

# Hearing Conservation

29 CFR 1910.95



# Purpose

- To help protect your hearing, the Company has established a Hearing Conservation Program,
- The hearing conservation program contains five components: sound surveys, noise controls, hearing evaluations, hearing protection, and employee training.

# Purpose

- The purpose of the hearing conservation program is to reduce or limit noise exposure, protect our employees from noise exposure, and provide early detection of hearing loss.
- All employees must participate in order for the hearing conservation program to succeed.

# Sound Surveys

- Sound surveys are used to identify work locations where hazardous noise levels exist.
- Employee exposures to noise are monitored periodically with a sound level meter.

# Sound Surveys

- Work locations where hazardous noise levels normally exist should be identified with signs that say:
  - “Caution – Ear Protection Area”
  - “Hearing Protection Required”
  - or some similar wording.



# Noise Controls

- Whenever possible, noise will be reduced or eliminated by modifying existing equipment and by considering noise characteristics when purchasing new equipment.
- It will not be possible to eliminate all loud noises in the work place, but efforts should be made to minimize noise exposure where possible.

# Hearing Evaluations

- Audiometric testing will be made available to all employees working in the plant at no cost to the employee.
- Testing labs will be used to conduct the annual audiometric testing at the plant.
- All employees are encouraged to take advantage of this service, but they will not be required to have their hearing tested.

# Hearing Evaluations

- Hearing is measured with an audiometer that sends tones to each ear through headphones.
- You listen carefully and respond each time you hear a tone.
- The levels at which you can barely hear the tones are your hearing threshold levels.

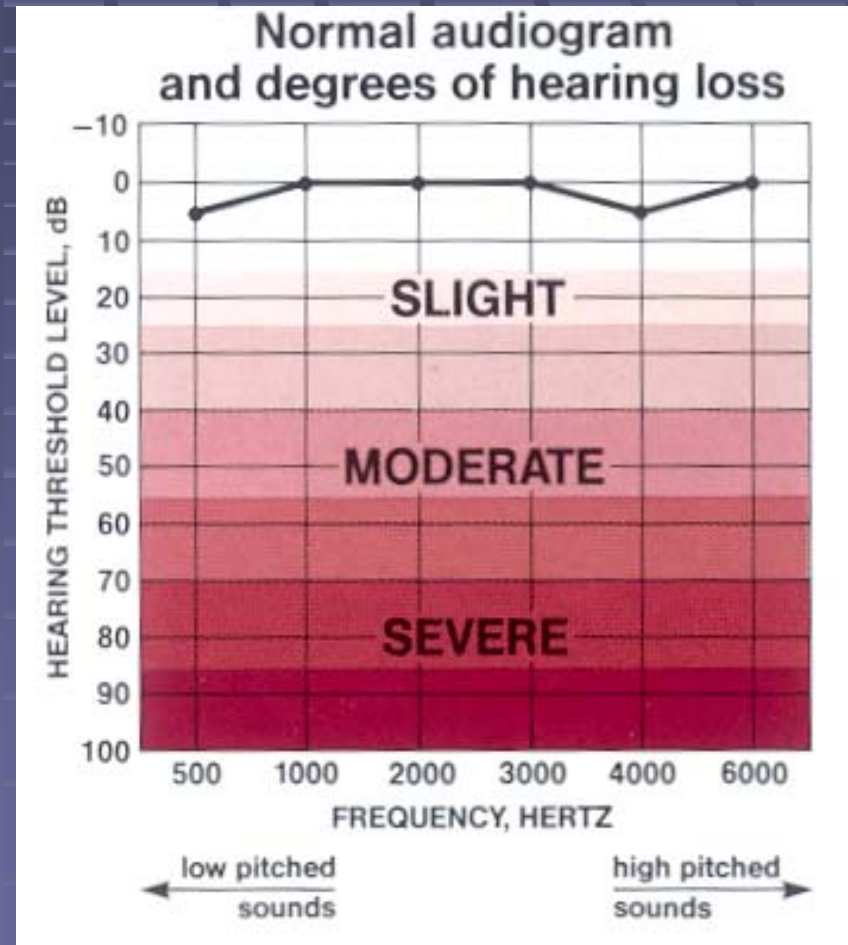


# Hearing Evaluations

- Audiograms are charts that are used to record your thresholds, measured in decibels, for tones at different pitches or frequencies, measured in Hertz.
- A baseline audiogram shows your initial hearing status and is used for comparison to future audiograms.
- The baseline audiogram will be established within 6 months of the employee's first exposure to the noisy work environment.

# Hearing Evaluations

- Normal thresholds fall within the unshaded area on the chart. When hearing loss occurs the thresholds fall into the shaded areas, meaning sounds must be increased in level for you to hear them.



# Hearing Protection

- Personal hearing protection can be very effective at protecting your hearing, but only if the devices fit properly and are worn correctly.
- The more carefully you select and wear hearing protectors, the higher your protection will be.

