

Too often the negative effects of noise in our everyday life at home or at work are badly known and are underestimated.

Yet the consequences can be serious and irreversible.

In order to remedy that, it is essential to be aware of the dangers and risks, and of the steps to be taken in the area of sound insulation and protective equipment.

What is sound ? Its consequences ?

Sound is a vibration (wave) in an environment (air for instance), whose pitch is higher or lower (frequency, expressed in Hertz) .

There are various characteristics to those waves:

1/ Their frequency (i.e. the number of vibrations per second, expressed in Hertz – Hz = 1 vibration per second).

High-pitch sounds have a high frequency, low pitch sounds have a low frequency.

2/ The sound intensity is expressed in decibels (dB)

It is said that a noise exceeding 85 dB should trigger an alert, and that beyond 90dB, it becomes dangerous.

However, a noise can also be dangerous because of its frequency, its duration, its nature (continuous, intermittent, sudden, etc...) etc...

In addition to auditory stress and gradual industrial deafness, noise can have adverse effects on work quality and result in psychosomatic effects in individuals (stress, tiredness, anxiety, etc.).

Standards

EN352-1

« Hearing protectors.
- Part 1: Ears-muffs.

EN352-2

« Hearing protectors.
- Part 2: Ears-plugs.

EN352-3

« Hearing protectors.
- Part 3: Ears-muffs attached to an industrial safety helmet.

The regulation on material has recently changed with the registering of the European directive 2003/10/CE by the decree no. 2006-892 of July 19th 2006.

Since 2006 the exposure thresholds have been lowered. The first exposure threshold from which action has to be taken is 80dB (A) for 8 hours.

Daily exposure times to the noise requiring action

Noise level in dB (A)	Maximum exposure time
80	8h
83	4h
86	2h
89	1h
92	30 min
95	15 min
98	7.5 min

Being exposed for 8 hours to 80 dB (A) is exactly as dangerous as being exposed to 89 dB (A) for 1 hour!

EN352-4

« Hearing protectors.
- Part 4: Level-dependent ear-muffs.

EN352-8

« Hearing protectors.
- Part 8: Entertainment audio ears-muffs

