



PPE: HEARING PROTECTORS

CODE

SHR 107

Date:

July 2003

Revision:

01

Page:

1 of 3

HEARING PROTECTORS

TYPE

- **Ear defenders:** cover the ears and are fitted to the head by soft cushions. They are generally filled with plastic foam or liquid and are normally covered with a material that absorbs sound. They are joined together by a headband that is generally made of metal or plastic. Sometimes a flexible band is attached to each earmuff or to the harness close to the earmuffs. This band is used to hold the earmuffs when the harness is worn on the nape of the neck or under the chin.
- **Ear defenders attached to a helmet:** these are earmuffs on arms that are attached to an industrial safety helmet. They can be adjusted so that they can be placed over the ears when necessary.
- **Ear plugs:** hearing protectors that are placed in the ear or the ear canal to block sound. Sometimes they have a cord to connect them together or a harness.
- **Noise reduction helmets:** cover the ear and most of the head. They also dampen the transmission of sound waves to the cranial cavity, which reduces the bone conduction of sound to the inner ear.
- **Other types**
 - *Sound-level-dependent protectors:* designed to provide increasing protection as the sound level increases.
 - *Active noise reduction protectors (ANR protectors):* hearing protectors that incorporate electro-acoustic circuits to partially dampen the sound that enters, in order to increase the user's protection.
 - *Headset hearing protection:* ear defenders linked to communication equipment that need an aerial or cable to transmit signals, alarms, messages, etc.





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01

Page:

2 of 3

PROTECTION

Hearing protectors must protect against the following hazards:

- Hazards due to noise (sound level, frequency, etc.).
- Hazards due to inability to identify signals or understand words properly.
- Thermal hazards (soldering work, etc.).
- Hazards due to badly fitting hearing protectors (weight, pressure, adaptation, etc.).

MARKING

Hearing protectors must be marked with the following elements:

- The CE marking.
- The trademark or identification of the manufacturer.
- The number of the standardised regulation used to assess conformity with essential health and safety requirements.
- The model name or reference number and date of manufacture (at least the quarter and the year).

SELECTION: RECOMMENDATIONS

- Before personal protection equipment is purchased, the **table of risks** should be completed to obtain more accurate criteria.
- The **manufacturer's information booklet** should be considered, and must include the following useful information:
 - Name and address of the manufacturer or authorised representative.
 - Name of the hearing protectors (trade name or code) and name of the European regulations.
 - Classes of protection and explanation of markings.
 - Storage, use, maintenance, cleaning and disinfection.
 - Expiry date or service lifetime, etc.
- The use of a hearing protector should not affect perception of speech, hazard warning signals or any other sound or signal required to carry out the user's activity properly.
- Ear plugs should be used for continuous use, particularly in hot, humid environments, or when they need to be used with goggles or other protectors.
- Ear defenders or ear plugs that are joined by a band should be reserved for intermittent use.
- In extremely noisy environments, noise reduction helmets or a combination of ear plugs and ear defenders should be used.

SAFETY AND HYGIENE REGULATIONS



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PPE: HEARING PROTECTORS

CODE

SHR 107

Date:

July 2003

Revision:

01

Page:

3 of 3

SELECTION OF PERSONAL PROTECTION EQUIPMENT (PPE): HEARING DEFENDERS

TYPES	CHARACTERISTICS
EAR DEFENDERS	These cover the ears and are fitted to the head by soft cushions. They are generally filled with plastic foam or liquid and are normally covered in a material that absorbs sound. They are joined together by a headband that is generally made of metal or plastic.
EAR DEFENDERS ATTACHED TO A HELMET	Earmuffs on arms that are attached to an industrial safety helmet.
EAR PLUGS	Hearing protectors that are placed in the ear or the ear canal to block sound.
NOISE REDUCTION HELMETS	These cover the ear and most of the head. They also dampen the transmission of sound waves to the cranial cavity, which reduces the bone conduction of sound to the inner ear.
OTHER TYPES	<ul style="list-style-type: none">- Sound level-dependent protectors: designed to provide increasing protection as the sound level increases.- Active noise reduction protectors (ANR protectors): hearing protectors that incorporate electro-acoustic circuits to partially dampen the sound that enters, in order to increase the user's protection.- Headset hearing protection: ear defenders linked to communication equipment that need an aerial or cable to transmit signals, alarms, messages, etc.