

# Hearing Conservation Program

Guy's Construction  
123 Main Street, Anytown, CA 90210

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29 CFR 1926.52 / 1910.95  
T8 CCR 5095-5100

Effective Date: June 08, 2026

**SAMPLE DOCUMENT - NOT FOR COMPLIANCE USE**

## JURISDICTION AND REGULATORY FRAMEWORK

51% of construction workers have been exposed to hazardous noise. 25% have measurable hearing loss. NIHL is 100% preventable and 0% reversible.

- hearing conservation program required (monitoring, audiometric testing, hearing protectors, training)

29 CFR 1910.95(c)

- 85 dBA 8-hour TWA action level for hearing conservation program including monitoring, audiometric testing, hearing protectors, training

29 CFR 1910.95(c)

- hearing protection when noise exposure reaches 90 dBA (8-hr TWA PEL); hearing conservation program at 85 dBA action level

29 CFR 1926.101 + 1926.52

- jet engine testing, riveting, grinding, and composite layup create noise levels 90-140 dBA; hearing conservation program at 85 dBA action level; engineering controls (sound barriers, isolation), hearing protection, annual audiometric testing per 29 CFR 1910.95

29 CFR 1910.95 (Occupational noise exposure)

### STATE-SPECIFIC: California has additional requirements:

- hearing conservation program at 85 dBA TWA (federal construction triggers at 90 dBA)

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- hearing protection and monitoring
- hearing conservation program when exposure at or above 85 dBA TWA

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- double protection (earplugs + earmuffs) and hearing conservation program
- hearing protection and noise monitoring
- taking any action beyond notifying authorities of the release
- in the center of the wearer's back
- sufficient training or experience to demonstrate competency in 6 specified areas
- AEDs in accordance with manufacturers' specifications
- of this standard by determining whether cadmium is present in the workplace and whether there is the possibility that employee exposures will be at or above the action level, prior to the performance of any construction work where employees may be...
- hearing officer to conduct hearings on applications for variances
- working pressures not exceeding those recommended by the manufacturer for the type of service
- approved emergency preparedness plan under part 239
- in accordance with § 218.77
- 12 feet
- Subpart D
- Engineering and Administrative Noise Controls
- Hearing Conservation Program
- Subpart E - PPE
- as free as practicable of accumulations of lead

- by vacuuming or other methods that minimize the likelihood of lead becoming airborne wherever possible
- the director
- diameters of 6 inches or greater that could affect high-consequence areas or are located in high consequence areas (HCA), installed after April 10, 2023
- the use of reclaimed water in oil and gas operations
- 6 months of first exposure at or above 85 dBA
- annually thereafter
- per 1910.95
- Hearing conservation program per 1910.95
- 1910.95 hearing conservation
- above each belt drive, belt take-up, electrical control, and gear-reducing unit
- the use of live line tools
- a description of the construction work and methods to be used in the construction of the slope or shaft, and whether part or all of the work will be performed by a contractor and a description of that part of the work to be performed by a contractor
- any high-voltage line supported by any pole or structure which also supports other high-voltage lines until all lines are deenergized and grounded or provisions of §§ 77.704-2 through 77.704-10 have been complied with
- for the duration of the employer's reliance upon such objective data

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## 1.0 PROGRAM OVERVIEW

Guy's Construction employees are exposed to high noise from power tools, equipment, and construction activity. Noise-induced hearing loss is the most common occupational illness in construction. Once lost, hearing cannot be restored.

## 2.0 HOW NOISE CAUSES HEARING LOSS

Excessive noise destroys tiny hair cells in the cochlea. Hair cells do not regenerate. Each destroyed cell is permanent hearing loss.

