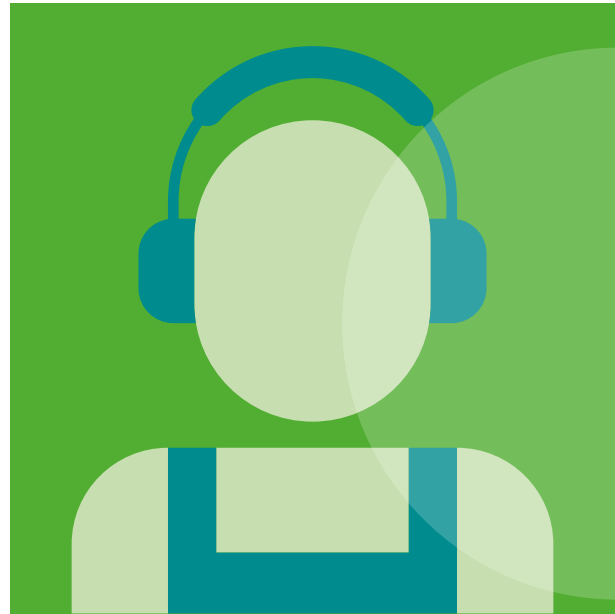


Instruction  
Personal Protective Equipment



# Hearing protection

Guidance for occupational instructions

# What can we do to prevent too much noise?

## Facts

Noise is sound experienced as being uncomfortable or annoying. Irrespective of whether they are experienced as being comfortable or uncomfortable, sound levels beyond a certain threshold endanger health.

Whether a sound is perceived as loud or quiet, depends on the sound intensity or sound pressure. The measurement unit for noise is the sound level, expressed in decibels, dB(A).

## Which risks exist?

### Hearing loss

Too much noise can cause hearing damage. Hearing loss is caused by destruction of the hair cells in the inner ear.

**Hearing loss cannot be rectified or cured.**



Not being able to see, separates one from objects – not being able to hear, separates man from man.

## How to protect?

The extent to which safety measures must be implemented depends on the daily noise exposure limit of  $L_{EX,8h}$ , (average exposure in an 8 hour shift) or peak emission sound pressure level,  $L_{pCpeak}$ , referred to in the directive on noise and vibrations at the workplace are reached or exceeded.

### Workplaces with noise exposure

$L_{EX,8h} \geq 80 \text{ dB(A)}$  or  $L_{pCpeak} \geq 135 \text{ dB(C)}$

The company shall make suitable hearing protection available for every employee working at a workplace with daily noise exposure

limit of 80 dB(A) and higher or peak emission sound pressure level of 135 dB(C) or higher.

The company shall provide occupational medical examination.

### Workplaces in noisy areas

$L_{EX,8h} \geq 85 \text{ dB(A)}$  or  $L_{pCpeak} \geq 137 \text{ dB(C)}$

Work places with daily noise exposure limits of 85 dB(A) or higher or peak emission levels of 137 dB(C) or higher are noise areas and shall be marked. In noisy surroundings it is mandatory to wear hearing protection.



**Hearing protection helps to prevent the risk of hearing damage!**

In marked noisy surroundings, hearing protection shall be used consistently.

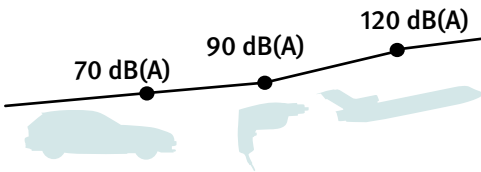


**The following rules shall be observed:**

- Hearing protection shall always be used in noise areas, even in the case of a short stay.
- Hearing protection shall be treated carefully and stored in such a way as to protect from damage and/or contamination.
- Ear plugs are available in different sizes (selection according to the size of the ear canal).
- Participation in occupational medical examination is obligatory.

**FREQUENT SPECIFIC SOUNDS**

Communication	60 dB(A)
Car travelling at 50 km/h	70 dB(A)
Hand drill	90 dB(A)
Circular saw	100 dB(A)
Jet airplane starting	120 dB(A)



## Correct use of hearing protection

Hearing protection prevents uncomfortable and hazardous sounds from reaching the inner ear. Hearing protectors are foreign bodies that you have to get used to.

To safeguard the hearing ability certain inconveniences have to be accepted. In addition perception difficulties arise as auditory perception is altered due to hearing protectors. Warning signals, machine and engine noise will sound different than usual.

It is therefore necessary to pay increased attention when using hearing protection, especially in the beginning to avoid hazardous situations.

**HEARING PROTECTION DEVICES**



**Earmuffs**

- suitable for frequent, but short use



**Clamp ear protection**

- finished form
- seals the ear canal
- suitable if plugs are poorly tolerated in the ear canal



**Earmold (Otoplastic)**

- Individually formed
- Suitable for longer use
- Multiple use



**Ear-plugs**

- Have to be shaped before use
- Suitable for longer use
- Can be used only once

**Tip**

The correct use of ear muffs, ear plugs and other hearing protection must be trained.

## Picture credits:

**On the right side:** BG ETEM/Harald Frey

Capsule ear protection, clamp ear protectors,  
ear-plugs: UVEX SAFETY GROUP GmbH&Co.KG  
Otoplastic: Phonak AG

## Hearing Protection

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