# Hearing Protection

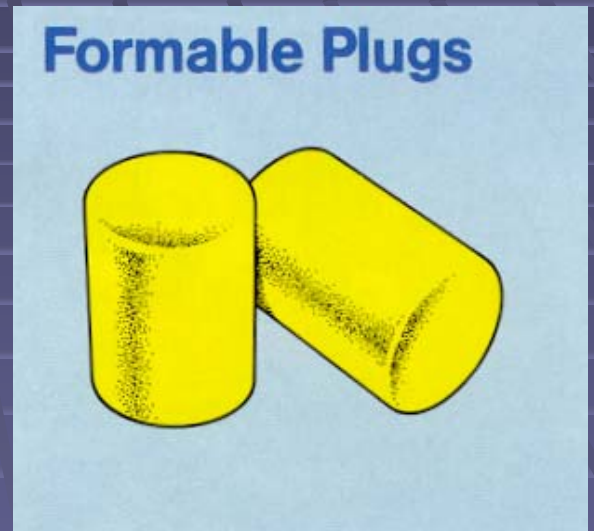
- Hearing protection is labeled with a Noise Reduction Rating (NRR) that is typically in the range of 20 to 30 decibels.
- In practice, the protection that normally can be achieved is about 10 to 20 decibels.

# Hearing Protection

- There are four types of hearing protectors: formable plugs, premolded plugs, semi-aural devices, and earmuffs.
- Each type of protection has advantages and disadvantages.
- Individuals should select the type of protection that works best for them.

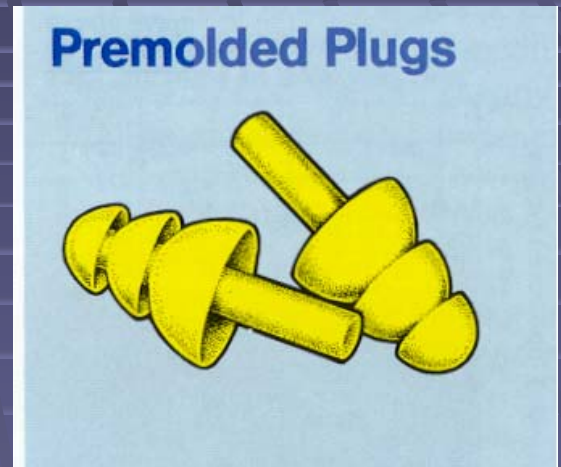
# Formable Plugs

- **Formable Plugs** are compressed or shaped prior to insertion into the ear.
- The most popular type is made of expandable, slow-recovery foam.
- One size fits most everyone.
- Once in the ear, foam plugs gently expand to provide a snug and secure custom fit.
- Most people find formable plugs to be the most effective and comfortable type of hearing protectors.



# Premolded Plugs

- **Premolded Plugs** are made from flexible materials that are preformed to fit the ear.
- Most premolded plugs are sold in different sizes and must be individually sized for each ear.
- If you have difficulty getting used to your earplugs you should try a different size or type of hearing protector.





# Fitting Tips

- The check to see if your earplugs are properly fitted is to press firmly cupped hands over your ears while listening to a steady noise.
- If your earplugs are properly fitted, the noise levels should be about the same whether or not the ears are covered.



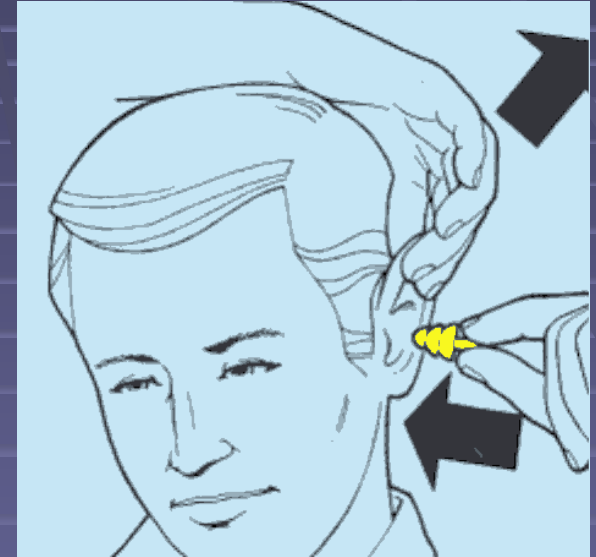
# Fitting Tips

- Formable plugs are fitted by slowly rolling and compressing the foam plug into a very thin cylinder then, while compressed, insert the plug well into the ear canal.



