



# Project Superintendent Certification Program

Prepare to demonstrate your skills, gain valuable feedback, and achieve the recognition you deserve. Engage with our Project Superintendent Evaluation and take the next step towards professional excellence in construction management.

Let's Build Your  
Future Together

## **Welcome to Construction Management Certification**

Dear Student and Fellow Worker,

Welcome to a pivotal moment in your career journey! We at Construction Management Certification are thrilled to have you join our community of forward-thinking construction professionals. As you embark on this learning path, we want to acknowledge the significant effort and time you're investing by stepping away from your daily responsibilities to enhance your skills and knowledge.

### **Your Learning Experience**

This course is meticulously designed to familiarize you with essential industry terminology and to provide you with a foundational understanding of the topics covered. While it may not delve deeply into every nuance of the subject matter, it will equip you with the critical tools and concepts needed to succeed in your role.

Remember, you are here to learn and grow—so do not feel intimidated by new concepts or terminology. Each lesson is crafted to be accessible and engaging, ensuring that you gain confidence as well as competence.

### **Accredited Certification – Opening Doors to New Opportunities**

By choosing an accredited certification program like ours, you are not just learning—you are unlocking new opportunities. The knowledge and credentials you acquire here will significantly enhance your professional profile and open up new avenues in the construction industry. Certification is a testament to your dedication to professional development and positions you well to soar to new heights in your career.

### **Let's Begin**

As we start this lesson, remember that every module is a step towards greater opportunities. We are here to support you throughout your learning journey and to celebrate your achievements along the way.

Thank you for choosing Construction Management Certification. Let's build a robust future together!

Warm regards,

The Construction Management Certification Team

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We encourage you to approach each lesson with curiosity and enthusiasm as you pave your way

## Safety at the Job Site

From 1980 to 1995, some 17,000 construction workers died as a result of injuries suffered on the job—that is an average of 1133 deaths per year. In 2001 there were 1225 fatal accidents in the construction industry, an all-time high.

Everyone knows that a construction site is a dangerous place in which to work; 19.5 percent of all industrial fatal accidents occur on construction projects. And within the industry subcontractors have been the worst offenders. In the year 2000, of the 1154 industrial deaths, 673, or 58 percent, were attributed to these specialty contractors. For the influx of Latino workers during the 1999–2000 period, the industrial fatal accident rate increased from 725 to 815. Whether this could be attributed to a lack of safety training or to a language barrier problem, it behooves employers of Latino workers to pay extra attention to their training and supervision.

### The Occupational Safety and Health Act (OSHA)

The United States Congress in 1970 passed the Williams-Steiger Occupational Safety and Health Act, referred to simply as OSHA. The rules and regulations established by this act are governed by the U.S. Department of Labor. Most states have adopted industrial safety provisions similar to those of the federal government, and project superintendents often have to deal with inspectors from both agencies.

In 1990, OSHA created a separate Construction and Engineering Division, and in November of that year President Bush signed the Omnibus Budget Reconciliation Act, which included, among many other provisions, significantly increased penalties for OSHA violations. An additional fine with a \$70,000 maximum limit was to be imposed on contractors who *willfully* contributed to a job site accident.

### OSHA's most frequent paperwork and job site safety violations

Not all OSHA violations involve dangerous or hazardous job site conditions; many violations are issued because of a contractor's failure to comply with various reporting and posting requirements. Check your job trailer for the proper postings, and be aware of your reporting responsibilities. OSHA's top five paperwork violations are

1. Failure to provide the Log and Summary of Occupational Injuries and Illnesses forms properly updated
2. Failure to adhere to the General Duty clause of the OSHA act (a citation based upon no specific violation or a citation issued after a previous one had been ignored)
3. Failure to report a fatality or multiple hospitalization incidents
4. Failure to record occupational injuries and illnesses on the Supplementary Record form
5. Failure to record and report occupational injuries and illnesses on the required OSHA Log form

The most frequently reported job site accidents are due to one or more of the following incidents:

- Falls from elevated areas
- Being struck by an object or machine
- Being caught in between
- Electrical hazards

Figure 9-1 lists 26 of the top 100 frequently cited OSHA violations along with the corresponding section of the 29 CFR 1926 manual pertaining to the subject matter.

OSHA, though, is much more than an on-site safety inspector. It has always provided the construction industry with training materials, but it has expanded its mission to include what it calls "outreach trainer presentations." These presentations are available online at [www.osha.gov](http://www.osha.gov); the user needs a Zip file utility, Microsoft PowerPoint, and the Adobe Acrobat reader to receive the free downloads. These training sessions, tailored to the needs of the construction worker, cover such topics as electrical safety, fall protection, excavations, cranes, materials handling and storage, hand and power tools, personal protective equipment, scaffolds, and stairways and ladders. A newsletter called *Construction eTools*, also available online, contains safety tips, new developments relating to safety, and listings of other programs available from the Department of Labor.

OSHA should be looked upon as a valuable source of safety and safety training information and as a partner in the quest to provide the safest working environment in an industry that is constantly facing workplace dangers.