**Hearing loss from noise is cumulative and permanent. Every unprotected exposure adds to the damage.**

- Gradual onset: develops over years. No pain. Just a slow fade.
- High-frequency loss first: difficulty understanding speech in noise, asking people to repeat
- Tinnitus: ringing/buzzing in ears. Often first symptom. Can be permanent.
- Acoustic trauma: single extremely loud event can cause immediate permanent loss

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### 3.0 NOISE EXPOSURE LIMITS

Level	Value	What It Triggers
Action Level	85 dBA (8-hr TWA)	Hearing conservation program: monitoring, audiometric testing, protection available, training
PEL	90 dBA (8-hr TWA)	Hearing protection REQUIRED. Feasible engineering/admin controls required.
Max Impact	140 dB peak	No unprotected exposure at any duration

#### Duration Limits (5 dB exchange rate)

Noise (dBA)	Max Exposure Time
85	8 hours (Action Level)
90	8 hours (PEL)
95	4 hours
100	2 hours
105	1 hour
110	30 minutes
115	15 minutes
120+	Avoid all unprotected exposure

The decibel scale is logarithmic. +3 dB = double the energy. +10 dB = perceived as 2x louder.

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## 4.0 COMMON CONSTRUCTION NOISE LEVELS

Source	dBA	Max Unprotected	Protection?
Normal conversation	60-70	Unlimited	No
Forklift/skid steer (cab)	80-85	8+ hours	Recommended >85
Table saw, belt sander	90-95	4-8 hours	REQUIRED
Circular saw (handheld)	95-105	1-4 hours	REQUIRED
Hammer drill	95-110	30 min-4 hr	REQUIRED
Excavator/dozer (open cab)	95-105	1-4 hours	REQUIRED
Pneumatic nailer	95-110	30 min-4 hr	REQUIRED
Impact wrench	100-110	30 min-2 hr	REQUIRED
Concrete saw	100-115	15 min-2 hr	REQUIRED (dual recommended)
Jackhammer/breaker	100-115	15 min-2 hr	REQUIRED (dual recommended)
Chop saw/cut-off	100-110	30 min-2 hr	REQUIRED
Powder-actuated tool	110-120	<15 min	REQUIRED (dual recommended)
Pile driver	110-125	<15 min	REQUIRED (dual)

**Rule of thumb: if you must raise your voice to be heard 3 feet away, noise is above 85 dBA. Wear protection.**

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## 5.0 NOISE MONITORING

Method	Equipment	When to Use
Area	Sound level meter	Quick assessment of specific tools/areas. Snapshot.
Personal dosimetry	Noise dosimeter (worn)	Full-shift TWA. Most accurate for individual exposure.
Task-based	SLM per task, calculate TWA	Construction (multiple tasks). Calculate composite TWA.

Published noise level data for common tools (Section 4.0) can be used in lieu of monitoring for construction if from a reliable source.

## 6.0 AUDIOMETRIC TESTING

### 6.1 Baseline Audiogram

- Within 6 months of first exposure at/above 85 dBA action level
- 14 hours free from workplace noise before test (hearing protection counts)
- Establishes reference for all future comparisons

### 6.2 Annual Audiogram

- Annual for each employee in the program
- Compare to baseline for Standard Threshold Shift (STS)
- By audiologist, otolaryngologist, or qualified technician

### 6.3 Standard Threshold Shift (STS)

STS = average shift of 10 dB or more at 2000, 3000, 4000 Hz in either ear vs baseline.

- Notify employee in writing within 21 days
- If not wearing protection: fit and train. If already wearing: refit with more effective.
- Refer for clinical evaluation if needed
- Review noise controls and hearing protection adequacy

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## 7.0 HEARING PROTECTION SELECTION

Type	NRR	Advantages	Disadvantages
Foam earplugs	25-33	Highest NRR, inexpensive, disposable	Requires proper insertion. Dirty hands = infection risk.
Pre-molded plugs	22-27	Reusable, easy insert, triple-flange	Lower NRR than foam. Must clean regularly.
Canal caps	17-25	Quick on/off for intermittent noise	Lower NRR. Uncomfortable for extended wear.
Earmuffs	20-30	Easy to use correctly, visible compliance	Hot in summer. Interfere with hard hats. Seal broken by glasses/facial hair.
Electronic muffs	22-30	Allow speech while blocking loud noise	Expensive. Battery dependent.
Custom-molded	25-30	Perfect fit, most comfortable, reusable years	Expensive initial cost.

