

# EHS Guidance Sheet

## Personal Hearing Protection Devices

When employees are exposed to sound levels greater than occupational exposure or action limits, the first course of action is to reduce the noise with source and pathway controls. When sound levels cannot be reduced to less than an 8-hour Time Weighted Average (TWA) of 85 dBA, hearing protection should be used to protect workers from work-related hearing loss.

There are two main types of hearing protection devices: ear plugs and ear muffs. In all cases, read and adhere to all recommendations and instructions provided by the manufacturer.

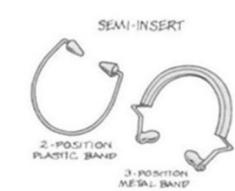
### *Ear Plugs*

Ear plugs are commonly available in the following styles: roll-down foam; pre-molded; and semi-insert. **Roll-down foam earplugs** are rolled before each use and inserted into the ear canals. One disadvantage of roll-down foam ear plugs is that workers need to roll them each time they wear them, thus making it harder to use if workers must take ear plugs out frequently during a work shift. Roll-down earplugs are disposable. They are not a good choice in dirty environments.



**Pre-molded earplugs** do not need to be rolled to conform to a worker's ear canal but the right sized earplugs must be used. They are relatively inexpensive, reusable, can be washed, require less handling, and come in a variety of sizes.

**Semi-inserted earplugs** consist of soft tips that are held in place by a light-weight band. They can be removed and replaced quickly and easily. They are not generally recommended because they tend not to provide adequate protection.



### *Earmuffs*

Earmuffs are relatively easy to use since they are usually one-size devices designed to fit almost all adult users. Earmuffs consist of plastic ear cups that seal around the ear using foam filled cushions. The cups need to fit snug against the head without interference to achieve the full attenuation of the muff. An example of interference would be eyeglass temple bars or long hair. Earmuffs are good for intermittent use due to the ease with which they can be donned or doffed.



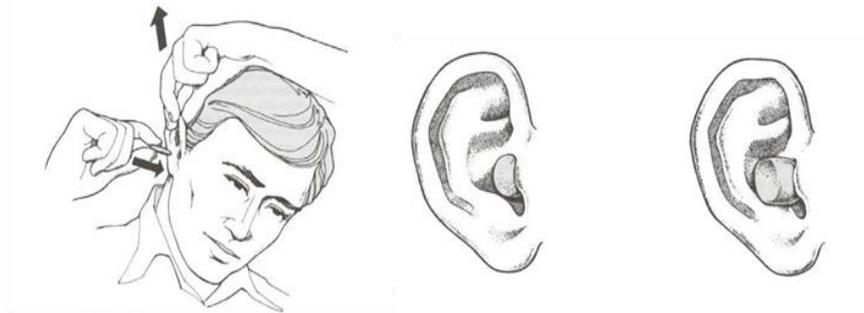
## Using Hearing Protection Correctly

### *Earmuffs*

Earmuff cups must fully enclose the user's ears. They should not rest on the user's ears. The headband should be adjusted so that it sits comfortably on the head. Long hair should be pulled back to ensure the best possible seal.

### *Foam Plugs*

When using foam earplugs, roll in a crease-free manner and shape into a very thin cylinder by squeezing lightly and rolling. Progressively apply greater pressure as the plug becomes more tightly compressed. Do not roll the plug into other shapes such as a cone or a ball. Insert about ½ the length of the cylinder into the ear canal. Foam earplugs should not be readjusted while in the ear. Instead, they should be removed, re-rolled and re-inserted.



Left: proper insertion of foam ear plugs. Middle: proper fit with foam ear plugs. Right: improper fit with foam ear plugs.

### *Pre-molded Plugs*

Pre-molded earplugs do not need to be rolled. To insert them into the ear canal, the wearer should pull the ear outward and upward and insert the earplug tightly into the ear opening. Pre-molded earplugs can be readjusted while in the ear. When pre-molded earplugs are properly inserted, they will create a plugged or blocked-up feeling due to the airtight seal. Pre-molded plugs are sized and a person may need a different sized plug for each ear.

## Care of Hearing Protection

- Foam earplugs are disposable and must be discarded when dirty or pliability is compromised.
- Pre-molded earplugs can be used multiple times although care should be given to prevent contamination with dirt, chemicals, etc., while in storage. They can be cleaned with mild soap and water and re-used, but should be discarded when they become worn. Thoroughly dry pre-molded earplugs after washing and before re-use.
- Earmuffs should be cleaned with mild soap and water when dirty. Ear cups need to be replaced when damaged or brittle to ensure effective protection.
- Never modify an earplug or muff to improve comfort or improve communication. If the hearing protector is uncomfortable, choose a different hearing protector. Implement alternate communication methods when necessary.