RANK	DESCRIPTION OF STANDARD		STANDARD (1926.____)
1	<b>Fall Protection</b>	Guarding open sided floors/platforms	500(d)(1)
2	<b>PPE</b>	Head protection from impact, falling or flying objects	100(a)
3	<b>Electrical</b>	Ground fault protection	404(b)(1)(i)
4	<b>Electrical</b>	Path to ground missing or discontinuous	404(f)(6)
5	<b>Trench/Excavation</b>	Protective Systems for trenching/excavation	652(a)(1)
6	<b>Scaffolding</b>	Guardrail specifications for tubular welded frame scaffolds	451(d)(10)
7	<b>PPE</b>	Appropriate PPE used for specific operation	28(a)
8	<b>Ladders/Stairways</b>	Stair rails required @ 30" change of elevation or 4 risers	1052(c)(1)
9	<b>Fire Protection</b>	Approved containers or tanks for storing or handling flammable or combustible liquids.	152(a)(1)
10	<b>General Provisions</b>	General Housekeeping	25(a)
11	<b>Trenching/Excavation</b>	Daily inspection of physical components of trench and protection systems	651(k)(1)
12	<b>Scaffolds</b>	Safe access for all types of scaffolds	451(a)(13)
13	<b>Electrical</b>	Ground fault circuit interrupters (GFCI's)	404(b)(1)(ii)
14	<b>Concrete/Masonry</b>	Guarding protruding steel rebars	701(b)
15	<b>Scaffolds</b>	General requirements for guarding	451(a)(4)
16	<b>Trench/Excavation</b>	Spoil pile protection	651(j)(2)
17	<b>Welding/Cutting</b>	Securing compressed gas cylinders	350(a)(9)
18	<b>Welding/Cutting</b>	Additional rules for welding as per ANSI Z49.1-1967	350(j)
19	<b>PPE</b>	Eye/Face Protection for operations which create exposure	102(a)(1)
20	<b>Fall Protection</b>	Guarding floor openings	500(b)(1)
21	<b>Ladder/stairway</b>	Ladder extended 3' above landings	1053(b)(1)
22	<b>Trench/excavation</b>	Access/Egress from trench/excavation	651(c)(2)
23	<b>Electrical</b>	Listed, labeled or certified equipment used in manner prescribed	403(b)(2)
24	<b>Electrical</b>	Flexible cords designed for hard or extra hard usage	405(a)(2)(ii)(j)
25	<b>Electrical</b>	Strain relief for cords	405(g)(2)(iv)
26	<b>Woodworking Tools</b>	Additional rules for woodworking tools as per ANSI 01.1-1967	304(f)

Figure 9-1 OSHA's top 26 most violated standards.

### Eye Injuries—Another Frequent and Preventable Accident

Although they are not specifically included in the most frequent accidents and many are not life-threatening, eye injuries can be disruptive to production. Generally they are so easy to prevent—just use eye protection! More than 1000 eye-related injuries occur each day on construction sites. Each year about 100,000 of these injuries result in either temporary or permanent damage to the worker's vision.

How many times have you walked the site and observed a laborer cutting rebar with a cutoff saw, or someone cutting a CMU with a dry masonry saw, and neither laborer wearing eye protection? Generally one reason for lack of eye protection is, "Well, I was only going to cut one rebar (or brick or block)." But that one cut could be the one that blinds. Or another reason given is, "My goggles fog up, and I can't see what I'm doing" or "It's too hot to wear face protection."

None of these reasons are valid, and the project superintendent must immediately stop any operations or activities where there is a lack of proper personal protection.

**What do you know about proper eye wear?**

1. *Are some types of safety glasses bad for the worker's eyes?* No. Safety eye-wear is produced from optical-quality glass or plastics. Prolonged use of these types of glasses during the workday will not be injurious to the worker's eyesight.
2. *Do face shields really offer adequate eye protection?* Face shields offer proper eye protection only when used in conjunction with safety glasses or goggles. Harmful particles can rise up beneath the face shield much as in a chimney, and without safety glasses or goggles, eye injuries can occur.
3. *Can workers obtain industrial-grade safety glasses that match their own prescription glasses?* Industrial-grade safety glasses can be made to personal prescription standards.
4. *Are there differences between optical glass eye protection and polycarbonate eye protection?* Polycarbonate lenses are the strongest and most impact-resistant type of safety glasses. They are also lighter in weight and more fog-resistant than glass lenses.
5. *Do serious injuries to the eye occur only on the job site?* Give your workers a pair of safety goggles or glasses to take home with them, because lots of eye injuries occur at home—cutting tree limbs with a chain saw or grinding or cutting materials in the home workshop. Giving workers an extra pair for home use not only shows that you care about their safety, but also gets them in the habit of wearing eye protection when performing certain tasks requiring this type of protection. And it improves chances of workers for showing up on Monday morning in good health and ready to work.

**OSHA Offers Assistance in Dealing with Four Dangerous Situations**

In October 1994, OSHA announced its Focused Inspections Initiation Plan to assist contractors and subcontractors who have implemented effective safety programs but wished to have an OSHA inspection focus on the four leading causes of fatal injuries mentioned above. These four categories constitute 90 percent of all construction-related deaths. Upon request OSHA will conduct a focused inspection and provide a guideline (Fig. 9-2) for contractors requesting these types of inspections and a form (Fig. 9-3) for inspectors to follow when assessing a contractor's commitment to safety. A typical focused inspection guide sheet relating to falls from elevated areas is shown in Fig. 9-4 and a portion of a similar guide sheet for electrical hazards is shown in Fig. 9-5.

