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# Protective Equipment



◆ Before you read the text answer the following questions.



1. What kinds of safety equipment are used to protect workers on a construction site?
2. Why is it necessary to use protective equipment on a construction site?

1. Match the pictures with the items (A) and the kind of protection (B) they offer.

Types of personal protective equipment (PPE)	
A	B
1. harness	a. Respiratory protection
2. ear muffs	b. Eye protection
3. goggles	c. Hearing protection
4. dust mask	d. Hand protection
5. apron	e. Body protection
6. gloves	f. Foot protection
7. boots	g. Head protection
8. coveralls	h. Working from heights protection
9. helmet	i. Full body protection



(.....)



(.....)



(.....)



(.....)



(.....)



(.....)



(.....)



(.....)



(.....)

# 1

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2. Match the words with the pictures.

◆ *cutting* ◆ *grinding* ◆ *welding* ◆ *chipping* ◆ *sawing* ◆ *nailing*



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3. Match the words relating to potential hazards at a construction site with the pictures.

◆ *cut* ◆ *burn* ◆ *scrape* ◆ *electric shock* ◆ *fall* ◆ *contamination* ◆ *slip*



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4. Read the adapted webpage of a protective equipment supplier and then, in pairs, choose the appropriate headings for each paragraph.

- ◆ Hard hats
- ◆ Hand protection
- ◆ Face and/or eye protection
- ◆ Reflective/high-visibility garments
- ◆ Foot protection
- ◆ Work pants and work shirts
- ◆ Hearing protection
- ◆ Respiratory protection

## PPE for Construction Crews

There are so many potential hazards on a construction site, and personal protective equipment (PPE) is one of the workers' primary lines of defence. Each item is designed to minimize exposure to certain risks of injury or illness, as well as the damage caused by those hazards in the event of an accident.

Every individual construction site and job duty should be evaluated for specific and unique dangers, and appropriate personal protective equipment required. **Some common classes of hazards at construction sites** with risks that can be mitigated with appropriated PPE include electric shock, fall, excessive heat, etc.

It is important that workers use PPE that is properly fitted. Each piece should stay on securely without causing discomfort or limited mobility; clothing and other items should not be loose, as this creates dangers for tripping, getting caught in moving parts, etc.

..... These are essential at most construction sites. They protect against head injuries from swinging or falling objects, striking the head against something or accidental head contact with electricity. Hard hats must be inspected for dents, cracks and other damage



prior to each use; damaged ones should never be worn.

..... This often refers to steel-toe boots. Work boots should be worn on site that protect against crushed toes due to heavy or falling equipment or materials. They also need puncture-resistant, nonslip soles, as work surfaces can have sharp objects on them, and slips are a major hazard at the job site.



..... Different types of work gloves are needed for particular tasks and risks at construction sites. For example, there are heavy-duty leather and canvas gloves for protecting against cuts

and burns, welding gloves for welders, heavy-duty rubber gloves for working with concrete, insulated gloves with sleeves for working with electric hazards and chemical-resistant gloves for working with chemical agents.



Workers should protect their full legs, full arms, and torso against cuts, scrapes, burns and other superficial injuries with thick, flexible work pants and shirts. These should fit closely and never be baggy while allowing for maximum mobility.



Safety glasses or face shields should be worn whenever there is a risk of flying debris or harmful dust getting in the eyes. Cutting, grinding, welding, chipping and nailing are some activities that necessitate protective eyewear. Along with basic safety glasses, some other protective wear for the face include welding shields, chemical splash goggles, and dust goggles.



Chainsaws, jackhammers as well as other tools and heavy equipment create noise levels that can damage workers' hearing—especially after prolonged exposure. Pre-molded or formable ear plugs are usually the best choice but acoustic foam-lined ear muffs that tightly seal against the head can work well too.



Brightly coloured and/or reflective jackets, vests or other upper-body clothing are important for worker visibility. It's generally advisable to wear them at all times on a job site but it is especially crucial along active roadways, in poor lighting as well as for dusk and night-time work.

