Ensuring Proper Fit for Hearing Protection Devices



Exposure to high noise levels for extended periods of time can cause irreparable hearing damage. It's a problem that affects nearly 22 million workers each year.[1,2]

Hearing protection devices (HPDs) such as earplugs and earmuffs can help preserve the ear's delicate inner workings and prevent hearing loss.



When HPDs are required to reduce exposure to hazardous sound levels, OSHA's Occupational Noise Exposure standard (29 CFR 1910.95) requires employers provide them at no cost, allow employees to select from a variety of adequate HPDs, train employees to use and care for them correctly, ensure a proper initial fit, and supervise use.[3]

Steps to Ensure a Proper Fit

Employers must provide a choice of appropriate HPDs and train workers how to fit and use them correctly.

1. Read and follow the manufacturer's fitting instructions carefully.
2. If the protector doesn't provide an adequate seal or comfort, try refitting or selecting a different HPD.
3. Verify noise reduction with a fit test.

Did you know? If fit testing isn't available, you can check earplug fit by speaking aloud while cupping and uncupping your ears — your voice should sound the same.

Signs of a Poor Fit

- Earplugs don't fully block the ear canal, so sounds are not muffled or reduced.
- Earmuff cushions don't seal properly against the head and completely around the ear.
- User notices ringing in the ear or muffled sensations when hearing protection is removed.

Hearing Protector Fit Test (HPFT)

NIOSH recommends individual, quantitative fit testing to measure the protection workers receive from hearing protectors.[4]

Employers should use fit-testing systems that meet ANSI/ASA S12.71 criteria for personal attenuation ratings (PARs) and measurement uncertainty. For additional guidance, refer to the NIOSH/NORA-NHCA Introduction to HPD Fit Testing.[5]

OSHA requires initial and annual training including proper selection, fit, use, and care of hearing protectors under 29 CFR 1910.95.[3]

While HPFT is not required, OSHA has recognized it as a best practice since 2008 and allows its use to support training compliance.[6,7,8]

OSHA's February 2026 Safety and Health Information Bulletin (SHIB) explains how HPFT aligns with the Occupational Noise Standard and provides guidance for employers implementing fit testing to prevent occupational hearing loss.[8]

Compatibility & Safety Matter!

Consider items that may interfere with hearing protector fit, such as ball caps, sweatshirt hoods, or other clothing. These can prevent a proper seal and reduce protection.

Also ensure compatibility with other protective gear (e.g., safety glasses, respirators, hard hats). Select combinations that work together without compromising fit.

Choose hearing protection that still allows workers to hear important sounds and alarms. Some technologies can provide protection while maintaining communication and situational awareness.

ISEA INTERNATIONAL SAFETY EQUIPMENT ASSOCIATION

alliance An OSHA Cooperative Program

CAOHC Council for Accreditation in Occupational Hearing Conservation

ASSP

References

1. National Institute for Occupational Safety and Health. Occupational noise exposure. Centers for Disease Control and Prevention. https://www.cdc.gov/niosh/noise/about/index.html
2. Kerns, E., Masterson, E. A., Themann, C. L., & Calvert, G. M. (2018). Cardiovascular conditions, hearing difficulty, and occupational noise exposure within U.S. industries and occupations. American Journal of Industrial Medicine, 61(6),477–491. https://doi.org/10.1002/ajim.22833
3. Occupational Safety and Health Administration. 29 CFR 1910.95 Occupational noise exposure. https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.95
4. National Institute for Occupational Safety and Health (NIOSH). (2025). NIOSH Science Policy Update: Individual Fit-Testing Recommendation for Hearing Protection Devices. Centers for Disease Control and Prevention. https://www.cdc.gov/niosh/publications/numbered/2025-104.html
5. NIOSH/NORA Hearing Loss Prevention Council & National Hearing Conservation Association (NHCA). (2025). Introduction to Hearing Protector Fit Testing. https://nhc.memberclicks.net/assets/docs/Intro%20to%20HPD%20Fit%20Testing_NORA_05.pdf
6. NHCA OSHA Alliance (2008). Best practice bulletin: Hearing protection-emerging trends: Individual fit testing. https://www.hearingconservation.org/assets/docs/AllianceRecommendationForFitTesting_Final.pdf
7. Occupational Safety and Health Administration. (2017, October 20). Standard Interpretation: Ear plug personal fit-testing systems that measure real-time noise attenuation. https://www.osha.gov/laws-regs/standardinterpretations/2017-10-20
8. Occupational Safety and Health Administration. (2026). Hearing Protector Fit Testing: Ensuring Appropriate Noise Protection at Work. U.S. Department of Labor. https://www.osha.gov/sites/default/files/publications/HEARING_PROTECTOR_FIT_TESTING_SHIB.pdf

Under the Occupational Safety and Health Act, employers are responsible (www.osha.gov/workers/employer-responsibilities) for providing a safe and healthy workplace and workers have rights (www.osha.gov/workers). OSHA can help answer questions or concerns from employers and workers. OSHA's On-Site Consultation Program (www.osha.gov/consultation) offers free and confidential advice to small and medium-sized businesses, with priority given to high-hazard worksites. For more information, contact your regional or area OSHA office (www.osha.gov/contactus/bystate), call 1-800-321-OSHA (6742), or visit www.osha.gov.

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