Women in the construction workforce present another reporting problem that probably skews accident statistics, making them lower than they should be. A study completed by the Advisory Committee on Construction Safety and Health (ACCSH) in 1999 revealed that many female construction workers don't report

## CONSTRUCTION FOCUSED INSPECTIONS INITIATIVE

### *Handout for Contractors and Employees*

**The goal of Focused Inspections is to reduce injuries, illness and fatalities by concentrating OSHA enforcement on those projects that do not have effective safety and health programs/plans and limiting OSHA's time spent on projects with effective programs/plans.**

To qualify for a Focused Inspection the project safety and health program/plan will be reviewed and a walkaround will be made of the jobsite to verify that the program/plan is being fully implemented.

During the walkaround the compliance officer will focus on the four leading hazards that cause 90% of deaths and injuries in construction. The leading hazards are:

- Falls (e.g., floors, platforms, roofs).
- Struck by (e.g., falling objects, vehicles).
- Caught in/between (e.g., cave-ins, unguarded machinery, equipment).
- Electrical (e.g., overhead power lines, power tools and cords, outlets, temporary wiring).

The compliance officer will interview employees to determine their knowledge of the safety and health program/plan, their awareness of potential jobsite hazards, their training in hazard recognition and their understanding of applicable OSHA standards.

If the project safety and health program/plan is found to be effectively implemented the compliance officer will terminate the inspection.

If the project does not qualify for a Focused Inspection, the compliance officer will conduct a comprehensive inspection of the entire project.

If you have any questions or concerns related to the inspection or conditions on the project you are encouraged to bring them to the immediate attention of the compliance officer or call the area office at:

\_\_\_\_\_.

\_\_\_\_\_ qualified as a **FOCUSED PROJECT**.

(Project/Site)

\_\_\_\_\_

(Date) (AREA DIRECTOR)

This document should be distributed at the site and given to the Contractor for posting.

**Figure 9-2** Construction focused inspections initiative.

their injuries. Tradeswomen may not report injuries because of their need to “prove” themselves to their fellow workers and to their bosses. During the course of the study, ACCSH personnel heard the following comments: “I didn’t ask for help. I ended up getting injured.” And “I ended up almost hurting myself just to try to prove that I can do the job as well as he can.”

The project superintendent should pay attention to the safety and welfare of company employees on the construction site, and he or she must pay equal attention to *all* workers employed on the project, including those of the subcontractors.

## CONSTRUCTION FOCUSED INSPECTION GUIDELINE

This guideline is to assist the professional judgement of the compliance officer to determine if there is an effective project plan, to qualify for a Focused Inspection.

	YES/NO
PROJECT SAFETY AND HEALTH COORDINATION; are there procedures in place by the general contractor, prime contractor or other such entity to ensure that all employers provide adequate protection for their employees?	<input type="checkbox"/>
Is there a DESIGNATED COMPETENT PERSON responsible for the implementation and monitoring of the project safety and health plan who is capable of identifying existing and predictable hazards and has authority to take prompt corrective measures?	<input type="checkbox"/>
PROJECT SAFETY AND HEALTH PROGRAM/PLAN* that complies with 1926 Subpart C and addresses, based upon the size and complexity of the project, the following:	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>_____ Project Safety Analysis at initiation and at critical stages that describes the sequence, procedures, and responsible individuals for safe construction.</li> <li>_____ Identification of work/activities requiring planning, design, inspection or supervision by an engineer, competent person or other professional.</li> <li>_____ Evaluation/monitoring of subcontractors to determine conformance with the Project Plan. (The Project Plan may include, or be utilized by subcontractors.)</li> <li>_____ Supervisor and employee training according to the Project Plan including recognition, reporting and avoidance of hazards, and applicable standards.</li> <li>_____ Procedures for controlling hazardous operations such as: cranes, scaffolding, trenches, confined spaces, hot work, explosives, hazardous materials, leading edges, etc.</li> <li>_____ Documentation of: training, permits, hazard reports, inspections, uncorrected hazards, incidents and near misses.</li> <li>_____ Employee involvement in hazard: analysis, prevention, avoidance, correction and reporting.</li> <li>_____ Project emergency response plan.</li> </ul>	
* FOR EXAMPLES, SEE OWNER AND CONTRACTOR ASSOCIATION MODEL PROGRAMS, ANSI A10.33, A10.38, ETC.	
<b>The walkaround and interviews confirmed that the Plan has been implemented, including:</b>	
<ul style="list-style-type: none"> <li>_____ The four leading hazards are addressed: falls, struck by, caught in/between, electrical.</li> <li>_____ Hazards are identified and corrected with preventative measures instituted in a timely manner.</li> <li>_____ Employees and supervisors are knowledgeable of the project safety and health plan, avoidance of hazards, applicable standards, and their rights and responsibilities.</li> </ul>	
<b>THE PROJECT QUALIFIED FOR A FOCUSED INSPECTION</b>	<input type="checkbox"/>

Figure 9-3 Focused inspection guideline.

Being aware of the demographics affecting accident rates, the superintendent can be more sensitive to the working environment of this increasingly varied and diverse workforce.

