ACCSH, OSHSPA, and the NAHB, as well as the mounting evidence that has been presented to the ACCSH Residential Fall Protection Work Group showing that conventional fall protection is available and can be used safely for almost all residential construction operations, provide a separate and independent grounds for OSHA's decision to withdraw STD 03-00-001.

What are the training requirements for the use of fall protection systems?

In accordance with 29 CFR 1926.503, the employer must ensure that each employee who might be exposed to fall hazards has been trained by a competent person to recognize the hazards of falling and in the procedures to be followed in order to minimize those hazards. In addition, the employer must verify the training of each employee by preparing a written certification record that contains the name/identity of the employee trained, the date(s) of training, and the signature of the employer or the person who conducted the training.

Is OSHA prohibiting the use of slideguards as employee protection during the performance of roofing activities in residential construction?

Slideguards cannot simply be used in lieu of conventional fall protection methods under 1926.501(b)(13). However, slideguards may be used as part of a written, site-specific fall protection plan that meets the requirements of 1926.502(k) if the employer can demonstrate that the use of conventional fall protection (i.e., guardrail, safety net, or personal fall arrest systems) would be infeasible or create greater hazards.

Can monitors still be used?

Under 1926.501(b)(10), safety monitoring systems can be used in conjunction with a warning line system to protect employees during the performance of roofing work on roofs of 4 in 12 pitch or less. When such a roof is 50 feet (15.25 m) or less in width, a safety monitoring system can be used alone, i.e., without a warning line system. Under 1926.501(b)(13), if the employer can demonstrate that the use of conventional fall protection would be infeasible or create a greater hazard, monitors may be used as part of an employer's written fall protection plan under 1926.502(k).

Are there requirements for safety monitoring systems?

Yes. Safety monitoring systems must meet the requirements of 29 CFR 1926.502(h) including, but not limited to, requirements that the monitor:

- be competent to recognize fall hazards;
- be on the same walking working surface and within visual sighting distance of the employee being monitored;
- be close enough to communicate orally with the employee; and
- not have other responsibilities which could take the monitor's attention from the monitoring function.

Can a standardized fall protection plan be developed and implemented for the construction of dwellings that are of the same basic structural design?

Before using a fall protection plan at a particular worksite, the employer must first be able to demonstrate that it is infeasible or presents a greater hazard to use conventional fall protection methods at that site. Fall protection plans must be site-specific to comply with §1926.502(k). A written fall protection plan developed for repetitive use, e.g., for a particular style or model of home, will be considered site-specific with respect to a

particular site only if it fully addresses all issues related to fall protection at that site. Therefore, a standardized plan will have to be reviewed, and revised as necessary, on a site by site basis.

What are some of the benefits of rescinding STD 03-00-001?

- Falls continue to be the leading cause of fatalities in residential construction. OSHA has concluded that fall hazards pose a significant risk of death or serious injury for construction workers and that compliance with the requirements of Subpart M is reasonably necessary to protect workers from those hazards.
- STD 03-00-001 addressed only certain, specified types of residential construction work. Withdrawing that directive will result in consistent enforcement policy with respect to all residential construction activities.
- Several state plan OSHA programs did not adopt, or have already rescinded, the enforcement policy described in STD 03-00-001. Therefore, rescinding the compliance directive will promote consistency among all states regarding the enforcement of fall protection requirements for residential construction.
- OSHA expects that further advances in the design technologies of fall protection equipment will be triggered by the demands of employers who may encounter compliance difficulties on particular work sites.

What is "residential construction"?

The Agency's interpretation of "residential construction" for purposes of 1926.501(b)(13) combines two elements – both of which must be satisfied for a project to fall under that provision:

- The end-use of the structure being built must be as a home, i.e., a dwelling; and
- The structure being built must be constructed using traditional wood frame construction materials and methods.

The limited use of structural steel in a predominantly wood-framed home, such as a steel I-beam to help support wood framing, does not disqualify a structure from being considered residential construction.

Traditional wood frame construction materials and methods will be characterized by:

- Framing materials: Wood (or equivalent cold-formed sheet metal stud) framing, not steel or concrete; wooden floor joists and roof structures.
- Exterior wall structure: Wood (or equivalent cold-formed sheet metal stud) framing or masonry brick or block.
- Methods: Traditional wood frame construction techniques.

Why are only "dwellings" considered "residential construction"?

Limiting the scope of 1926.501(b)(13) to the construction of homes/dwellings comports with the plain meaning of the term "residential" in the text of that paragraph and is consistent with OSHA's intent in promulgating that provision.

OSHA GUIDANCE DOCUMENT

FALL PROTECTION
IN
RESIDENTIAL CONSTRUCTION

OSHA GUIDANCE DOCUMENT
FALL PROTECTION IN RESIDENTIAL CONSTRUCTION

Table of Contents

Executive Summary

This OSHA guidance document is designed to help employers prevent fall-related injuries and fatalities among workers engaged in residential construction activities, such as roofing. Falls are the leading cause of work-related deaths among residential construction workers.

On December 16, 2010, OSHA issued STD 03-11-002, *Compliance Guidance for Residential Construction*, which rescinds STD 03-00-001, *Interim Fall Protection Compliance Guidelines for Residential Construction*, and provides that OSHA will be enforcing 29 CFR 1926.501(b)(13) for all residential construction work.

This guidance document is intended to assist employers with their compliance efforts. It provides information on various work methods that may be used at different stages of the residential construction process.

