



Weekly Safety Meeting

Your Safety Is Our Business®

Volume 4 – Issue 16

April 16th, 2017

Hearing Safety

Noise is unwanted sound that can affect job performance, safety, and your health. Psychological effects of noise include annoyance and disruption of concentration. Physical effects include loss of hearing, pain, nausea, and interference with communications when the exposure is severe.

Hearing protection is essential when noise exposures can't be controlled at their source or sufficient distance cannot be achieved between you and the source. Both earplugs and earmuffs provide a physical barrier that reduces inner ear noise levels and prevent hearing loss from occurring. However, people often resist wearing these or use them incorrectly.

Employees resist wearing hearing protection more than any other type of personal protective equipment. One reason is, they don't think they really need it. But hearing loss occurs so gradually (even in intense exposures) that by the time you notice it, irreversible damage has already occurred. Another reason for not wearing hearing protection is that it can feel uncomfortable. Sometimes workers "spring" the muffs so they don't seal properly against the head or snip off the inner portion of ear plugs leaving only the outer end to fool their supervisor. If you feel the need to do this, see your supervisor about obtaining a different type or style that fits you correctly and comfortably.

Slight initial discomfort may be expected when a good seal between the surface of the skin and the surface of the ear protector is made. The amount of protection you obtain depends on obtaining a good seal and even a small leak can substantially reduce the effectiveness of the protector. Remember to check the seal several times each day. Protectors, especially ear plugs, have a tendency to work loose as a result of talking or chewing and must be resealed occasionally.

Three factors may be used to determine the level of noise:

1. If it is necessary for you to speak in a very loud voice or shout directly into the ear of a person in order to be understood, it is likely that the exposure limit for noise is being exceeded.
2. If you have heard noises and ringing noises in your ears at the end of the workday, you are being exposed to too much noise.
3. If speech or music sounds muffled to you after leaving work, but sounds fairly clear in the morning when you return to work, there is no doubt about your being exposed to noise levels that can eventually cause a partial loss of hearing that can become permanent.

If any of these conditions exist, a safety professional, using a sound level meter, should measure the noise level at various work areas. He or she can then determine whether the exposure is great enough to require personal protection.



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Here's how to protect your hearing:

- Reduce the noise reaching your ears. Nothing can totally block sound, but some hearing protection devices block out part of the noise.
- Electronic hearing protection devices permit conversations and warnings to reach the ear, but prevent harmful sound-pressure levels. Other electronic hearing protectors pick up and amplify desirable sounds. Some earmuffs or earplugs combine with communication systems for use in noisy areas.
- Earmuffs, filled with liquid or foam, come in various styles for function and comfort. Earmuffs are fitted with a headband made of metal or plastic. Some headbands can be folded or put around the front or back of the neck in various positions. Cooling pads are even available for earmuffs worn in hot work environments.
- Earplugs can be pre-molded to fit all wearers, or custom molded to fit exactly. They can be made expandable or non-expandable, and may be either reusable or disposable. Earplugs are available on cords you can wear around your neck so you can take earplugs out and put them in easily.
- Ensure your hearing protection is comfortable, fits properly and is compatible with other personal protective equipment (PPE) such as a hardhat.
- Check out specially designed hearing protectors made to wear with other PPE. They attach to slots and brackets on hardhats or helmets for combined hearing, head, and face protection.
- Cooperate with your workplace's hearing protection program. Take the regular hearing tests and wear recommended personal protective equipment. Take good care of your PPE by cleaning it according to the manufacturer's recommendations and replacing it as needed.

Prevention begins with identifying noise sources and evaluating workers' exposures to find out if noise exposure is hazardous. When a hazard is found, employers are required to make changes to reduce or eliminate the noise hazard and educate the workforce about noise and hearing conservation.

Noise reduction rating (NRR)

- Standardized measure of noise reduction provided by a hearing protector as measured in the laboratory; and
- Provides for a comparison when choosing a suitable protector for the intended use.

If you are using an air tool where the level of noise exposure is 100 dB and you are wearing earplugs with an NRR 33dB, your level of exposure would not be reduced to 67 dB..

Instead, to determine the actual amount of decibel deduction applied (when decibels are measured dBA which is the most common), you take the NRR number (in dB), subtract seven, and then divide by two.

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NRR Change – example:

- Given the previous example, your noise reduction equation would look like the following:
 $(33-7)/2 = 13$.
- This means that if you are using an air tool with a level of noise exposure at 100 dB and you are wearing a hearing protector with an NRR 33 dB, your new level of noise exposure is 87 dB.
- If you are wearing a product with an NRR of 27 it would deduct 10 decibels ($27-7/2=10$).

Hear today gone tomorrow...use your hearing protection!!