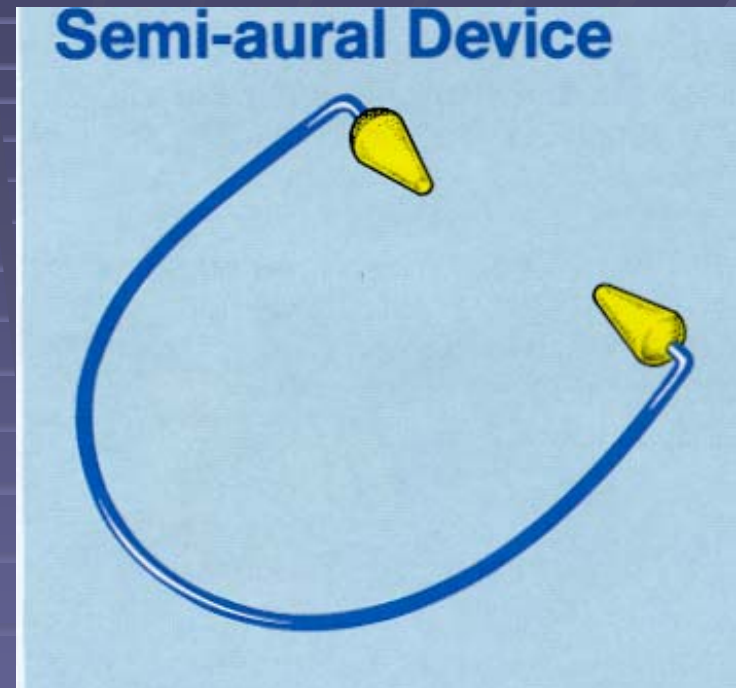
# Fitting Tips

- To insert either formable plugs or premolded plugs, reach around the back of your head and pull outward and upward on the ear while inserting the plug until you feel it sealing.



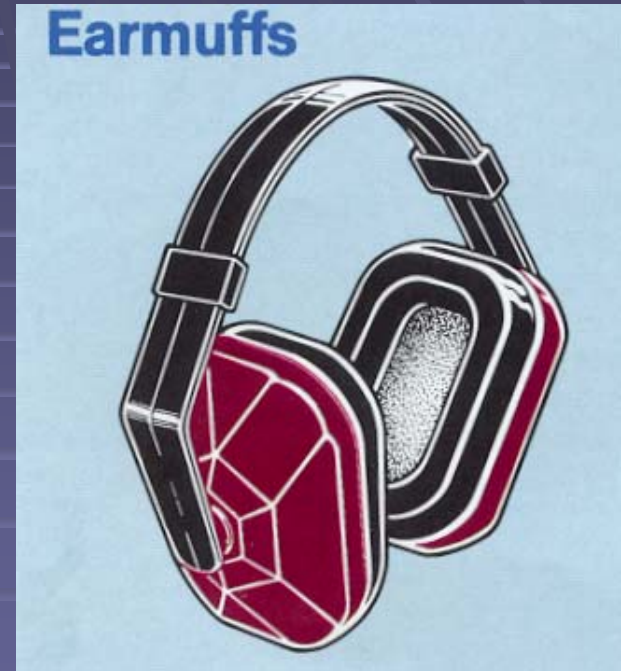
# Semi-aural Devices

- **Semi-aural Devices** are also called canal caps.
- Semi-aurals consist of pods or flexible tips on a lightweight headband.
- Because they are quick to put on and take off and easily stored around the neck, they are ideal for intermittent use.
- They provide less protection than either plugs or muffs and aren't usually recommended for long-term wearing.



# Earmuffs

- **Earmuffs** have rigid cups with soft plastic cushions that seal around the ears to block noise.
- For very loud noises, wear muffs and plugs together for an additional 5-10 dB of protection.





# Earmuffs

- Muffs must fully enclose the ears to seal against the head.
- Adjust the headband so cushions exert pressure around the ears to get the best noise reduction.
- Pull hair back and out from beneath the cushions.
- Don't store pencils or wear caps under the cushions.



# Hearing Protection

- When you first wear hearing protection you may be concerned that you won't be able to hear conversation, machinery sounds, and warning signals.
- However, unless you already have a significant hearing loss, you will be surprised how well you can hear in noise.
- When you properly wear hearing protection, you will be able to hear as well at day's end as when you started in the morning.



# Employee Training

- The most important thing to remember about hearing protection is that it is only effective if it is worn properly.



## PERMISSIBLE NOISE EXPOSURES

Duration per day, hours	Sound Level dBA slow response
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115





# Noise

- Whenever you are exposed to noise levels above 85 dBA, you should wear hearing protection.
- A rule of thumb is when you feel the need to shout in order to be heard three feet away, the noise levels are probably 85 dBA or more and hearing protectors are recommended.



# Noise

- Another warning sign, if it is first apparent immediately after a period of high noise exposure, is tinnitus.
- Tinnitus is a ringing, buzzing, or whistling in your head caused by irritation of the hair cells of your inner ear.
- Tinnitus is especially noticeable in a quiet place, such as when trying to go to sleep at night.

# Protect Your Hearing

- Hearing is a wonderful gift that needs to be preserved.
- Protect your hearing whenever you are exposed to loud noise, either at work or away from work.
- Once hearing is lost it is gone forever.

**Questions?**