David Michaels, PhD, MPH
Assistant Secretary of Labor for
Occupational Safety and Health

This document is intended to assist employers in their efforts to comply with fall protection requirements for residential construction work. The Occupational Safety and Health Act requires employers to comply with safety and health standards promulgated by OSHA or by a state with an OSHA-approved state plan. However, this document is not itself a standard or regulation and it creates no new legal obligations.

Introduction

Falls are the leading cause of death for workers engaged in residential construction. This "Fall Protection in Residential Construction" guidance document describes various methods that residential construction employers may be able to use to prevent fall-related injuries and fatalities at various points in the residential construction process.

The focus of this document is mostly on new construction. The examples provided in this guidance document do not represent all possible work methods that can be used in residential construction. Moreover, employers should be aware that the examples described in this document may not be suitable in all situations. Employers are responsible for ensuring compliance with applicable OSHA requirements.

Under 29 CFR 1926.501(b)(13), workers engaged in residential construction six (6) feet or more above lower levels must be protected by conventional fall protection (in other words, guardrail systems, safety net systems, or personal fall arrest systems) or other fall

protection measures allowed elsewhere in 1926.501(b). (Although the standard does not mention personal fall restraint systems, OSHA will accept a properly utilized fall restraint system in lieu of a personal fall arrest system when the restraint system is rigged in such a way that the worker cannot get to the fall hazard.) If an employer can demonstrate that the fall protection required under 1926.501(b)(13) is infeasible or presents a greater hazard, it must instead implement a written fall protection plan meeting the requirements of 1926.502(k).

Fall protection used to comply with 1926.501(b)(13), including guardrail systems, safety net systems, and personal fall arrest systems, must meet and be used in accordance with applicable requirements in 1926.502. Requirements for work performed on scaffolds, ladders, and aerial lifts are in Part 1926 – Subpart L, Subpart X, and 1926.453, respectively.

State plans may also have additional requirements. For further information on state plan standards, please visit: http://www.osha.gov/dcsp/osp/statestandards.html.

Installing Roof Trusses

Numerous methods can be used to prevent fall-related injuries and fatalities among workers installing roof trusses.

Bracket Scaffold

A bracket scaffold can be placed on the interior or exterior of a structure. The scaffold can provide a stable working platform. When bracket scaffolds are used on the interior of the structure, the exterior wall can limit employee exposures to fall hazards.

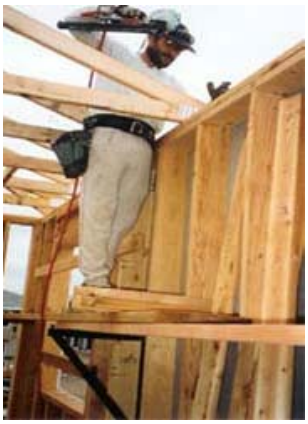


Figure 1 - A worker installing roof trusses from an interior bracket scaffold.

Exterior bracket scaffolds can also be used for installing roof trusses and other rooftop construction activities. The guardrail system on the scaffold can provide fall protection. With the addition of toeboards, falling object protection can be provided to the areas below.

Figure 2 - Workers using an exterior bracket scaffold to install roof trusses.

Ladders

Platform ladders and step ladders can provide a stable, elevated platform from which to work.

Figure 3 - Platform ladders can be set up inside a structure and used to install roof trusses.

Anchors

A spreader braces the trusses and distributes arrest forces across several trusses. Spreaders can act as anchors for personal fall arrest systems and fall restraint. They can be reused according to the manufacturer's instructions. It is important to refer to the truss manufacturer's instructions and have a qualified person determine if trusses will meet strength requirements for a personal fall arrest system or fall restraint system.

Figure 4 – An example of a spreader attached to roof trusses.

Installing Ridge Poles and Rafters

Although the use of roof trusses is nearly universal, some builders still frame roof systems with ridge poles and rafters. While performing this task, workers need to be protected from falls.

Anchors

Employees installing ridge poles and rafters can use strap anchors and bolt-on anchors. These anchors can be used with personal fall arrest systems and fall restraint to provide fall protection for workers engaged in this activity. Both anchors can be removed and reused according to the manufacturer's instructions.

Figure 5 - Strap anchors providing anchorage for three personal fall arrest systems.

Figure 6 - A bolt-on anchor attached to a rafter.

Installing Roof Sheathing

Once a roof has been framed, roof sheathing operations can begin. There are serious fall hazards associated with this activity, but there are a number of ways to protect workers.

Safety Net System

Safety net systems can be used as fall protection for workers installing roof sheathing.

Figure 7 - An example of a safety net system.

Bracket Scaffold

A bracket scaffold can be attached to the top plate of a structure. The scaffold can provide a secure work platform from which to install roof sheathing.

Figure 8 – A worker sheathing a roof from a bracket scaffold.

Anchors

Anchors and retractable lifeline stands can be used by workers installing roof sheathing.

Figure 9 - Anchors that can be used while performing roof sheathing operations.

Roofing – Weatherproofing

As with other roofing activities, fall protection is critical for this type of work.

Bracket Scaffolds

An exterior bracket scaffold can be used for workers weatherproofing a roof. Bracket scaffolds can be especially useful for installing materials along the edge of the roof. Some exterior bracket scaffolds can be used as catch platforms to prevent workers from falling six feet to the lower level.

Figure 10 - An exterior bracket scaffold with guardrails being used to protect workers while weatherproofing.

