

ANSI/ASSP A10.46-2020

Hearing Loss Prevention for
Construction and Demolition Workers



AMERICAN SOCIETY OF
SAFETY PROFESSIONALS



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ANSI/ASSP A10.46 – 2020

**American National Standard
Construction and Demolition Operations**

**Hearing Loss Prevention for
Construction and Demolition Workers**

Secretariat

American Society of Safety Professionals
520 N. Northwest Highway
Park Ridge, IL 60068

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American National Standards Institute

American National Standard

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Foreword (This Foreword is not a part of American National Standard A10.46 – 2020.)

This standard is one of a series of safety standards that have been formulated by the Accredited Standards Committee on Safety in Construction and Demolition Operations, A10. It is expected that the standards in the A10 series will find a major application in industry, serving as a guide to contractors, labor and equipment manufacturers. For the convenience of users, a list of existing and proposed standards in the A10 series for Safety Requirements in Construction and Demolition Operations follows.

A10.1	Pre-Project & Pre-Task Safety & Health Planning
A10.2	Safety, Health and Environmental Training (under development)
A10.3	Powder-Actuated Fastening Systems
A10.4	Personnel Hoists and Employee Elevators
A10.5	Material Hoists
A10.6	Demolition Operations
A10.7	Use, Storage, Handling and Site Movement of Commercial Explosives and Blasting Agents
A10.8	Scaffolding
A10.9	Concrete and Masonry Construction
A10.10	Temporary and Portable Space Heating Devices
A10.11	Personnel Nets
A10.12	Excavation
A10.13	Steel Erection
A10.15	Dredging
A10.16	Tunnels, Shafts and Caissons
A10.17	Safe Operating Practices for Hot Mix Asphalt (HMA) Construction
A10.18	Temporary Roof and Floor Holes, Wall Openings, Stairways and Other Unprotected Edges
A10.19	Pile Installation and Extraction Operations
A10.20	Ceramic Tile, Terrazzo and Marble Work
A10.21	Safe Construction and Demolition of Wind Generation/Turbine Facilities
A10.22	Rope-Guided and Non-Guided Workers' Hoists
A10.23	Safety Requirements for the Installation of Drilled Shafts
A10.24	Roofing – Safety Requirements for Low-Sloped Roofs
A10.25	Sanitation in Construction
A10.26	Emergency Procedures for Construction Sites
A10.27	Hot Mix Asphalt Facilities
A10.28	Work Platforms Suspended from Cranes or Derricks
A10.29	Aerial Platforms in Construction (under development)
A10.30	Installation of Anchors and Micropiles (under development)
A10.31	Digger-Derricks
A10.32	Personal Fall Protection Used in Construction and Demolition Operations
A10.33	Safety and Health Program Requirements for Multi-Employer Projects
A10.34	Public Protection
A10.35	Pressure Testing of Steel and Copper Piping Systems (under development)
A10.37	Debris Nets
A10.38	Basic Elements of a Program to Provide a Safe and Healthful Work Environment
A10.39	Construction Safety and Health Audit Program
A10.40	Reduction of Musculoskeletal Problems in Construction
A10.42	Rigging Qualifications and Responsibilities in the Construction Industry
A10.43	Confined Spaces in Construction and Demolition Operations
A10.44	Lockout/Tagout in Construction
A10.46	Hearing Loss Prevention
A10.47	Highway Construction Safety
A10.48	Communication Structures
A10.49	Control of Health Hazards

One purpose of these standards is to serve as guides to governmental authorities having jurisdiction over

subjects within the scope of the A10 Committee standards. If these standards are adopted for governmental use, the reference of other national codes or standards in individual volumes may be changed to refer to the corresponding regulations.

Normative Requirements: This standard uses the single column format common to many international standards. The normative requirements appear aligned to the left margin. To meet the requirements of this standard, machinery, equipment and process suppliers and users must conform to these normative requirements. These requirements typically use the verb “shall.”

Revisions: The A10 Committee welcomes proposals for revisions to this standard. Revisions are made to the standard periodically (usually five years from the date of the standard) to incorporate changes that appear necessary or desirable, as demonstrated by experience gained from the application of the standard. Proposals should be as specific as possible, citing the relevant section number(s), the proposed wording and the reason for the proposal. Pertinent documentation would enable the A10 Committee to process the changes in a more-timely manner.

Interpretations: Upon a request in writing to the Secretariat, the A10 Committee will render an interpretation of any requirement of the standard. The request for interpretation should be clear, citing the relevant section number(s) and phrased as a request for a clarification of a specific requirement. Oral interpretations are not provided.

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AMERICAN NATIONAL STANDARD A10.46 HEARING LOSS PREVENTION FOR CONSTRUCTION AND DEMOLITION WORKERS

1. General

1.1 Scope

This standard applies to all construction and demolition workers with potential noise exposures (continuous, intermittent and impulse) of 85 dBA and above.

1.2 Purpose

This standard is intended to help employers prevent occupational hearing loss among construction and demolition workers.

2. Definitions

Administrative Controls. Methods of managing noise-exposed workers' activities that have the effect of limiting each worker's exposure to hazardous noise. Appendix 1 has examples of administrative noise controls.

Attenuation. The amount of sound in decibels by which an engineering control measure or a hearing protection device can reduce an individual's noise exposure level.

Audiogram. A chart, graph or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.

Baseline Audiogram. The audiogram against which future audiograms are compared.

Continuous Noise. Noise that remains at a steady level and has a variation in level that involves maxima at intervals of one second or less.

Decibel (dB). Unit of measurement of sound pressure level and sound power level.

Decibel, A-Weighted (dBA). Unit representing the sound level measured with the A-weighting network on a sound-level meter. The A-scale discriminates against very low frequencies (as does the human ear) and is therefore more appropriate for determining worker exposure to noise.

Derating. An adjustment that is applied to the Noise Reduction Rating (NRR) that is intended to estimate how hearing protectors perform in the field for populations of users as compared with laboratory measurements.

Double Hearing Protection. Simultaneous use of earmuffs and earplugs.

Earmuff. A hearing protection device usually comprised of a headband and earcups with a soft cushion to seal against the head, intended to fit against the pinna (supra-aural) or the sides of the head enclosing the pinna (circumaural). The earcups may also be held in position by attachment arms mounted on a hard hat or hard cap.

Earplug. A hearing protection device that is inserted into or that caps the ear canal.

Engineering Controls. Methods of reducing noise levels that involve changes at the noise source or along the noise transmission path. Appendix 1 has examples of engineering controls.

Exchange Rate. The increase or decrease in average noise level in decibels, which requires a doubling or halving of the noise dose. For example, an increase in noise level from 85 to 88 dBA warrants a decrease in allowable exposure time from eight to four hours, according to the 3 dB exchange rate used in this standard.