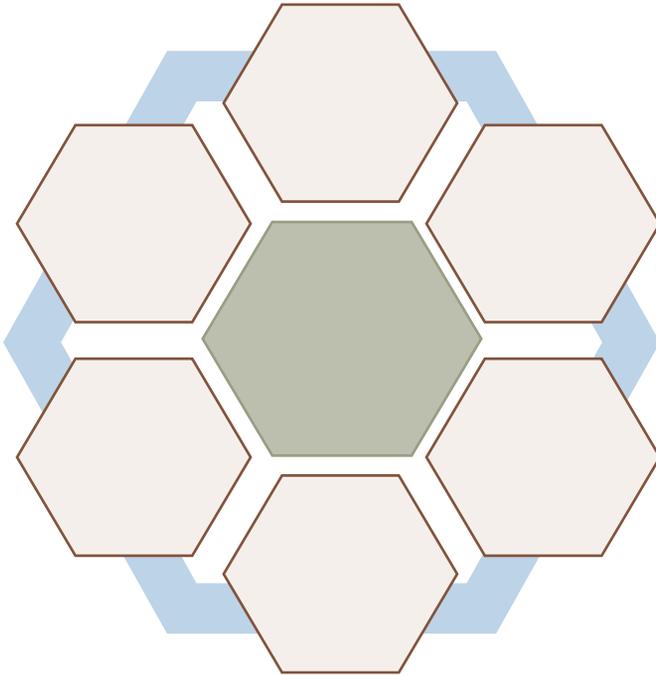


Another important class of hazards at sites are airborne risks. For the control of problems caused by breathing air contaminated by harmful dusts, fogs, fumes, mists, gases, smokes, sprays or vapours, the primary objective should be to prevent atmospheric contamination, as far as possible, by using appropriate respirators.



<http://www.trekkingroup.com/basic-personal-protective-equipment-ppe-construction-workers/>

5. Read the text again and then work in groups to complete the diagram with the different types of equipment for personal protection on construction sites.



- Are all of these types used in Greece?
- Whose responsibility is the protection from hazards on construction sites?
- Make a poster to present your work to your classmates.



## Modal Verbs

6. The following sentences appear in the text above. Underline the modal verbs and match them with the functions below.

obligation	ability	possibility	permission	advice
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- Some common classes of hazards at construction sites with risks that can be mitigated with appropriated PPE include electrical, fall, chemical, harmful dust, struck-by...
- They also need puncture-resistant, nonslip soles, as work surfaces can have sharp objects on them.
- Each piece should stay on securely without causing discomfort or limited mobility; clothing and other items should not be loose...
- Hard hats must be inspected for dents, cracks, and other damage prior to each use; damaged ones should never be worn.

7. Complete the sentences in the “Personal Protective Equipment Instructions” below choosing the correct modal verb. You can use the list to get some help.

Modal verbs
<p><b>ABILITY</b></p> <p>can / be able to could was able to</p>
<p><b>POSSIBILITY / PERMISSION</b></p> <p>can / may could / might</p>
<p><b>PROBABILITY</b></p> <p>should / ought + present infinitive should / ought + perfect infinitive</p>
<p><b>ADVICE</b></p> <p>should / ought to</p>
<p><b>OBLIGATION / DUTY / NECESSITY</b></p> <p>must mustn't have to / had to should / ought to</p>
<p><b>ABSENCE OF NECESSITY</b></p> <p>don't have to / don't need to / needn't didn't have to / didn't need to needn't + have + past participle</p>
<p><b>DEDUCTION / LOGICAL ASSUMPTION</b></p> <p>must + present / perfect infinitive can't / couldn't May / might / could</p>

1.	When reading these instructions, please keep in mind that some features of the equipment <b>may / must</b> vary slightly depending on the model.
2.	This guide aims at helping you use your PPE so that you <b>can / should</b> take advantage of the equipment.
3.	Hard hats <b>should not / cannot</b> be stored in direct sunlight, as UV light and extreme heat can cause damage.
4.	If a hard hat maintains its protective function, you <b>must / should</b> not always replace it, even if there is some damage.
5.	Place the PPE in a location where it <b>can / might</b> easily be used and worn as soon as you arrive on site.
6.	In an outdoor environment, the equipment provided <b>needn't / may not</b> be the proper one to use. In that case, the user <b>should / can</b> take adequate additional measures.
7.	You <b>must / should</b> follow the instructions and safety regulations at all times.
8.	You <b>don't need to / may not</b> worry as long as you have followed the above instructions regarding personal protection.

8. Match the verbs in bold to their meanings.

_____	1.	You <b>didn't need to</b> buy a new hard hat since the old one did not have any cracks or splits.	a	You are not allowed to...
_____	2.	You <b>had to</b> wear heavy-duty leather gloves to protect your hands from abrasion.	b	It's against the rules...
_____	3.	Workers <b>can</b> get their protective equipment from specialised online companies.	c	We were obliged to...
_____	4.	The constructor <b>might</b> as well provide the workers with additional protective equipment if necessary.	d	Is it OK if...
_____	5.	You <b>mustn't</b> ignore safety rules and regulations on construction sites.	e	It wasn't necessary...
_____	6.	You <b>can't</b> enter the construction site if no trespassers are allowed.	f	It's possible...
_____	7.	<b>Could</b> I please borrow your extra pair of goggles for eye protection?	g	Perhaps you can....