Anchors

Permanent anchors can be installed during roofing operations and left in place after construction is complete. They can provide an anchorage point during the life of the roof. Reusable anchors can also be used while weatherproofing a roof. It is important to inspect these anchors prior to use.

Figures 11 & 12 - Permanent anchors on completed roofs.

Figure 13 - A worker using a reusable anchor with a retractable lifeline.

Foundation Walls and Formwork

In most residential construction, concrete or masonry block is used to create the foundation and the foundation walls of a structure. The concrete is usually poured into an excavation to create the foundation and the foundation walls.

Anchors

Anchors can be added to cured concrete. Anchors with expandable bolts can be placed in holes that have been drilled into the concrete.

Figure 14 – A cutaway picture of an anchor with an expandable bolt for use in concrete.

Strap anchors can provide versatility and options for anchorage points while performing this type of work. Strap anchors can be looped over rebar and removed when no longer necessary.

Figure 15 - A worker placing a strap on anchor over rebar.

These strap anchors can also be poured over with concrete and left in during construction. Antichafe sleeves (the green part of the anchor) can be used to maintain the integrity of the strap. Once no longer needed, the strap can be cut out of the concrete and removed.

Anchor straps are typically reusable if they have not been poured into concrete or have not been shock loaded. Please refer to the manufacturer's instructions when using this equipment.

Scaffolds

Scaffolds can provide elevated work surfaces for workers performing foundation work.

Figure 16 - A bracket-form scaffold attached to formwork.

Installing Floor Joists and Floor Trusses

Floor joists and floor trusses are usually constructed directly over the foundation walls. Fall hazards may be present, for example, if the structure being built has a basement.

Anchors

A reusable floor truss anchor can act as a temporary truss brace and spacer as well as an anchor point for a self-retracting lifeline. The device can spread shock loads over multiple trusses. These kinds of anchors can be uninstalled, moved, reinstalled and reused as per the manufacturer's instructions.

Figure 17 - A retractable lifeline attached to a floor truss anchor.

Scaffolds

Scaffolds can be used for residential construction workers installing floor joists and floor trusses.

Mobile scaffolds can be used effectively for residential construction workers. These scaffolds can be placed on the cured concrete basement floor of a structure. From the elevated platforms of the mobile scaffold, workers can install carrier beams, floor joists, and floor trusses.

Figure 18 - Workers installing a steel beam from a mobile scaffold.

Wall bracket scaffolds can be used on a residential structure once a wall has been completed. These scaffolds can provide access around the perimeter of the structure and can be used by workers while they install carrier beams, floor joists, and floor trusses. This type of scaffold can also be used in other phases of residential construction.

Figure 19 – A scaffold rigged for installing floor joists and floor trusses.

Installing Subfloors

Subfloors are usually installed by fastening a wood deck to floor joists and floor trusses. Because of the openings between floor joists and floor trusses, fall hazards may exist while performing this task.

Anchors

A truss bracket anchorage system can distribute the arresting forces across multiple trusses in the event of a fall. When appropriately installed in accordance with the manufacturer's instructions, these anchors can be used with personal fall arrest systems and fall restraints. Because these anchors are reusable, they can be uninstalled and reinstalled in accordance with the manufacturer's instructions.

Figure 20 - Workers using a truss bracket anchor while installing a subfloor.

Guardrails

Guardrail systems can be used to protect workers from falls during the performance of flooring and subflooring activities. If installed with a toeboard, guardrail systems can also protect workers on lower levels from falling objects.

Figures 21 & 22 - Examples of guardrails installed around floor openings.

Installing Walls

Framed wall sections usually are constructed on the ground and typically include sheathing and openings for windows and doors. Guardrails across these openings can help prevent falls while work is being performed in the house after the walls have been erected. These walls can be erected by using a lifting device such as a crane, boom truck, or forklift. Jacks can also be used to raise these walls. These practices greatly reduce the likelihood that a worker will be exposed to a fall during this stage of construction.

Figure 23 - Framed walls being erected using a jack.

For workers exposed to falls while framing walls, there remain various ways of protecting against falls to lower levels.

Anchors

Some models of strap anchors are looped through soft eyes or larger D rings and can be uninstalled, moved, reinstalled and reused following the manufacturer's instructions.

Figure 24 - A reusable strap anchoring a retractable lifeline.

Strap anchors can also be preinstalled to provide an anchorage point once the walls have been erected and braced. They can be removed by cutting the strap off or pulling out the nails. Once cut or nailed, these must not be reused without being refurbished by the manufacturer.

Figures 25 & 26 - Reusable anchors

Guardrails

Guardrail systems can provide fall protection while workers are framing walls.

Figure 27 - Worker installing guardrails.

Sheathing Walls

Although it is common for sheathing to be included on panelized walls used in residential construction, sheathing still takes place on residential construction sites. Erecting the walls by lifting devices or jacks can lessen a worker's exposure to fall hazards.

Scaffolds

Welded End Frame (X brace) scaffolds (like tube/coupler, and systems scaffolds) stand on their own. With proper bracing, the frames can be stacked from cellar hole to chimney top. Like other scaffolds, these can make stable work platforms for many residential construction operations. These stand-alone scaffolds can be used for sheathing and various other vertical wall operations such as masonry wall construction, siding, and stucco application.

Figure 28 - Welded end frame scaffold.

Exterior bracket scaffolds can provide a work surface from which to attach sheathing to the frame.