**OSHA’s metrification venture**

The metric system of weights and measures is used nearly worldwide, but not in the United States. Even though federal legislation was enacted in 1988 to begin the metrification of America and an executive order was issued in 1991 to augment



Public Law 00-418 on metrification, little has been done in that regard. OSHA's involvement in the metrification process is concerned with industrial hygiene matters since most biological, chemical, and physical sciences have long used the metric system. Time-weighted averages (TWAs), permissible exposure limits (PELs), and sampling and reporting forms all use the metric system.

<u>RANK IN FREQUENCY CITED</u>	1926.	
<b>#1</b>	<b>500(d)(1)</b>	GUARDRAILS NOT PROVIDED FOR OPEN-SIDED FLOORS OR PLATFORMS
<p><b>RULE:</b> <i>Every open-sided floor or platform 6 feet or more above adjacent floor or ground level shall be guarded by a standard ramp, or the equivalent, as specified in paragraph (f)(1) of this section, on all open sides, except where there is an entrance to a ramp, stairway, or fix ladder. The railing shall be provided with a standard toeboard wherever, beneath the open sides, persons can pass, or there is moving machinery, or there is equipment with which falling materials could create a hazard.</i></p> <p><b>INTENT:</b> Falls from elevations are the leading cause of fatalities in the construction industry. From 1985-1989, 33% of all construction fatalities [10] resulted from a fall from an elevation. One hundred-seventeen fatalities occurred when employees fell from open sided doors and through floor openings. This standard specifies that guarding must be provided for all open-sided floors and platforms 6 feet or more in height. It also specifies minimum requirement for the type of guarding. Paragraph (f) of the same section species the requirement of a standard guardrail system. TABLE 5.2-1 lists guardrail specifications for various materials. Where there is an open-sided floor/platform and there is a potential for a person to pass or a hazard is presented by machinery, toeboards are required. The intent is to contain any materials near the edge from inadvertently getting pushed over the edge where they may strike persons or machinery below. TABLE 5.2.2 lists specifications for toeboards.</p> <p><b>HAZARDS :</b></p> <ul style="list-style-type: none"> <li>• Falls from elevations: probable injuries range from death to fractures; Fall from lower elevations such as 4-6 feet have caused serious lost-time accidents and occasionally have been the cause of fatalities.</li> <li>• Struck by: the lack of material containment (toeboards) has caused both fatalities and lost-time accidents when falling materials have struck employees below.</li> </ul> <p><b>(AMONG OTHER) SUGGESTED ABATEMENTS :</b></p> <ul style="list-style-type: none"> <li>• Whenever an employee must work at any elevated location, ask the questions: 1) Are they protected from a fall? and 2) What measures must be taken to protect the employee at the elevated work location?</li> <li>• Fall prevention systems such as standard guardrail systems provide more positive means of protection than fall protection systems such as a bodybelt/harness-lanyard-lifeline combination, except when workers are suspended, i.e. working on suspended scaffolds, work platforms, etc.</li> <li>• Construct/maintain all guardrail systems according to OSHA requirements.</li> <li>• An acceptable method to preclude the use of toeboards, would be to determine the fall radius of materials on an open-sided door/platform. Place positive physical barrier outside the potential fall radius to keep workers and machines outside the danger zone.</li> </ul> <p><b>SELECTED CASE HISTORIES :</b> An employee taking measurements was killed when he fell backwards from an unguarded balcony to the concrete 96" below.</p> <p><b>COMMENTS :</b></p> <ul style="list-style-type: none"> <li>• Falls from elevations accounted for 14% of all lost-time accidents[6].</li> <li>• This standard was cited in 103 fatality/catastrophe inspections conducted by OSHA over a 4 year period.</li> </ul> <p><b>ADDITIONAL DOCUMENTS TO AID IN COMPLIANCE :</b> [1] Section 500 &amp; Steel Erection - 750 &amp; 752(k); [11]; [12]; [13]. [26] Part - 701(f)(2) - Concrete and Masonry Const.</p> <p><b>OSHA COMPLIANCE LETTER</b> Date 5/22/84; From-Directorate of Field Operations to Regional Administrators; Synopsis - Clarification of 1926.750(b)(1)(iii) stating that ½" wire rope or equivalent safety railing must be used around temporary planked or temporary metal-decked doom during steel erection operation. Raging also must be provided at leading edge if spreading stops for any significant time period. ½" synthetic or fiber rope would not be acceptable as a required safety railing for steel erection operations.</p> <p><b>OSHA COMPLIANCE LETTER</b> Date 1/13/81; From-Assistant Secretary to Int. Union of Bricklayers &amp; Allied Craftsmen; Synopses - Standards 1926.28, 1926.104, 1926.105 &amp; 1926.500(d)(1) do not apply to overhead bricklaying operations.</p> <p><b>OSHA COMPLIANCE LETTER</b> Date 2/13/86; From-Directorate of Field Operations to Individual Company; Synopses - When structural steel assembly including decking has been completed and other trades are working on the deck while concrete is being poured on the deck, the door must be guarded in accordance with 1926.500(d)(1).</p>		

Figure 9-4 Focused inspection relating to falls.

