

SAFETY MEETING TOPIC

This form shall be completed and kept on file

Job Name _____ Location _____ Job No. _____
Meeting Leader _____ Title _____
Date Held _____ Place _____ Time _____
Subject of Meeting HEARING PROTECTION SAFETY TALK

There may be some instances where, because of the location of the job or the equipment being used, hearing protection is required. If the level of noise you are exposed to is 90 dB or greater, hearing protection should be worn. If these levels are constant (averaged over an 8 hour day), you **MUST** wear hearing protection.

Simple engineering and administrative controls can reduce noise exposure in many cases. Administrative controls will work to reduce your exposure time. Engineering controls will address noise from a physical aspect.

Other ways of controlling noise exposure include scheduling the use of noisy machines when fewer employees are present or when no other machines are operating, and rotating workers out of noisy areas. This last method, however, may only increase the number of employees exposed and should be used cautiously. One of the best methods is to use a quiet rest area on breaks.

Engineering controls can reduce the amount of noise, but may not be practical because of the transient nature of the construction industry. There are four key actions to control noise: reduce noise at the source, block the path of noise, reduce repeated echoing, and reduce vibrations from structures. Keeping tools maintained or installing a muffler are two ways that you can reduce vibrations at the source. The path of noise can be broken by building barricades. Echoes occur off of flat surfaces. Soft porous surfaces will absorb noise. Sounds from vibrating structures can be reduced by using mounts between machinery and structure.

When engineering controls are impractical and administrative controls fail to reduce noise exposure, hearing protectors must be worn. Worn properly, hearing protectors can reduce high frequency sounds by 5-25 db and low frequency sounds by 24-45 db. The proper fit should always be checked. All protective devices can be tested using the sound check. Sounds travel through the air and through our bones. When the ear canal is blocked, sounds heard through bone have a lower pitch. With the hearing protector in place, count loudly. If it is seated correctly, you should notice that your voice has a lower tone. Adjust improperly seated hearing protective devices.

The Environmental Protection Agency (EPA) rates hearing protectors. The rating will be posted on the container of the hearing protector, the device itself, or both. The rating is called the NRR (Noise Reduction Rating). It is based on a laboratory test of the device. Experts believe that due to workplace conditions and the inability of the users to wear protectors properly, the effectiveness can be reduced by as much as 50-68%. Keep this in mind when selecting a hearing protector.

To select the hearing device, you must know the dose of noise that is in your environment. You must also know the method by which the dose has been measured. Noise can be measured using an instrument that imitates the ear's response. This is an A-weighted measure. It can also be measured by an instrument that allows for different frequencies. This is a C-weighted measurement. The activity will help calculate the effectiveness of hearing protectors that are available. This calculation can be used for any of the 3 basic types of hearing protectors. These are ear muffs, ear canal cups, and ear plugs.

EAR PLUGS

Ear plugs are put in the ear canal to block the canal. There are many types: triple flange, single flange, silicone, and foam ear plugs. Triple and single flange plugs are preformed ear plugs shaped like umbrellas. They come in several sizes. During fitting, a trial plug or an ear gauge may be used to determine the proper size for you. Some individuals need a different size plug for each ear. Do not be afraid to insert the proper size plug in your ear. Single flange plugs have a tab that rests against the opening of the ear. The third flange of the plug should block the opening of the canal.

Foam and silicone plugs are hand formed. The user tapers the end of a silicone plug and inserts it in the canal. The excess material is pressed into the surrounding space. Foam ear plugs are compressed by rolling and inserting in the canal. It expands into place. If the canal is large, the plug should be rolled in shape of a golf tee. This will help prevent inserting the plug too far. Ear plugs can be worn easily by individuals with glasses, earrings, different hairstyles and headgear. They do not interfere with operations and can easily be carried with you. However, ear plugs do take time to insert. Gloves must be removed. Talking or chewing can loosen the plug. They should be resealed periodically. If a minor ear infection, excessive ear wax or draining are present, ear plugs cannot be worn. Medical supervision is necessary for fitting to ensure a proper fit and identify any problems that would prevent their use.

Procedures used during fitting should be followed whenever you insert the ear plug. Wash your hands before you begin.

1. Straighten the canal. Reach around the head with your left hand. Pull the ear gently using an outward pull. The canal curve may be different with each individual. Ask for assistance to determine the correct angle. Some individuals will not need to pull to straighten the canal.
2. Using the opposite hand insert the plug. Some individuals experience a cough reflex. It usually stops once the plug is seated. If pain or problems continue, see a physician.
3. Use a sound check to ensure proper seating of the plug. The sound check can be performed to test the first plug that is inserted. But, some individuals will not detect the tone. Make sure you test when both are inserted.
4. If the low tone is not detected, reseat plugs. Preformed plugs can be adjusted. Do not try to adjust a foam plug while it is in the ear. Remove and reseat foam plugs. Whenever any plug is removed, it should be done gently. The suction created during removal can be painful. Break the seal by twisting slightly or pushing the plug to one

side. Stretching the canal may also break the seal. Do not be embarrassed by ear wax on the plug when it is removed. Plugs are inserted in the canal deeper than you can wash and ear wax is necessary. Ear wax lubricates the plug, traps dirt, repels insects and prevents infections.

5. Clean ear plugs with a mild soap and water. Make sure the plug is dried and kept in a case. Silicone plugs are usually used only once or twice. Foam plugs, if cared for, can be kept until they lose their color or shape. Preformed plugs can be kept until shrinking, hardening, or other problems occur.

Ear canal caps are recommended for occasional noise exposures. They do not fit into the ear canal. They simply block the opening. A band connecting the caps is worn over the head, around the neck or under the chin to hold the caps in place. The advantage is that they are lighter for warm work environments. However, ear muffs provide better protection when noise exposure will occur for long periods.

EAR MUFFS

Ear muffs are worn over the ear itself. Two cups connected to a band contact the ear directly and deflect noise. Material that has been inserted in the ear cup reduces noise. The ear cushion also reduces noise. Ear muffs are easy to put on. They can be used even when minor ear problems are present. Ear muffs are adjustable and one size will fit almost anyone.

The problems with ear muffs are their size. They are bulky and may interfere with operations. In hot environments, they become uncomfortable. Metal head frames cannot be used when working near high voltage. If the cups do not form a good seal because the suspension spring is bent or for any other reason, the protection is decreased.

Ear muffs must be worn over the ear. The cups are shaped to the front and back of the ear. Identify the front and back before putting them on. Make sure a proper seal occurs between the skin and cup. If necessary, tuck the ear inside the cup. Adjust the band so that proper tension is placed between your skin and the cup. Eyeglasses with large temple bars should not be worn. Use glasses with thin temple bars. An ear piece adapter is available for those who wear eyeglasses and ear muffs. Perform a sound check to ensure a proper seal between the cup and the skin.

Ear muffs should be cleaned regularly. Oil, perspiration, hair creams and the environment breakdown the ear cup seals. Seals should be scrubbed gently using a soft brush, soap and warm water. Do not get water or soap in the cup itself. If the inside of the cup does get wet, put it in a dry place for the moisture to evaporate. Replace ear cup seals that do not provide a good seal. Head bands are another source of poor seals. They must be checked periodically. First try to adjust the tension. If this does not correct the problem, replace the band.

Store ear muffs indoors away from moisture or chemicals. Ozone, a chemical produced by motors, generators and welding breaks down the foam material inside the ear cups. Ear muffs that are stored outdoors invite bees, wasps and spiders to make a home.