Figure 29 – A worker sheathing walls from an exterior bracket scaffold.

A ladder jack scaffold consists of a platform resting on brackets attached to a ladder. Ladder jacks provide limited elevation and are primarily used in light applications because of their portability and cost-effectiveness.

Aerial Lifts

Aerial lifts may be used for wall sheathing work. In particular, boom type elevating and rotating aerial work platforms can offer positioning flexibility and provide stable elevated platforms.

Figure 30 - Worker performing residential construction activities from an aerial lift.

Exterior Finishing

The exterior finishing phase of residential construction includes a number of activities, such as installing windows, doors, siding, and gutters. Many of these tasks pose fall hazards.

Aerial Lifts

Aerial lifts can be ideal equipment for exterior finishing. By providing a stable, level work surface and positioning flexibility, an aerial lift can be used for numerous activities associated with finishing the exterior of a residential construction structure.

Figure 31 - Worker positioning an aerial lift.

Ladders

Ladders can provide access to areas of a structure where exterior finishing work will occur. They can provide a stable work surface for various exterior finishing tasks.

Scaffolds

Pump jack scaffolds consist of a platform supported by moveable brackets on vertical poles. Pump jacks are appealing for certain applications because they are easily adjusted to variable heights, and are relatively inexpensive. They can include a material shelf for carrying supplies and tools.

Figure 32 - A worker performing siding activities from a pump jack scaffold.

Interior Finishing

Although much of this work may take place while exterior finishing is happening, interior finishing is one of the last phases of residential construction. This does not mean that fall hazards are no longer present.

Guardrails

Guardrails can be an excellent option for providing fall protection for work on or near stairways and landings. The addition of a toeboard can also prevent objects from falling to lower levels.

Figure 33 - Wooden guardrail system for a stairway.

Figure 34 - A landing protected by a wooden guardrail system with a toeboard.

Figure 35 - Guardrails protecting window openings.

More Resources

STD 03-11-002, *Compliance Guidance for Residential Construction* - http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=4755

Fact Sheet on Fall Protection in Residential Construction - http://www.osha.gov/doc/fall_protection_factsheet.html

Residential Construction Q & A's - http://www.osha.gov/doc/residential-construction/residential-construction-qa.html

OSHA FactSheet

Preventing Falls

Falls and falling objects can result from unstable working surfaces, ladders that are not safely positioned, and misuse of fall protection. Workers are also subject to falls or to the dangers of falling objects if sides and edges, floor holes, and wall openings are not protected. Any time a worker is at a height of six feet or more (construction industry) or four feet or more (general industry), the worker must be protected.

Fall Protection

Fall protection must be provided for each employee on a walking/working surface with an unprotected side or edge at the height required by the OSHA standard applicable to their work environment. Management is required to:

- Develop, implement and commit to a fall protection program
- Provide training on the fall protection program
- Evaluate the program on a regular basis to insure the program's effectiveness and determine whether it needs to be changed or updated

Employers are required to assess the workplace to determine if the walking/working surfaces on which employees are to work have the strength and structural integrity to safely support workers. Once employers have determined that the surface is safe for employees to work on, the employer must select one of the options listed for the work operation if a fall hazard is present.

- Where protection is required, select fall protection systems appropriate for given situations.
- Use proper construction and installation of safety systems.
- Supervise employees properly.
- Train workers in the proper selection, use, and maintenance of fall protection systems.

Unprotected Sides, Wall Openings, and Floor Holes

Almost all sites have unprotected sides and edges, wall openings, or floor holes at some point during construction. If these sides and openings are not protected at your site, injuries from falls or falling objects may result, ranging from sprains and concussions to death.

- Use at least one of the following whenever employees are exposed to a fall of 6 feet or more [see comment above] above a lower level:
- Guardrail Systems
- Safety Net Systems
- Fall Arrest Systems
- Cover or guard floor holes as soon as they are created.
- Guard or cover any openings or holes immediately.
- Construct all floor hole covers so they will effectively support two times the weight of employees, equipment, and materials that may be imposed on the cover at any one time.
- In general, it is better to use fall prevention systems, such as guardrails, than fall protection systems, such as safety nets or fall arrest devices.

Ladders

You risk falling if portable ladders are not safely positioned each time they are used. While you are on a ladder, it may move and slip from its supports. You can also lose your balance while getting on or off an unsteady ladder. Falls from ladders can cause injuries ranging from sprains to death.

- Position portable ladders so the side rails extend at least 3 feet above the landing
- Secure side rails at the top to a rigid support and use a grab device when 3 foot extension is not possible.
- Make sure that the weight on the ladder will not cause it to slip off its support.
- Before each use, inspect ladders for cracked, broken, or defective parts.
- Do not apply more weight on the ladder than it is designed to support.
- Use only ladders that comply with OSHA standards.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

Think Safety!

For more complete information:

OSHA Occupational Safety and Health Administration

U.S. Department of Labor

www.osha.gov

(800) 321-OSHA

OSHA® QUICK CARD™

Aerial Lifts

Protect Yourself

Aerial lifts include boom-supported aerial platforms, such as cherry pickers or bucket trucks. The major causes of fatalities are falls, electrocutions and collapses or tip overs.