MAJOR SUBJECT COMBINED STANDARD TITLE	#(1)	DESCRIPTION OF EACH STANDARD FOR COMPARISON
<u>SCAFFOLDING</u>		
GUARDING SPECIFICATIONS	6 15 32	Guardrail specifications for tubular welded frame scaffolds General requirements for guarding Guarding specifications for mobile scaffolds
ACCESS	12 59	Safe access for all types of scaffolds Ladder/stairway affixed or built-in to mobile scaffold for access/egress
FOUNDATION SPECIFICATIONS	40 55 77 100	Sound, rigid, and load capable footings or anchorages for all types of scaffolds Plumb and sound base for mobile scaffold – casters locked Foundation specifications for tubular welded frame scaffold legs Locking or pinning legs to prevent uplift
<b><u>STAND ALONE STANDARDS</u></b> <b>32,43,51,71,76,82,85,91,92</b>		
<u>LADDER/STAIRWAY</u>		
STAIR RAIL REQUIREMENTS	8 74	Stair rails required @ 30" change of elevation or 4 risers Guarding or stairway edges and landings
DEFECTIVE LADDERS	45	Defective portable ladders tagged and taken out-of-service
LADDER ERECTION	75 21	Siting and securing ladders Ladders extended 3' above landings
<b><u>STAND ALONE STANDARDS</u></b> <b>37,63,65,66,67,81,90</b>		

Figure 9-4 (Continued).

Metric base units of measurement are as follows:

Unit measurement	Unit name	Symbol
Length	meter	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Amount of substance	mole	mol
Luminous intensity	candela	cd

MAJOR SUBJECT COMBINED STANDARD TITLE	#(1)	DESCRIPTION OF EACH STANDARD FOR COMPARISON
<u>ELECTRICAL</u>		
GROUND FAULT PROTECTION	3	Ground fault protection
	13	Ground fault circuit interrupters (GFCI's)
	64	Assured equipment grounding conductor program
CORD SPECIFICATIONS	25	Strain relief for cords
	24	Flexible cords designed for hard or extra hard usage
	46	Flexible cords and cables made suitable for specific conditions
SPECIFICATIONS FOR TEMPORARY LIGHTING	29	Protection and grounding for temporary lamps.
	72	Temporary lights suspended from electrical conductor cords
COVERED FOR BOXES, UNUSED OPENING, ETC	38	Covering provided for pull boxes, junction boxes, outlets, etc.
	41	Unused opening in boxes must be closed and conductors entering boxes must be protected from abrasion.
CONTROLLED ACCESS AND GUARDING OF EQUIPMENT OPERATING >600 VOLTS	30	Controlled access to installations operating at over 600 volts.
	70	Guarding provided for temporary wiring operating over 600 volts.
<u>STAND ALONE STANDARDS</u> <b>4,23,35,39,44,53,57,62,84</b>		

Figure 9-5 Focused inspection relating to electrical hazards.

The metric system entails the use of multiples or powers of 10 to describe magnitude greater or less than the basic units of the meter, gram, ampere, and so forth. For example,

- The *kilogram* is 1000 grams, and the *milligram* is  $\frac{1}{1000}$  gram.
- There are 100 *centimeters* to 1 meter and 1000 meters to 1 *kilometer*.
- There are 10 *deciliters* in 1 *liter*.

**Age as a safety factor**

Age is another factor affecting the rates of accidents. A study performed 5 years ago by *The Wall Street Journal* revealed that workers between the ages of 55 and 64 were nearly 4 times more likely to be killed by objects or equipment than younger workers. Although this study was an industrywide one and not devoted solely to construction, it presents another group of workers requiring closer scrutiny, from a safety standpoint, on the job site.

### Safety pays—in many ways

A good safety record rewards the general contractor in several ways. No one wants to see fellow workers injured, but somehow safety often takes a back seat to other seemingly important matters on the job site, such as scheduling workers and materials and proper scheduling. But safety pays in more ways than one.

Skilled workers are a shortage in today's marketplace, and when a productive crew has been assembled, a serious injury can affect not only crew size but productivity as well. The company's worker compensation insurance premiums are based upon accident and injury experience. When a company has a poor safety record and experiences multiple worker injuries, insurance rates can climb dramatically, to the point where corporate overhead can also increase by a percentage point or two. Since the cost of overhead is factored into every bid the company prepares, increased insurance costs and increased overhead costs may make the company noncompetitive in some of those hotly contested markets.

### Developing a Safety Program

The development and implementation of an effective and comprehensive safety and health program require, first and foremost, management leadership and commitment. Both must be ongoing and active—not just lying dormant until the next accident. Employee involvement should be encouraged in such activities as problem resolution, hazard analysis, accident investigations, and safety and health training.

The company safety program should cover the following:

1. A statement of company policy that simply expresses the company's commitment to protect its employees and those of its subcontractors.
2. The appointment, duties, and responsibilities of a safety director or safety coordinator.
3. Responsibilities of field supervisors in administering the plan and their relationship to the safety director or safety coordinator.
4. Procedures for reporting job-related injuries and illnesses.
5. Working rules and regulations of the safety program. This is the “nuts and bolts” of the program in which specific items of personal protection, procedures for operating power-actuated tools, and procedures for operating various pieces of equipment are set forth in detail.
6. A hazard communications (hazcom) program to conform with OSHA regulations.
7. Procedures for dealing with safety violations and violators.

### More on Hazard Communications

This program deals with the proper handling, storage, and use of products containing hazardous materials, as well as directions to follow if any of

these are ingested or come in contact with human skin or eyes. Violations of OSHA's hazcom regulations rank in the top 25 list of citations issued by that agency.

