



AMERICAN NATIONAL STANDARD

ANSI/ASSE A10.46 – 2013
Hearing Loss Prevention for
Construction and Demolition Workers

American National Standard
for Construction and
Demolition Operations

ANSI/ASSE A10.46 – 2013



AMERICAN SOCIETY OF
SAFETY ENGINEERS

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ANSI/ASSE A10.46 – 2013

**American National Standard
Construction and Demolition Operations**

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

Secretariat

American Society of Safety Engineers
1800 East Oakton Street
Des Plaines, Illinois 60018-2187

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American National Standard

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Foreword (This Foreword is not a part of American National Standard A10.46 – 2013.)

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 Transportation, Storage, Handling and Use 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 and Debris 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 (under development)
- A10.22 Rope-Guided and Non-Guided Workers' Hoists
- A10.23 Safety Requirements for the Installation of Drilled Shafts (under development)
- 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)
- A10.31 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
- A10.37 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
- A10.41 Equipment Operator and Supervisor Qualifications and Responsibilities (under development)
- A10.42 Rigging Qualifications and Responsibilities in the Construction Industry
- A10.43 Confined Spaces in Construction (under development)
- A10.44 Lockout/Tagout in Construction

A10.46 Hearing Loss Prevention
A10.47 Highway Construction Safety
A10.48 Communication Tower Erection (under development)
A10.49 Control of Health Hazards (under development)

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.

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AMERICAN NATIONAL STANDARD A10.46 HEARING LOSS PREVENTION IN 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

2.1 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.

2.2 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.

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

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

2.5 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.

2.6 Decibel (dB). Unit of measurement of sound pressure level.

2.7 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.

2.8 Derating. An adjustment that is made 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.

2.9 Double Hearing Protection. Simultaneous use of earmuffs and earplugs.

2.10 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.

2.11 Exchange Rate. The increase or decrease in average noise level in decibels, which warrants 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.

2.12 Hearing Protection Devices (HPD). Devices, also called hearing protectors, worn to reduce the sound level in the ear canal.

2.13 Hertz (Hz). Unit of measurement of frequency, numerically equal to cycles per second.

2.14 Impulse Noise. A transient noise having less than one second duration, which may repeat after a delay of more than one second. For example, pile driving or single loaded powder-actuated tools.