Safe Work Practices

- Make sure that workers who operate aerial lifts are properly trained in the safe use of the equipment.
- Maintain and operate elevating work platforms according to the manufacturer's instructions.
- Never override hydraulic, mechanical, or electrical safety devices.
- Never move the equipment with workers in an elevated platform unless this is permitted by the manufacturer.
- Do not allow workers to position themselves between overhead hazards, such as joists and beams, and the rails of the basket. Movement of the lift could crush the worker(s).
- Maintain a minimum clearance of at least 10 feet, or 3 meters, away from the nearest overhead lines.
- Always treat power lines, wires and other conductors as energized, even if they are down or appear to be insulated.
- Use a body harness or restraining belt with a lanyard attached to the boom or basket to prevent the worker(s) from being ejected or pulled from the basket.
- Set the brakes and use wheel chocks when on an incline.
- Use outriggers, if provided.
- Do not exceed the load limits of the equipment. Allow for the combined weight of the worker, tools and materials.

For more complete information:

OSHA® Occupational Safety and Health Administration

U.S. Department of Labor

www.osha.gov (800) 321-OSHA

OSHA 3267-09N-05

OSHA® DATOS RÁPIDOS

Jirafas
Protéjase

Las jirafas incluyen a las plataformas elevadas de aguilón sostenido, como lo son las de puntal extensible con canasta (mejor conocidas como "cherry pickers") o los camiones canasta. Las principales causas de muertes son por caídas, electrocuciones y colapsos o volteos.

Prácticas de Trabajo Seguras

- Asegúrese que los trabajadores que operan jirafas están adecuadamente adiestrados en el uso seguro del equipo.
- Mantenga y opere las plataformas de trabajo elevadas de acuerdo con las instrucciones del manufacturero.
- Nunca invalide los dispositivos de seguridad hidráulicos, mecánicos o eléctricos.
- Nunca mueva el equipo con trabajadores en una plataforma elevada, a menos que sea permitido por el manufacturero.
- No permita a los trabajadores ponerse entre riesgos que estén por encima de la cabeza, como viguetas y vigas, y las barandas del canasto. El movimiento de la jirafa puede aplastar al trabajador.
- Mantenga una distancia mínima segura de las líneas eléctricas aéreas más cercanas de al menos 10 pies, ó 3 metros.
- Siempre trate a las líneas de energía eléctrica, alambres y otros conductores como si estuvieran energizados (vivos), aún si están fuera de servicio o parece que están aislados.
- Use un arnés de cuerpo o correa que restringe el movimiento con una cuerda de seguridad atada al aguilón o canasto para prevenir que el trabajador salga disparado o sea tirado del canasto.
- Ponga los frenos y use calzos cuando esté en un área inclinada.
- Use estabilizadores, si son provistos.
- No exceda la carga límite del equipo. Tome en cuenta el peso combinado del trabajador, herramientas y materiales.

Para información más completa:

OSHA® **Administración de Seguridad y Salud Ocupacional**
Departamento del Trabajo de EE.UU.
www.osha.gov (800) 321-OSHA

OSHA® QUICK CARD™

Fall Protection in General Industry

Falls are among the most common causes of serious work-related injuries and deaths. Employers must take measures in their workplaces to prevent employees from falling off overhead platforms, elevated work stations or into holes in the floor and walls.

Raised platform with protected guardrail.

To prevent employees from being injured from falls, employers must:

- Guard every floor hole into which a worker can accidentally walk by use of a railing and toeboard or a floor hole cover.
- Provide a guardrail and toeboard around every open-sided platform, floor or runway that is 4 feet or higher off the ground or next level.
- Regardless of height, if a worker can fall into or onto dangerous machines or equipment (such as a vat of acid or a conveyor belt), employers must provide guardrails and toeboards to prevent workers from falling and getting injured.
- Other means of fall protection that may be required on certain jobs include safety harness and line, safety nets, stair railings and handrails.

OSHA requires employers to:

- Provide working conditions that are free of known dangers.
- Keep floors in work areas in a clean and sanitary condition.
- Select and provide required personal protective equipment at no cost to workers.
- Train workers about job hazards in a language that they can understand.

You have a right to a safe workplace.

If you have questions about workplace safety and health, call OSHA at 1-800-321-6742.

It's confidential.

We can help!

For more complete information:

OSHA® Occupational Safety and Health Administration

U.S. Department of Labor

www.osha.gov (800) 321-OSHA (6742)

OSHA 3257-12-10R

OSHA® DATOS RÁPIDOS

Protección contra caídas en la industria general

Las caídas son las causas más comunes de lesiones graves y muertes relacionadas con el trabajo. Los empleadores deben tomar medidas en sus plantas de trabajo para impedir que los empleados se caigan de plataformas o puestos de trabajo elevados, o en agujeros en pisos y paredes.

Plataforma elevada con guardarriel de protección.

Para impedir que los empleados se lesionen debido a caídas, los empleadores deben:

- Proteger todos los agujeros en el piso por donde un trabajador se pueda caer en forma accidental mediante el uso de barandillas y tablas protectoras o una cobertura del agujero en el piso.
- Proporcionar un guardarriel y tabla protectora alrededor de toda plataforma abierta a los lados, piso o camino que esté más de 1,20 metros por encima del suelo o del nivel siguiente.
- Independientemente de la altura, si un trabajador puede caer dentro o encima de máquinas o equipos peligrosos (como un tanque de ácido o una correa transportadora), los empleadores deben proporcionar guardarrieles y tablas protectoras para impedir que los trabajadores se caigan o se lesionen.
- Otros medios de protección contra caídas que se puede requerir en ciertos trabajos comprenden arneses y cables de seguridad, redes de protección, pasamanos de escaleras y barandillas.