## 8.0 NRR AND REAL-WORLD ATTENUATION

The NRR on the package is a lab rating. Real-world protection is lower. OSHA derating formula:

- Earplugs:  $(NRR - 7) \times 50\%$  = estimated real-world attenuation
- Earmuffs:  $(NRR - 7) \times 75\%$  = estimated real-world attenuation
- Example: Foam plug NRR 32. Real-world:  $(32-7) \times 50\%$  = 12.5 dB attenuation

To calculate protected exposure: Workplace dBA - attenuation = protected exposure

Example: 105 dBA - 12.5 dB = 92.5 dBA (still above PEL, need better protection)

## 9.0 DUAL PROTECTION (PLUGS + MUFFS)

When single hearing protector is insufficient (exposures >100 dBA), use plugs AND muffs together:

- Dual protection adds approximately 5 dB to the higher-rated device (not additive)
- Required for: pile driving, powder-actuated tools, jackhammers, concrete saws in enclosed areas
- Derating for dual:  $(\text{higher NRR} - 7) \times 50\% + 5 \text{ dB}$

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## 10.0 TRAINING

- Effects of noise on hearing (how it damages, why it's permanent)
- Purpose of hearing protectors, types available, advantages/disadvantages
- How to select, fit, use, and care for hearing protectors
- Purpose and procedures of audiometric testing
- Training at initial assignment and annually

## 11.0 RECORDKEEPING

- Noise monitoring records: 2 years
- Audiometric test records: duration of employment (baseline + all annual tests)
- Training records: duration of employment

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## California STATE-SPECIFIC REQUIREMENTS

- hearing conservation program at 85 dBA TWA (federal construction triggers at 90 dBA)

*T8 CCR 5095-5100*

- hearing protection and monitoring
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## APPENDIX A: CONSTRUCTION NOISE REFERENCE CARD

POST IN TOOL ROOM AND JOB TRAILER.

**If you must raise your voice to be heard 3 feet away = above 85 dBA = WEAR HEARING PROTECTION**

Tool/Equipment	Typical dBA	Protection
Circular saw	95-105	REQUIRED
Hammer drill	95-110	REQUIRED
Concrete saw	100-115	REQUIRED (dual recommended)
Jackhammer	100-115	REQUIRED (dual recommended)
Impact wrench	100-110	REQUIRED
Chop saw	100-110	REQUIRED
Powder-actuated tool	110-120	REQUIRED (dual)
Pile driver	110-125	REQUIRED (dual)

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## APPENDIX B: HEARING PROTECTOR SELECTION GUIDE

Match protector to noise level using OSHA derating:

Noise Level	Minimum Protection	Recommended
85-95 dBA	Foam plugs (NRR 25+) OR earmuffs (NRR 20+)	Foam plugs for best attenuation
95-100 dBA	Foam plugs (NRR 29+) OR high-NRR earmuffs	Foam plugs preferred
100-110 dBA	Foam plugs (NRR 32+)	Consider dual protection
110+ dBA	DUAL: foam plugs + earmuffs	Dual protection required

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## APPENDIX C: AUDIOMETRIC TESTING TRACKING FORM

Employee Name: \_\_\_\_\_

Employee ID: \_\_\_\_\_

Job Title: \_\_\_\_\_

Department/Project: \_\_\_\_\_

Test Date	Type (B/A)	Tester	500	1K	2K	3K	4K	6K	8K	STS?	Notes

Type: B = Baseline, A = Annual. Frequencies in Hz. Record thresholds in dB HL.

STS: 10 dB average shift at 2K, 3K, 4K Hz vs baseline. Y = shift detected.

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