And leading the list of hazcom violations is failure to have all MSDS materials on file. The materials safety data sheet (MSDS) is a document provided by the manufacturer of the material containing hazardous components. By law, each company manufacturing such a product is required to prepare a sheet listing its hazardous nature, proper handling and storage instructions, and in case of contact or ingestion by a worker, the necessary first aid or medical procedures to follow.

Prior to shipment of the product to the job site, an MSDS is to be sent by the manufacturer to the general contractor's office for dissemination to the field. When the product does arrive on the job site, the provisions of the MSDS with respect to handling and storage are to be followed.

The field supervisor must keep an accurate and orderly file of all MSDS documents and ensure that all such products delivered to the job site have a corresponding data sheet. During an OSHA inspection, the inspector will most likely request a review of all MSDS documents, so they should be kept in an easily retrievable file.

Although the safety program's rules and regulations may have been formulated in the office, it will fall to the superintendent to strictly enforce the program in the field.

## **MSDS and Dust Control**

Five MSDSs submitted by drywall joint compound manufacturers were reviewed by the National Institute for Occupational Safety and Health (NIOSH), and each one warned workers to avoid generating dust when sanding taped drywall joints. Respiratory protection is recommended when dry sanding is used; four manufacturers recommended using "wet sanding" whenever possible, and the fifth manufacturer advised to cut dust exposure by providing ventilation.

Health experts estimate that thousands of construction workers are exposed to unhealthy levels of airborne dust and that at least 250 workers in all industries die each year of silicosis.

### **Dealing with drywall sanding**

Drywall sanding can be accomplished by dry sanding, wet sanding, and pole sanding. Wet sanding is generally avoided because of concern for drying time and also for the effect water might have on the finish texture of the drywall. Pole sanding increases the space between worker and the sanding surface, and while frequently used on ceiling tape joints, is less frequently used on walls. Dust exposures can be cut, according to NIOSH studies merely by changing from hand sanding to pole sanding which reduces the amount of dust close to the sander's nose and mouth.

Several systems are now on the market that use portable vacuums to capture airborne dust. NIOSH engineers compared dust exposure to workers using the conventional hand sanding and pole sanding method to those workers employing one of the commercially available vacuum sanding methods; vacuum sanding reduced dust exposures by 80 to 97 percent.

Unacceptable dust levels are often created when laborers use pneumatic jackhammers, drills, and chippers. Masons using dry chop saws to cut brick and block create high levels of harmful dust and simply using a wet cutting method is sufficient to greatly reduce, if not totally eliminate exposure to hazardous dust. Painters are complaining about high levels of silica in the air, in some cases 225 times the permissible levels, when employed on bridge painting projects where sand blasting has been used to prepare the metal surfaces.

By enforcing better methods to control airborne dust and debris, the project superintendent will create a much cleaner work environment. For workers this cleaner environment will be not only more comfortable, but less irritating to the eyes, nose and throat and result in a more productive atmosphere where absenteeism, frequent breaks and clean up time will be much less.

### **The Weekly Toolbox Safety Talk**

An overwhelming majority of contractors conduct weekly toolbox talk sessions at the job site. Relatively short in nature, ranging from 5 to 15 minutes, these weekly sessions are meant to highlight specific work tasks and remind attendees of the potential hazards associated with these tasks and safe working procedures to follow when performing these tasks. After the toolbox talk is concluded, usually each attendee inks a sign-in sheet, signifying she or he has attended this short training session and been informed about the safety procedures associated with the subject discussed. Refer to Fig. 6-7 for a sample of a typical weekly toolbox talk.

### **Enforcement of the safety program**

A typical disciplinary procedure portion of a company's safety program will probably read as follows:

Compliance with OSHA and company safety rules and regulations is a condition of employment at (company name). All employees working for (company name) will be trained in, and must familiarize themselves with, both OSHA and company safety rules and regulations before beginning work on a construction site. A copy of the company's safe work rules and procedures will be provided by your supervisor. Management personnel at all levels, including project managers, field supervisors, and foremen, are responsible for taking action when a violation is observed. If a violation is observed, they must take action immediately to correct the violation and enforce this disciplinary policy. Employees who fail to follow safety rules and regulations established to protect them and their fellow employees endanger themselves and others.

We have all been guilty of walking the job site during an important inspection or running late for a meeting and observing a safety violation. The tendency may be to continue on and make a mental note to stop back later to deal with the violation, but later may be too late to prevent a debilitating injury. When a violation is spotted, *stop*—bring it to the attention of the violator with a stern warning. The written report can wait until later in the day, but the verbal warning must be timely.

### A typical infraction warning procedure

The company may elect to have a system of three or four warnings before strict enforcement is instituted. A four-warning notification system will be similar to this one:

*First warning:* The first time an employee is observed violating any safety rule, the employee shall be given a *first warning*. The first warning will be an oral one and will be so noted in the employee's personnel file.

*Second warning:* The second time the employee is observed violating any safety rule, the employee shall be given a *second warning*. The second warning will be an oral warning accompanied by a written safety violation notice. A copy of the written safety violation will be given to the employee, to the employee's union steward (if applicable), and to the company's safety director. A copy of the notice will be placed in the employee's personnel file. The employee will be required to meet with the safety director for counseling.