La OSHA requiere que los empleadores:

- Proporcionen condiciones de trabajo que no tengan peligros conocidos.
- Mantengan en condiciones limpias y sanitarias los pisos de los lugares de trabajo.
- Seleccionen y proporcionen el equipo de protección personal sin costo alguno para los trabajadores.
- Otorguen capacitación a los trabajadores sobre los peligros del trabajo en un idioma que ellos comprendan.

Usted tiene derecho a un lugar de trabajo seguro.
Si tiene preguntas sobre la seguridad y la salud en la planta de trabajo, llame a la OSHA at 1-800-321-6742.
Es confidencial.
¡Podemos ayudarle!

Para información más completa:

OSHA® **Administración de Seguridad y Salud Ocupacional**

Departamento del Trabajo de EE.UU.
www.osha.gov (800) 321-OSHA (6742)

OSHA 3257-12-10R

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Portable Ladder Safety Tips

Falls from portable ladders (step, straight, combination and extension) are one of the leading causes of occupational fatalities and injuries.

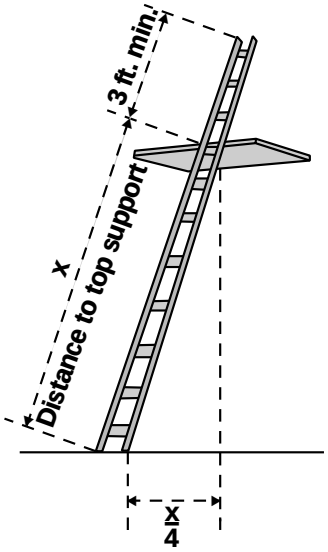
- Read and follow all labels/markings on the ladder.
- Avoid electrical hazards! – Look for overhead power lines before handling a ladder. Avoid using a metal ladder near power lines or exposed energized electrical equipment.
- Always inspect the ladder prior to using it. If the ladder is damaged, it must be removed from service and tagged until repaired or discarded.

3-Point Contact

- Always maintain a 3-point (two hands and a foot, or two feet and a hand) contact on the ladder when climbing. Keep your body near the middle of the step and always face the ladder while climbing (see diagram).
- Only use ladders and appropriate accessories (ladder levelers, jacks or hooks) for their designed purposes.
- Ladders must be free of any slippery material on the rungs, steps or feet.
- Do not use a self-supporting ladder (e.g., step ladder) as a single ladder or in a partially closed position.
- Do not use the top step/rung of a ladder as a step/rung unless it was designed for that purpose.

(continued on reverse)

- Use a ladder only on a stable and level surface, unless it has been secured (top or bottom) to prevent displacement.
- Do not place a ladder on boxes, barrels or other unstable bases to obtain additional height.
- Do not move or shift a ladder while a person or equipment is on the ladder.
- An extension or straight ladder used to access an elevated surface must extend at least 3 feet above the point of support (see diagram). Do not stand on the three top rungs of a straight, single or extension ladder.



- The proper angle for setting up a ladder is to place its base a quarter of the working length of the ladder from the wall or other vertical surface (see diagram).
- A ladder placed in any location where it can be displaced by other work activities must be secured to prevent displacement or a barricade must be erected to keep traffic away from the ladder.
- Be sure that all locks on an extension ladder are properly engaged.
- Do not exceed the maximum load rating of a ladder. Be aware of the ladder's load rating and of the weight it is supporting, including the weight of any tools or equipment.

For more complete information:

OSHA Occupational Safety and Health Administration

U.S. Department of Labor

www.osha.gov (800) 321-OSHA

OSHA 3246-11N-05

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Supported Scaffold Safety

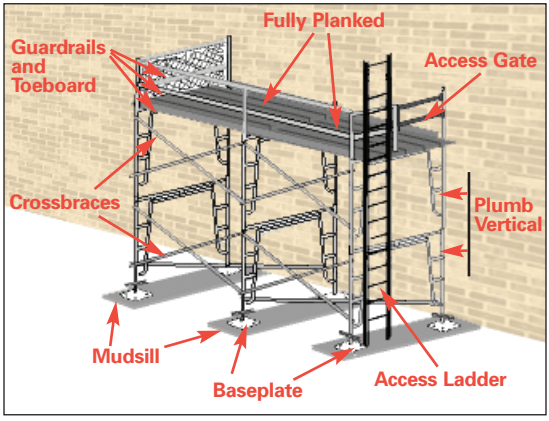
Supported scaffolds consist of one or more platforms supported by outrigger beams, brackets, poles, legs, uprights, posts, frames, or similar rigid support.

Guardrails or personal fall arrest systems for fall prevention/protection are required for workers on platforms 10 feet or higher.

Working platforms/decks must be planked close to the guardrails.

Planks are to be overlapped on a support at least 6 inches, but not more than 12 inches.

Legs, posts, frames, poles, and uprights must be on base plates and mud sills, or a firm foundation; and, be properly aligned and braced.



Scaffold user training must include:

- The hazards of type of scaffold being used;
- Maximum intended load and capacity;
- Recognizing and reporting defects;
- Fall hazards;
- Electrical hazards including overhead lines;
- Falling object hazards;
- Other hazards that may be encountered.

