



Noise Assessments

If your workplace is a noisy environment, a noise assessment may have been performed to determine actual worker noise exposures. The results will determine if hearing protection and an OSHA compliant hearing conservation program is required. Noise studies are usually performed with personal noise dosimetry accompanied by area sound level measurements.

Personal Noise Dosimetry

Since employees can move throughout the workplace and don't always spend their entire days in one spot, personal dosimetry can give an estimate of a daily exposure. The employee will wear a personal noise dosimeter with a microphone placed near their ear. The dosimeter will measure noise exposures throughout the day based on parameters set by OSHA for comparison to the Permissible Exposure Limit (PEL) and Action Level. The dosimeter will average the employee's exposure based on an 8-hour shift and based on the real-time measurement if the shift is longer than 8 hours. Exposures can vary from day to day.



Area Sound Level Measurements



Sound level measurements can help employers identify areas or processes where the noisiest areas are that contribute to workers' overall noise exposures. This data can help employers decide how to reduce noise levels in the area. Instantaneous sound level meters can also be used as a screening device to decide if personal noise monitoring is warranted. If areas where workers spend a lot of time in are greater than 85 dBA, personal monitoring should be performed.

Definitions

Permissible Exposure Limit (PEL):

Employees' 8-hour average noise exposure cannot not be greater than 90 dBA. Hearing protection is required when exposures are greater than 90 dBA

Action Level:

Employees whose average daily noise exposures are at least 85 dB (8-hour TWA) must be included in the Hearing Conservation Plan. The Action Level adjusts for extended shifts, such as 10-hour or 12-hour shifts.

Noise Reduction Rating (NRR):

An indicator of a hearing protection device's noise reduction based on perfect fitting protection. An effective NRR accounts for imperfect fit and is derived mathematically using the equation: $(NRR-7)/2$.

Hearing Conservation Plan:

A program to protect employees from occupational hearing loss. It includes training on noise exposures and annual hearing tests (audiograms)