



Hearing Loss

## Make Hearing Protection a Priority in Construction

Brought To You by 3M Personal Safety Division | Jun 03, 2024

Hearing protectors need to be worn for the full time of noise exposure. Removing them for even a short time in a work day significantly increases the noise exposure. For example\*, not wearing the hearing protector for one hour of an eight-hour work shift, essentially drops the effective protection from 30 dB to only 9 dB<sup>1</sup>. Minutes matter.

Even when noise seems to be at a reasonable level, noise above 85 dbA can still lead to long-term damage. Noise-induced hearing loss is caused by the damage and eventual death of the sensory cells in your ears, called hair cells. Unlike some other cells, human ear hair cells never grow back.<sup>1</sup>

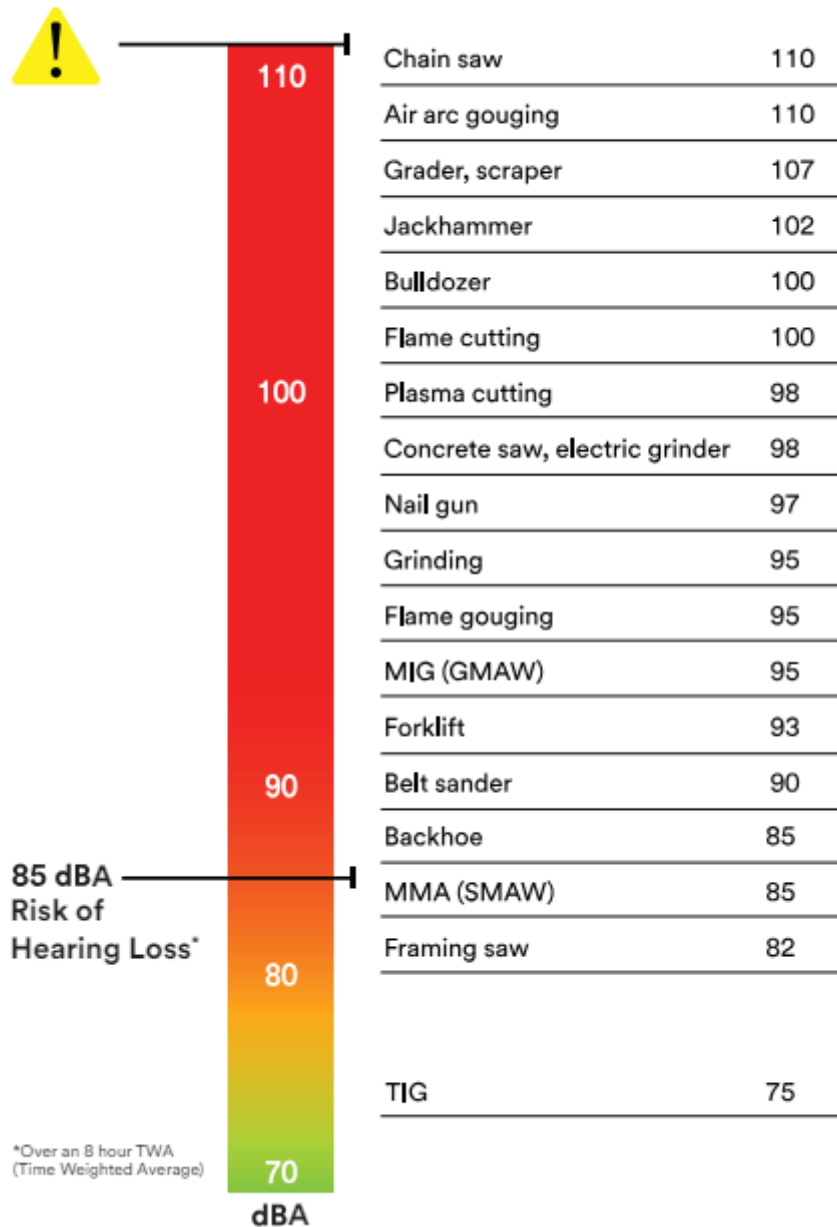
**\*Exposure to 95 dBA of noise and using NIOSH Recommended Exposure Limit of 85 dBA and 3 dB exchange rate.**



**Construction operations often exceed dangerous noise levels.**

Many construction site processes create noise that may exceed 85 dBA. Exposure to noises above this level may put construction workers at risk for noise-induced hearing loss.<sup>2</sup>

## Sound Levels in Construction Operations, dBA<sup>2,6,7</sup>



**73% of construction workers are exposed over the NIOSH recommended exposure level of 85 dBA<sup>3</sup>**

**52% of construction workers with noise exposure do not wear hearing protection<sup>4</sup>**

Factors that may increase noise-induced hearing loss risks:

- Not wearing hearing protection during hazardous noise exposure or removing it to communicate<sup>1</sup>
- Not wearing hearing protection that provides enough noise reduction for the task
- Not verifying that the hearing protection fits the worker and that the worker is properly trained
- Absence of hearing protection fit testing to help achieve proper attenuation<sup>5</sup>

Ⓔ Consider these hearing protection and protective communication solutions:

### **3M™ PELTOR™ X4 Earmuffs**

Designed for comfort and moderate to high noise exposure during tough jobs where loud sounds are frequent.

### **3M™ E-A-R™ Push-Ins™ Earplugs 318-1001, Corded, Poly Bag**

Fitting stems help for an easier insertion of the earplugs even when wearing gloves and help keep the earplug clean for construction workers with dirty hands.

### **3M™ PELTOR™ Electronic Earplug, EEP-100**

Helps protect workers' hearing and can help promote auditory situational awareness and communications in challenging environments.

#### **References:**

- 1.Ⓔ Elliott H. Berger, E-A-RLOG, "Hearing Protector Performance: How They Work – and What Goes Wrong in the Real World", 1996. [Online]. Available: <https://multimedia.3m.com/mws/media/6006330/e-a-r-log-5-protection-performance.pdf>. [Accessed 13 January, 2022].
- 2.Ⓔ US Federal OSHA 3498-12N, "Protecting Yourself from Noise in Construction", 2011. [Online]. Available: <https://www.osha.gov/sites/default/files/publications/3498noise-in-construction-pocket-guide.pdf>. [Accessed 22 November, 2021].
- 3.Ⓔ Neitzel R, Stover B, & Seixas N. 2011. Longitudinal assessment of noise exposure in a cohort of construction workers (Table 1). *Annals of Occupational Hygiene*, 55(8):906-916.
- 4.Ⓔ Centers for Disease Control and Prevention, "Study Finds Over Half of Noise Exposed Workers Do Not Use Hearing Protection When Exposed to Noise on the Job", October 2021. [Online]. Available: <https://www.cdc.gov/niosh/updates/upd-10-07-21.html>. [Accessed 22 November, 2021]
- 5.Ⓔ 3M, "Hearing Protection Fit Testing: What, Why and How", August 2018. [Online]. Available: <https://multimedia.3m.com/mws/media/15784680/hearingprotection-fit-testing-whatwhy-how-technical-bulletin.pdf>. [Accessed 10 November, 2021].
- 6.Ⓔ Health and Safety Executive, "Health risks from welding", 2021. [Online]. Available: <https://www.hse.gov.uk/welding/health-risks-welding.htm>. [Accessed 14 December, 2021].
- 7.Ⓔ Work Safe BC, "How loud is it? – Construction", 2019. [Online]. Available: <https://www.worksafebc.com/en/resources/health-safety/hazard-alerts/how-loud-is-it-construction>. [Accessed 31 January, 2022].

*Previously Featured on 3M Personal Safety Division's blog.*