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Andamio de Soporte Seguridad

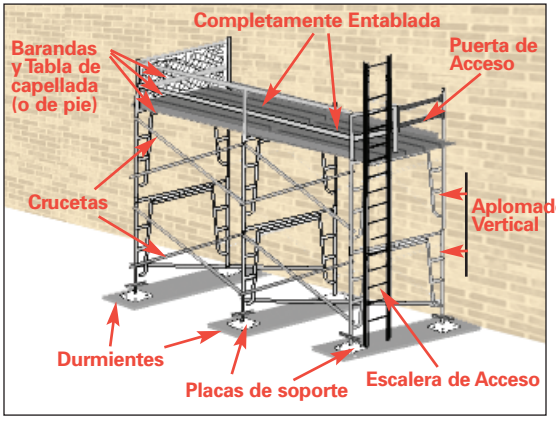
Los andamios de soporte consisten de una o más plataformas sostenidas por vigas voladizas (estabilizadoras), abrazaderas, postes, patas, montantes rectos, marcos o soportes rígidos similares.

Para la prevención/protección contra caídas, se requieren barandas o sistemas personales de prevención de caídas para los empleados sobre plataformas a 10 o más pies de alto.

Las plataformas y entarimados de trabajo tienen que estar entablados cercano a las barandas.

El entablado (Los tablones) ha (han) de estar solapado (s) sobre un soporte al menos 6 pulgadas, pero no más de 12 pulgadas.

Las patas, postes, marcos y montantes rectos tienen que estar sobre placas de soporte y durmientes, o sobre cimientes confiables, y estar apropiadamente alineada y reforzados.



La capacitación para los usuarios de andamios tiene que incluir:

- Los riesgos específicos del tipo de andamio que se está usando,
- La carga máxima prevista y capacidad del andamio,
- El reconocimiento y reporte de defectos,
- Los riesgos de caídas,
- Los riesgos eléctricos, incluyendo las líneas aéreas,
- Riesgos causados por objetos que caen,
- Otros riesgos que se puedan encontrar.

Para información más completa:

OSHA® **Administración de Seguridad y Salud Ocupacional**
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www.osha.gov (800) 321-OSHA

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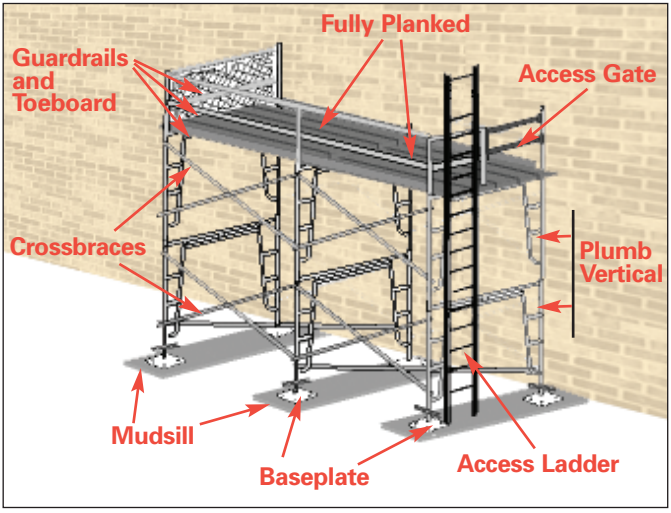
Supported Scaffold Inspections

Inspect scaffolds and scaffold parts daily, before each work shift, and after any event that may have caused damage.

- Check to see if power lines near scaffolds are deenergized or that the scaffolds are at least 10 feet away from energized power lines.
- Make sure that tools and materials are at least 10 feet away from energized power lines.
- Verify that the scaffold is the correct type for the loads, materials, workers and weather conditions.
- Check footings to see if they are level, sound, rigid, and capable of supporting the loaded scaffold.



- Check legs, posts, frames and uprights to see if they are on baseplates and mudsills.
- Check metal components for bends, cracks, holes, rust, welding splatter, pits, broken welds, and non-compatible parts.
- Check for safe access. Do not use the crossbraces as a ladder for access or exit.

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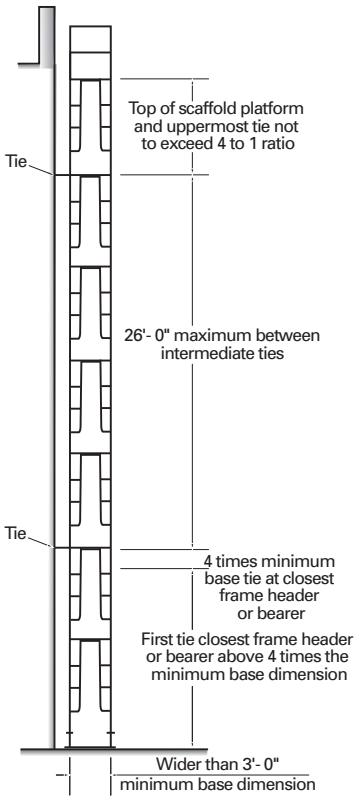
- Check wooden planks for cracks, splits greater than 1/4 inch, end splits that are long, many large loose knots, warps greater than 1/4 inch, boards and ends with gouges, mold, separated laminate(s), and grain sloping greater than 1 in 12 inches from the long edge and are scaffold grade lumber or equivalent.
- If the planks deflect 1/60 of the span or 2 inches in a 10-foot wooden plank, the plank has been damaged and must not be used.
- Check to see if the planks are close together, with spaces no more than 1 inch around uprights.
- Check to see if 10-foot or shorter planks are 6 to 12 inches over the center line of the support, and that 10-foot or longer planks are no more than 18 inches over the end.
- Check to see if the platform is 14 inches or less from the wall or 18 inches or less away if plastering/stucco.
- Check for guardrails and midrails on platforms where work is being done.
- Check for workers under the platform and provide falling object protection or barricade the area. Make sure that hard hats are worn.
- Use braces, tie-ins and guying as described by the scaffold's manufacturer at each end, vertically and horizontally to prevent tipping.