*Third warning:* The third time an employee is observed violating any safety rule, the employee shall be given a *third warning*. The third warning will be a written safety violation notice. A copy of the written notice will be given to the employee, to the employee's union steward (if applicable), and to the safety director. A copy of the written notice shall be placed in the employee's personnel file. A meeting with the employee, his or her immediate supervisor, the safety director, and a representative of top management will be held to determine why the employee has failed to comply with the company's safety program—for the third time. Top management must determine what action will be taken at this time. One option open to management, which must be included in the disciplinary section of the safety program, is suspension from work. For example, the program might include a provision that states, "Employees who have accumulated three warnings in a 12-month period may be suspended from work, without pay, for up to one week."

*Fourth warning:* The fourth time an employee is observed violating any safety rule, the employee shall be given a *fourth warning*. A fourth warning will be a written safety violation notice. Employees who do not follow safety rules, especially after being warned several times previously, are a threat to themselves and to their coworkers. Therefore, employees who receive a fourth warning may, at management's discretion, be terminated from

employment or be subject to other disciplinary action deemed appropriate by management.

It is important that these warning notices, whether oral or written, be applied whenever a safety violation is observed. Consistency and fairness are key factors in administering any safety program. Employees will not take the disciplinary policy seriously if they know that safety violations have occurred, were observed by their supervisors, but no warning was issued.

### **What to do when an OSHA inspector appears at the job site**

When an OSHA inspector appears at the job site and requests permission to enter the site, the superintendent should be aware of the proper procedures to follow once the inspector arrives at the job trailer:

1. The inspector will make her or his presence known, and should be asked to present credentials, if not already offered. Make a photocopy of the inspector's credentials.
2. Ask about the nature of the inspection—is it routine or initiated by OSHA because of a complaint it received?
3. The inspector should be asked whether he or she plans to tour the entire site or just selected portions. The inspector should be confined to those areas relevant to the complaint.
4. The superintendent should call the office and advise the project manager or director of safety that an OSHA inspector is on site and the nature of the visit. Will either the project manager or safety director be available to walk with the inspector, or will the superintendent be designated to do so?
5. The superintendent should contact the crew supervisors for all subcontractors on site, tell them about an impending OSHA inspection, and request that they or their appointed representative accompany the inspector.
6. If the sole general contractor representative on the inspection tour, the superintendent should bring along pad and pencil to take notes. If a camera—digital, instant or otherwise—is available, bring that along as well.
7. If any OSHA-related documents are requested by the inspector, bring them along.
8. Do not volunteer information, and avoid making any statement that could be construed as a violation of any OSHA rule or regulation. This should be interpreted not as being uncooperative, but as being unfamiliar with all the OSHA regulations.
9. If the inspector takes samples, ask to take two of each so that you can retain one of each sample for your records.



10. If a violation is discovered and the inspector inquires about the time necessary to correct the situation, respond but without acknowledging the “violation.”
11. If possible, videotape the entire inspection process.
12. If citations are issued during the inspection tour, don’t voice an objection. Wait until you are officially notified of the violation. Then, after reviewing the “violation” and accompanying citation, respond, citing the company’s position.
13. A closing conference with the OSHA inspector should be requested to ensure that everyone understands the findings of the inspector.
14. Citations will be issued by OSHA’s area director, and when received, they are to be posted at the job site for 3 days. Any corrective work must be completed within the time frame indicated in the citation.

At the end of the inspection, there will be a closing conference; the inspector will review the results of the inspection and point out the violations observed. If any of the problems are minor, the OSHA inspector may request that your company submit an abatement plan within 10 days. If the problems uncovered are more serious, the inspector may simply state that time is needed to evaluate the findings and she or he will notify the company promptly.

It is likely that another inspection—a reinspection—will be scheduled, and it is important that detailed notes be taken all during this closing conference.

## Safety Program Forms

1. Safety violation notice for a company other than the general contractor or subcontractor (Fig. 9-6)
2. Safety violation notice to be issued to an individual (Fig. 9-7)
3. An accident/incident report (Fig. 9-8)
4. An accident/incident report for a minor accident (Fig. 9-9)
5. A witness statement to an accident/incident report (Fig. 9-10)
6. An emergency number list (Fig. 9-11)



<b>SAFETY VIOLATION NOTICE</b>	
<b>INDIVIDUAL</b>	
To: _____ _____ _____	Date _____ Time _____ Job # _____ Project _____ Location _____
ATTN: _____	
Individual _____	<input type="checkbox"/> Heffner & Weber Employee
Employer _____	<input type="checkbox"/> Subcontractor Employee
Craft _____	<input type="checkbox"/> Site Visitor
The individual identified above is not following safe practices as follows: _____ _____ _____ _____ _____	
Heffner & Weber requires that all practical effort be taken to eliminate or minimize exposure of workers to unsafe and/or unhealthy conditions on our job sites. Subcontractors and visitors are obligated to cooperate with this policy.	
<b>FAILURE OF A WORKER TO COOPERATE FULLY IN CARRYING OUT OUR SAFETY PROGRAM IS CAUSE FOR DISCIPLINARY ACTION INCLUDING REMOVAL FROM SITE, PROBATION, SUSPENSION AND / OR DISMISSAL.</b>	
Very Truly Yours,  _____	Received By  _____
Project Superintendent	For _____
	Date _____ Time _____

Figure 9-7 Safety violation notice issued to an individual.

