



Noise Control

Hearing Conservation



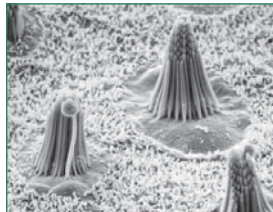
Hearing Conservation

Why this topic?

Noise control is one of the OSHA Standards that has been in place since the beginning of OSHA regulation. The purpose of the standard is to control noise exposures so that employees don't lose their hearing as a result of industrial exposure. There are very simple requirements that are easy to follow.

Basics of Sound

You can hear sounds because your inner ear sends signals to the brain. The inner ear has thousands of tiny "sensory hairs" within it. When NOISE is detected, the "sensory hairs" vibrate, and send a signal to your brain. If the hairs vibrate too much, they can be damaged. If that happens, it can be temporary, or permanent. That's why we have to LIMIT industrial noise exposure!



Inner hair cells transmit to nerve endings that send the message to the brain.

Measuring Sound

When a SOUND LEVEL METER is used, it's used to measure how much noise is at a particular area. When a NOISE DOSIMETER is used, it measures how

much noise you are exposed to while at your work area. The measurement is a unit of intensity, called a DECIBEL, abbreviated as dBA.

The Hearing Conservation chart below shows the basic action required at four different sound levels. First, the noise must be sampled to determine what decibels the area produces over an eight-hour period. IF the sound level is UNDER 85 decibels, no requirements apply. If the reading is between 85 and 90 decibels, the affected persons must receive an annual hearing test and receive training on how to properly use HEARING PROTECTIVE EQUIPMENT (HPE). At 90 decibels and above, the company



(left to right) Noise Dosimeter, Sound Level Meter, Calibrator

must look at practical ways of isolating or insulating noise from or at the work stations. An example of that would be noise isolation or insulation at a planer room, or at an operator control booth when lumber or logs are cut. FINALLY, job rotation if noise is at or above 115 decibels. The company must post HIGH NOISE area warning signs.

Hearing Conservation Exposure Levels Over an 8-Hour Exposure

If Sound Level Is	These Requirements Apply	Applies To
Under 85 Decibels	1. Sample the noise level 2. Under 85 dBA, no action.	Any persons in the work area where noise is generated.
Over 85 Decibels	1. Annual Hearing Test 2. Provide hearing protective equipment and train employees in proper use.	All persons who are exposed at 85 dBA and above.
Over 90 Decibels	1. All of the above 2. Evaluate for feasible engineering controls such as isolation or insulation.	Equipment location where persons are exposed at 90 dBA and above.
Over 115 Decibels	1. All of the above 2. Post signs warning of high noise areas. 3. Implement job rotation.	All areas where noise levels are 115 dBA and above.



Types of Hearing Protection

The picture below represents a few types of HEARING PROTECTIVE EQUIPMENT (HPE). The two major types of equipment are ear plugs and ear muffs. Some types of ear plugs have cords on the ends, and some don't. When these devices are used, the noise that reaches your inner ear is reduced.



Sometimes, you might see the words Noise Reduction Rating (NRR) on the product container. For example an NRR of 22, means that whatever the NOISE level is, it's REDUCED by that number. If you're exposed to 92 decibels, and the NRR is 22, you actually get exposed to $(92-22=70)$ 70 decibels. And that number is BELOW 85, which is what is required.

TRAINING SIGN-IN SHEET

Company Name: _____ Date: _____

Subject: Noise Control - Hearing Conservation

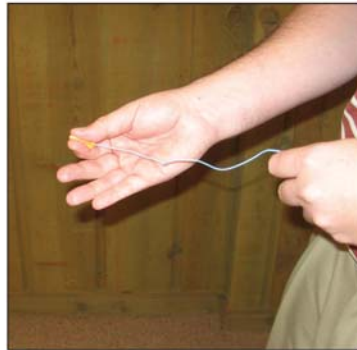
The following employees participated in this training. Sign and print your name.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

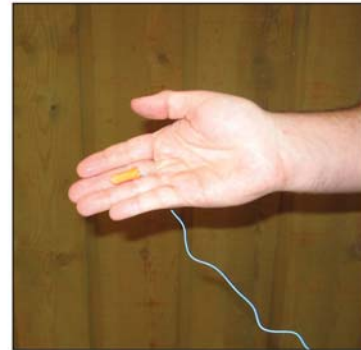
PROPER APPLICATION OF FOAM EAR PLUGS



STEP 1 Get a clean set of ear plugs and read instructions if necessary.



STEP 2 Gently roll the plugs between your fingers . . .



STEP 3 The rolled plug should look like this.



STEP 4 Lift pinna to stretch the ear canal and gently insert the plug into your ear canal.



STEP 5 Gently hold your finger against the outside of the ear plug.



STEP 6 Allow the plug to expand. You should hear "less sound" as the ear canal fills up with the plug.