Maximum Vertical Tie Spacing Wider Than 3'- 0" Bases



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OSHA Inspections

The Occupational Safety and Health Administration is committed to strong, fair and effective enforcement of safety and health requirements in the workplace. OSHA inspectors, called compliance safety and health officers, are experienced, well-trained industrial hygienists and safety professionals whose goal is to assure compliance with OSHA requirements and help employers and workers reduce on-the-job hazards and prevent injuries, illnesses and deaths in the workplace.

Normally, OSHA conducts inspections without advance notice. Employers have the right to require compliance officers to obtain an inspection warrant before entering the worksite.

Inspection Priorities

OSHA cannot inspect all 7 million workplaces it covers each year. The agency seeks to focus its inspection resources on the most hazardous workplaces in the following order of priority:

1. ***Imminent danger situations***—hazards that could cause death or serious physical harm—receive top priority. Compliance officers will ask employers to correct these hazards immediately—or remove endangered employees.

2. ***Fatalities and catastrophes***—incidents that involve a death or the hospitalization of three or more employees—come next. Employers must report such catastrophes to OSHA within 8 hours.

3. ***Complaints***—allegations of hazards or violations also receive a high priority. Employees may request anonymity when they file complaints.

4. ***Referrals*** of hazard information from other federal, state or local agencies, individuals, organizations or the media receive consideration for inspection.

5. ***Follow-ups***—checks for abatement of violations cited during previous inspections—are also conducted by the agency in certain circumstances.

6. ***Planned or programmed investigations***—inspections aimed at specific high-hazard industries or individual workplaces that have experienced high rates of injuries and illnesses—also receive priority.

Phone/Fax Investigations

OSHA carefully prioritizes all complaints it receives based on their severity. For lower-priority hazards, with permission of a complainant, OSHA may telephone the employer to describe safety and health concerns, following up with a fax providing details on alleged safety and health hazards. The employer must respond in writing within five working days, identifying any problems found and noting corrective actions taken or planned. If the response is adequate and the complainant satisfied with the response, OSHA generally will not conduct an on-site inspection.

Onsite Inspections

Preparation—Before conducting an inspection, OSHA compliance officers research the inspection history of a worksite using various data sources, review the operations and processes in use and the standards most likely to apply. They gather appropriate personal protective equipment and testing instruments to measure potential hazards.

Presentation of credentials—The onsite inspection begins with the presentation of the compliance officer's credentials, which include both a photograph and a serial number.

Opening Conference—The compliance officer will explain why OSHA selected the workplace for inspection and describe the scope of the inspection, walkaround procedures, employee representation and employee interviews. The employer then selects a representative to accompany the compli-

ance officer during the inspection. An authorized representative of the employees, if any, also has the right to go along. In any case, the compliance officer will consult privately with a reasonable number of employees during the inspection.

Walkaround—Following the opening conference, the compliance officer and the representatives will walk through the portions of the workplace covered by the inspection, inspecting for hazards that could lead to employee injury or illness. The compliance officer will also review worksite injury and illness records and posting of the official OSHA poster.

During the walkaround, compliance officers may point out some apparent violations that can be corrected immediately. While the law requires that these hazards must still be cited, prompt correction is a sign of good faith on the part of the employer. Compliance officers try to minimize work interruptions during the inspection and will keep confidential any trade secrets they observe.

Closing Conference—After the walkaround, the compliance officer holds a closing conference with the employer and the employee representatives to discuss the findings. The compliance officer discusses possible courses of action an employer may take following an inspection, which could include an informal conference with OSHA or contesting citations and proposed penalties. The compliance officer also discusses consultation and employee rights.

Results

OSHA must issue a citation and proposed penalty within six months of the violation's occurrence. Citations describe OSHA requirements allegedly violated, list any proposed penalties and give a deadline for correcting the alleged hazards. Violations are categorized as other-than-serious, serious, willful, repeated and failure to abate. Penalties may range up to $7,000 for each serious violation and up to $70,000 for each willful or repeated violation. Penalties may be reduced based on an employer's good faith, inspection history, and size of business. For serious violations, OSHA may also reduce the proposed penalty based on the gravity of the alleged violation. No good faith adjustment will be made for alleged willful violations.

Appeals

When OSHA issues a citation to an employer, it also offers the employer an opportunity for an informal conference with the OSHA Area Director to discuss citations, penalties, abatement dates or any other information pertinent to the inspection. The agency and the employer may work out a settlement agreement to resolve the matter and to eliminate the hazard. OSHA's primary goal is correcting hazards and maintaining compliance rather than issuing citations or collecting penalties.

Alternatively, employers have 15 working days after receipt of citations and proposed penalties to formally contest the alleged violations and/or penalties by sending a written notice to the Area Director. OSHA forwards the contest to the Occupational Safety and Health Review Commission for independent review. Alternatively, citations, penalties and abatement dates that are not challenged by the employer or settled become a final order of the Occupational Safety and Health Review Commission.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For more complete information:

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