## ACCIDENT / INCIDENT REPORT

Sheet 1

JOB NUMBER \_\_\_\_\_ DATE \_\_\_\_\_ SHEET \_\_\_\_\_

JOB NAME \_\_\_\_\_ SUPERINTENDENT \_\_\_\_\_

1. WAS ANYONE INJURED?  YES - ACCIDENT REPORT  NO - INCIDENT REPORT

2. Enter Data for all injured parties. Use second sheet if additional space is needed.

Name	Employer	Injury	Treatment

3. WERE THERE WITNESSES?  NO  YES - Enter below. Use second sheet if additional space is needed.

Name	Employer	Job Function	Location

4. PROJECT SUPERINTENDENT - DESCRIBE OBSERVATIONS AND IMMEDIATE RESPONSE ACTIONS TAKEN.

Line	Time	Observation / Action
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

Figure 9-8 Accident report.



**ACCIDENT / INCIDENT REPORT**  
MINOR

JOB NUMBER \_\_\_\_\_ DATE \_\_\_\_\_ SHEET \_\_\_\_\_

JOB NAME \_\_\_\_\_ SUPERINTENDENT \_\_\_\_\_

1. WAS ANYONE INJURED?  YES - ACCIDENT REPORT  NO - INCIDENT REPORT

2. Name Of Employee Injured \_\_\_\_\_ Employer\* \_\_\_\_\_

Describe Injury. \_\_\_\_\_

Was Medical Attention Required? Describe. \_\_\_\_\_

Treated By \_\_\_\_\_ Location \_\_\_\_\_

3. Name Of Witness(es) \_\_\_\_\_ Employer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Describe Work Being Performed At The Time Of The Accident / Incident And Applicable Safety Rules

\_\_\_\_\_

\_\_\_\_\_

5. Were Safety Rules Violated?  NO  YES (If YES Describe Violation)

\_\_\_\_\_

\_\_\_\_\_

6. Describe What Happened In Sequence.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. What Caused The Accident / Incident

\_\_\_\_\_

\_\_\_\_\_

8. Describe What Was Done Or Can Be Done To Prevent This From Taking Place Again.

\_\_\_\_\_

\_\_\_\_\_

9. Project Superintendent - Describe Observations And Immediate Response Actions Taken

\_\_\_\_\_

\_\_\_\_\_

Figure 9-9 Accident report for a minor accident.

**ACCIDENT / INCIDENT REPORT**  
**WITNESS STATEMENT**

JOB NUMBER \_\_\_\_\_ DATE \_\_\_\_\_ SHEET \_\_\_\_\_

JOB NAME \_\_\_\_\_ SUPERINTENDENT \_\_\_\_\_

**A. Witness Name And address**

Name \_\_\_\_\_ DATE \_\_\_\_\_ SHEET \_\_\_\_\_

Address \_\_\_\_\_ Home Phone \_\_\_\_\_

City \_\_\_\_\_ Work Phone \_\_\_\_\_

State ZIP \_\_\_\_\_ Employer \_\_\_\_\_

**B. Witness Description Of Accident / Incident**

Line	Time	Witness Statement
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		

Witness Signature \_\_\_\_\_ Date \_\_\_\_\_

Project Superintendent \_\_\_\_\_ Date \_\_\_\_\_

**Figure 9-10** Form to report witness statement relating to an accident.

EMERGENCY NUMBER LIST										
Project _____			Plat # _____			Tax # _____				
Location _____			Street _____			Address _____				
Job # _____			Project Superintendent _____			City _____		State _____		ZIP _____
EMERGENCY NUMBER					ADMINISTRATIVE NUMBER					
	Type Of Emergency Service	Name Of Emergency Provider	Emergency Telephone Number	Limits On Hours Of Operation	Limits On Capabilities	Non- Emergency Telephone	Point Of Contact	Address Of Emergency Provider	Fees / Pre-Use Agreements Or Contracts	
1	FIRE									
2	POLICE									
3	MEDICAL									
4										
5	Ambulance									
6	Hospital									
7										
8	Water Break									
9	Gas Leak									
10	Sewer Leak									
11	Elect - OH									
12	Elect - UG									
13	Tele - OH									
14	Tele - UG									
15	Cable - OH									
16	Cable - UG									
17	HazMat									
18	Environ									
19										
20										

Figure 9-11 Form to create emergency telephone number directory at the job site.





## End of Lesson Wrap-Up

Congratulations on completing this lesson! You've taken another important step in your journey to becoming a certified professional in the construction industry.

### Up Next: Quiz Time

Before we move forward, there's a short quiz waiting for you. Remember, this quiz isn't designed to trip you up but to reinforce your understanding of the concepts we've covered. It's a way to ensure that you have grasped the essential elements of the lesson and are ready to build on this knowledge in subsequent modules.

### You're Doing Great!

You're doing an excellent job so far, and we encourage you to keep up the momentum. Every quiz and lesson is a building block towards your ultimate goal of certification and professional advancement.

### See You in the Next Lesson!

We are excited to continue this journey with you and look forward to seeing you in the next lesson. Keep up the great work and stay motivated—your future in construction management looks promising!

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Keep learning, keep growing, and remember, we are here to support you every step of the way. See you soon for more learning and development

### Contact Information:

Construction Management Certification

Website: [www.ConstructionManagementCertification.com](http://www.ConstructionManagementCertification.com)

Email: [support@ConstructionManagementCertification.com](mailto:support@ConstructionManagementCertification.com)