



# Module 3

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## Personal Protective Equipment The importance of Learning to Use the Appropriate Protection Tools



UNIONE NAZIONALE LAUREATI  
ESPERTI IN PROTEZIONE CIVILE





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## Module 3

# Unit 3.2. The Importance of Learning to Use the Appropriate Protection Tools

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# Objective of This Unit

This unit's goal is to provide the learners with knowledge of personal safety protection equipment and its correct use and maintenance.



# Learning Outcomes

The learners will be able to:

- Apply and use Personal Protective Equipment



# How to use PPE

In this presentation, we will provide instruction of how to use and maintain the following PPE:  
The most utilized PPE are the following:

1. Protection helmet
2. Protection goggles
3. Ear protection
4. Fire shelter
5. Protective clothing



# How to use PPE

## 1. Hard hat

### The firefighter must:

- wear the hard hat in the correct position, to minimize impact;
- Wear a lighter helmet for forest fires;
- Not wear hard hats backwards;
- Never wear metal hard hats;
- Always wear a hard hat with an internal suspension of at least 30 mm;
- Wear a hard hat equipped with chin straps.

### Maintenance care:

- Repair damaged helmets;
- Inspect the harness frequently, looking for signs of deterioration, and replace it, if needed;
- Remove chemicals, oils and petroleum derivatives from the shell, as these can soften it and reduce the helmet's protection capacity



Hard hat for forest fires



Source:  
Guerra, 2005  
PPE: A short guide

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# How to use PPE

## 2. Protection goggles

- Goggles should be used in forest fires, and create a seal, surrounding the orbital region in contact with the face.



Source: Guerra, 2005



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# How to use PPE

## 3. Ear protection

- Firefighters can use ear plugs or ear protectors
- The use of ear protectors should not interfere with the firefighter's use of a face piece of a breathing equipment or a hood



Source: Guerra, 2005



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# How to use PPE

## 5. Fire shelter

- A fire shelter should only be deployed if all other exit routes are blocked

### Steps for deployment:

1. Discard packs and remove the shelter
2. Clear the area (if you have time)
3. Shake out the shelter
4. Get under the shelter
5. Push out the tops and sides
6. Hold the shelter down



# How to use PPE

## 6. Protective clothing

### Hood

Firefighters must wear appropriate hoods for the type of fire they are facing

Hoods for forest fires have a smaller opening, in order to protect the nose and the mouth



A – Hood for forest fires;



# How to use PPE

## 6. Protective clothing

### Jacket and trousers

- Jackets and trousers worn by firefighters should be flame resistant
- Firefighters should **never** wear synthetic windbreakers or jackets
- Trousers should have the proper length to cover the boot tops, to keep out embers
- Both jacket and trousers should have a loose, comfortable fit, that allows the firefighter to move without being restricted



# How to use PPE

## 6. Protective clothing

### Gloves

- Leather gloves are almost always used
- Gloves should fit properly to avoid blisters

### Protective boots

- Firefighters can wear leather or rubber boots, depending on the job
- Boots should be made of a resistant material and have a non-slip sole
- Boots should be free of oil, grease, chemicals and residues
- They should be kept in a dark and fresh place.

### High Visibility Clothing

- The most used item is the vest
- It should be made of a reflective material, in a fluorescent yellow or red/orange colour, with two horizontal reflective bands around the torso, 50 mm wide each



# Additional Training Material

Here you can find additional resources and references to the previous topics:

Guerra, A. M. (2005). *Segurança e Proteção Individual, Manual de Formação Inicial do Bombeiro*. Sintra: Escola Nacional de Bombeiros.

Kiesling, J. (2018). How to Use Respiratory Protection. Retrieved at: <https://www.industrialfireworld.com/530355/training-day-4>, viewed 30 June 2021.

Minnesota Department of Natural Resources. *Personal Protective Equipment (PPE): A Short Guide*. Retrieved at: <https://files.dnr.state.mn.us/forestry/wildfire/rxfire/protective equip.pdf>, 5 October 2020.

Delatorre, A. (2020). Fire Shelter Deployment: How to do it right. *The Supply Chace*. Retrieved at: <https://www.supplycache.com/blogs/news/fire-shelter-deployment-how-to-do-it-right>, viewed 29 June 2021.

## SUMMARY of the UNIT

In this unit, the following aspects were covered:

- The importance of learning to use the appropriate
- How to manage and apply Personal Protective Equipment



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