9. Read the following text and, in pairs, write possible questions that a reporter could ask a construction site inspector in relation to protection measures. Then, find another partner and role play a dialogue between the reporter and the inspector.
- If you are the reporter, use the questions you prepared!
  - If you are the inspector, be prepared to answer!

## How to Protect Yourself on Construction Sites



Personal Protective Equipment (PPE) should be used in almost every work environment and construction site. All workers must follow specific instructions which are intended to help users learn about the different types of PPE that can be used, how to determine which PPE they need for their work tasks and how to select and take care of their PPE.

Selecting the most suitable eye and face protection, the following elements should be taken into consideration: they must be able to protect against specific workplace hazards

and should provide unrestricted vision and movement. In addition, protective eye and face wear must comply with the National Standards. Potential hazards which may lead to foot and leg injuries include falling or rolling objects, crushing or penetrating materials, hot, corrosive or poisonous substances, electrical hazards, static electricity or slippery surfaces.

Scaffold safety is also an important topic which must not be ignored as falls are a leading hazard. You must always make sure thorough scaffold safety inspection is carried out by a competent person.

Large mobile scaffolds should be designed by an engineer. The mobile scaffold designer must have a clear understanding of the job site conditions, how the platform can be moved, the loads it needs to support, and the height and width it should have. A mobile scaffold's height oughtn't be more than four times its minimum base width. Mobile scaffolds shouldn't have side brackets or platforms.



10. Watch a video - or listen to your teacher talking - about respiratory protection on construction sites and mark the following statements as true (T) or false (F).




UNITED STATES  
DEPARTMENT OF LABOR



Occupational Safety and Health Administration
English | Spanish

ABOUT OSHA ▾ WORKERS ▾ EMPLOYERS ▾ REGULATIONS ▾ ENFORCEMENT ▾ TOPICS ▾ NEWS & PUBLICATIONS ▾ DATA ▾ TRAINING ▾

OSHA Videos / Respiratory Protection in Construction (Proteccion Respiratoria en la Construcccion)

## Respiratory Protection in Construction (Proteccion Respiratoria en la Construcccion)



Total Running Time: 10:13 mins - Date: January 2012  
[View the transcript](#)



Total Running Time: 12:43 mins - Date: January 2012  
[View the transcript](#)

[http://www.osha.gov/video/respiratory\\_protection/construction.html](http://www.osha.gov/video/respiratory_protection/construction.html)

## True or False?



		True	False
1.	Employers must provide workers too with worksite-specific training.		
2.	Asbestos makes you unconscious or kills you in minutes.		
3.	A good respirator will protect you against every hazard.		
4.	According to the standards, the workers themselves are responsible for correcting any problems they may have with their respirators.		
5.	It is the workers' union's responsibility to ensure that all of the requirements of the standard have been met.		
6.	It is necessary for the written protection programme to remain stable and unchanged over time in all workplace conditions.		
7.	The respiratory protection programme must be managed by a qualified, trained programme administrator.		

## 11. Watch and listen carefully again and answer the following questions in pairs.

- What does OSHA stand for?
- Give an example of what you can learn in a respiratory protection training.
- Name some respiratory hazards.
- What kinds of controls must an employer introduce when there are respiratory hazards at the job site?
- Does every respirator protect you against every hazard? Why / why not?



12. Watch and listen carefully again and complete the missing words in the following sentences.

1	If you are exposed to _____, you will need a different type of respirator.
2	The standard requires your employer to evaluate the respiratory _____ in the workplace.
3	Some of these requirements, such as training and fit testing, can be provided by an _____, including a union, an apprenticeship programme.
4	Since construction work settings change over time, the written programme must be updated as necessary to account for those changes in _____.
5	Notify your supervisor if something changes in your workplace that conflicts with, or may not be covered by, your _____.
6	This video has provided you with a brief overview of respiratory hazards in _____ and respiratory protection programme requirements.



13. Work in groups of three to four students and make a mind map with:

- types of accidents that may happen on a construction site, and
- ways those accidents could be prevented.



14. Some members of the construction workers' union are planning to organise local seminars on safety rules and protection on construction sites. Read their suggestions in the following spidergram. In your groups, classify them according to the order you wish them to be accomplished justifying your answers with reasons and results.



15. Discuss the following issues.

- a. Are safety protection rules followed strictly on construction sites in Greece?
- b. Whose responsibility is to establish the rules and the safety programmes' requirements?





16. Use the information in the protective equipment text and the photos to create a manual with instructions on safety and protection on construction sites. Write about:
- a. various ways of protection
  - b. reasons why safety rules are necessary
  - c. add any information you consider necessary.

## Construction Safety Guidelines



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