

HEARING & NOISE CONSERVATION

Most construction workers lose a lot of their hearing. You lose hearing slowly, so you may not notice. But if you can't hear, you may be in danger on the job.

Noise doesn't just hurt your hearing. You can also get tinnitus, a ringing sound in your ears. Too much noise can make you tired and nervous. It can raise your blood pressure and add stress that can help lead to heart disease.

Exposure Levels

Noise levels are measured in decibels (dBA). We talk at about 70 decibels. Decibels are measured on a scale like the one for earthquakes. So when the decibels go up a little, the noise goes up a lot. 73 decibels is 2 times as loud as 70. OSHA has rules about how long you may be exposed to a noise level, before you must wear hearing protection:

Allowed to be unprotected at this noise level

Up to 8 hours 90 decibels

Up to 4 hours 95 decibels

Up to 1 hour 105 decibels

When the noise is 95 decibels, OSHA says you may work with no hearing protection for only 4 hours. Even so, this noise level is not safe; 1 in 5 people exposed regularly to 90 decibels (as OSHA allows) will lose some hearing. Short, very loud (impact) noises can do the most harm.

If you have to raise your voice for someone 3 feet away to hear you, the site may be too noisy and you need hearing protection.

Most construction noise comes from equipment. These decibel levels have been measured:

Equipment decibels Equipment decibels

Pneumatic chip hammer 103-113

Earth Tamper 90-96

Jackhammer 102-111

Crane 90-96

Concrete joint cutter 99-102

Hammer 87-95

Portable saw 88-102

Earthmover 87-94

Stud welder 101

Front-end loader 86-94

Bulldozer 93-96

Backhoe 84-93

The noise levels change. The noise from an earthmover is 94 decibels from 10 feet away. The noise is only 82 decibels if you are 70 feet away. A crane lifting a load can make 96 decibels of noise; at rest, it may make less than 80 decibels.

NRR – Noise Reduction Rating- What does that number mean???

Research of NIOSH and others have found that the NRR on the label of the product is consistently much greater than the "real-world" noise reduction performance of the product due to the test methods required for hearing protector labeling. Therefore they recommend a 50% derating of foam style earplugs. So the earplugs we use are a 30 NRR. 50% of that is 15 NRR. Now you have to factor in a 7 dB

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change between the A & C weighted scales. The 7 dB correction factor is used to account for the de-emphasis of low-frequency energy inherent to the A-weighting scale.

So now our 30 NRR earplug has an actual rating of 8 dBA. Double hearing protection would be needed at noise levels measuring 93 dBA or above.

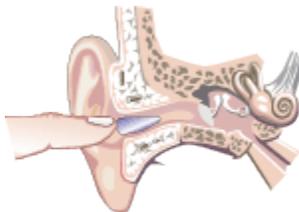
To get the best protection from your soft foam earplugs, remember to **roll**, **pull**, and **hold** when putting them in. Use clean hands to keep from getting dirt and germs into your ears!



1. **Roll** the earplug up into a small, thin "snake" with your fingers. You can use one or both hands.



2. **Pull** the top of your ear up and back with your opposite hand to straighten out your ear canal. The rolled-up earplug should slide right in.



3. **Hold** the earplug in with your finger. Count to 20 or 30 out loud while waiting for the plug to expand and fill the ear canal. Your voice will sound muffled when the plug has made a good seal.

Check the fit when you're all done. Most of the foam body of the earplug should be within the ear canal. Try cupping your hands tightly over your ears. If sounds are much more muffled with your hands in place, the earplug may not be sealing properly. Take the earplug out and try again.



New earplugs that are currently available (pictured left) as well as the rollup style are designed to be pushed and twisted like a corkscrew into the ear canal while performing step 2 above.

BRIESER CONSTRUCTION SAFETY MEETING

Week of: _____

Job Number: _____

Date: _____

Job Name: _____

Superintendent: _____

Site Specific Topics:

Crew Safety

Recommendations: _____

Reviewed MSDS #: _____ Subject: _____

Meeting Attended By: (Print your Name)

Supervisor/Foreman: _____