



# Hearing Conservation Program



## SilMan Industries

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# Hearing Conservation Program

T8 CCR 1521, 5097 and 29 CFR 1910.95

## A. Purpose & Scope

SilMan Industries has established this *Hearing Conservation Program* to protect our workers from audible hazards of higher than normal noise levels within the workplace. OSHA regulations require that each employer implement a *Hearing Conservation Program* when workers are exposed to noise levels exceeding **85 dB** in an **8- hour Time Weighted Average (TWA) threshold**.

In general, the majority of our contracted work does not normally expose workers to audible levels exceeding 85 dB level for an 8 Hr TWA. However, at times, during noisy tasks, such as grinding or cutting, or when working at certain host facilities, such as bottling plants, our workers can be exposed to higher decibel levels. Therefore, this program applies to our workforce during these conditions or environments.

Although, it is not difficult to exceed the **85 dB** threshold during standard power or pneumatic tool & equipment use, our exposure risk is deemed minimal and acute in nature (of short duration or immediate exposure). When noise levels **exceed or have the potential to exceed 85 dB** during work, we will require **hearing protection** (such as ear plugs and muffs) during these tasks for all exposed workers.

When our host/client facilities have operating production equipment or similar processes that generate ambient noise levels above the 85 dB threshold for an 8 hr TWA, both the host/client and/or SilMan will require hearing protection for all exposed employees at all times when working (or exposed to such noise levels) within specific areas of their facility.

The OSHA Standard on Occupational Noise Exposure (29 CFR 1910.95,) establishes the Permissible Exposure Limit (PEL) of audible workplace noise at **85 dB** (decibels), expressed as an eight-hour (8-hour) Time-Weighted Average (TWA). This standard level allows short-term unprotected noise exposures up to a **maximum peak of 115dB**.

The OSHA standard also requires work space monitoring, personnel testing of employees who are exposed to noise levels above the 85 dB (during an 8-hr TWA). Proper hearing protection PPE is required for specific tasks, duties, activities, or during use of noise generating tools and equipment that **exceed 95 dB**, even for a short duration, a single event, or periodic peak levels of noise.

NOTE: Refer to APPENDIX A, for list of some of our common tasks and their average noise levels.

## B. Responsibilities

Whether working in a client's facility or on remote worksites, the overriding responsibilities for protecting and preventing a worker's noise exposure, falls on both the controlling and exposing employer.

It is the responsibility of our **Clients (Host employers)** to:

1. Assess all of their sources of noise exposure at or above 85dBA generated by their facility operations and/or processes.
2. Determine if personnel working at their facility (employees and outside contractors) will be exposed to an 8-hour TWA noise exposure at or above fifty-percent (50%) of the OSHA PEL.
3. Review noise exposures annually (or more frequently) for all standard job classifications and tasks with an 85dB exposure level over an 8 hr TWA, or noise exposures at or above fifty-

percent (50%) PEL.

4. Establish their own procedures for Hearing Conservation Program required of their employees and contractors to follow while working on site. This may include eliminating or reducing noisy processes by re-designing equipment, implementing effective engineering controls, installing sound attenuation buffers (insulation, walls, etc), practice administrative controls or mandate hearing protection PPE within certain areas of their facility.

It is the responsibility of **SilMan Industries (employer)** to:

1. Implement and enforce this program to be in compliance with all state and federal OSHA regulations.
2. Update, modify, and maintain this program annually or more often as required. Annual audits of this program are required at minimum, to verify its overall compliance.
3. Follow our host/client employer's policies on hearing protection requirements when working at their facility. If this is unavailable or unknown, SilMan's policy will take precedence.

NOTE: Host/client facilities typically have already conducted internal noise monitoring for their own employees. Any customer policies, rules, or postings related to hearing protection must be followed.

4. Ensure that effective engineering and/or administrative controls are implemented primarily to eliminate, reduce or limit noise exposures - prior to relying on PPE for employee protection.
5. When necessary, ensure that only adequate and effective hearing protection (PPE) is selected and used by exposed workers. All required hearing protection must be readily available and provided to workers at no cost.
6. Monitor or assess workplaces and common operations/tasks for unsafe noise levels. This may require documenting any noise level readings where it is believed that noise levels will exceed 95dB for any given time frame, or may exceed 85dB for prolonged time frames (over one-hour exposure).
7. Train all affected employees & Supervisors at least once annually on elements of this program.

It is the responsibility of **SilMan's Site Supervisors and/or Foreman-In-Charge** to:

1. Monitor their work operations, tasks, tooling and work spaces for any noise related hazards requiring hearing protection, where 85 dB is considered the baseline exposure requiring protection.
2. Make decisions on sound attenuating materials (insulation, walls, padding, etc) or similar methods to be used in order to reduce high noise level exposures.
3. Issue proper hearing protection to all affected workers in exposed environments, and ensure PPE is being used effectively.
4. Ensure all employees are trained and understand how and when to wear adequate hearing protection properly when required by SilMan or host/client policies.

NOTE: Refer to our JHA, site orientation and client site rules for specific requirements.

It is the responsibility of **affected/exposed employees** to:

1. Understand noise level hazards and exposures affecting their health within each workplace, and understand how to use and what type of hearing protection PPE is required or available.
2. Wear, use, care, and store hearing protection PPE and monitoring equipment provided to them.

3. Select adequate hearing protection as outlined by SilMan policies, host/client workplace policies, postings, rules, manufacturer recommendations, including our pre-task safety plans (JHA's).

### C. Monitoring and Assessing Workplace Noise Exposures

SilMan periodically or as necessary, conducts noise level surveys/readings of the workplace environment. This is conducted only when necessary, as our general assumption is that all noisy tasks or noisy work environments will require the basic level of hearing protection.

Monitored results (readings) of these surveys will be kept on file, yet made available to employees at their request. Any task, operation or worksite that is monitored or assessed to be in excess of the OSHA PEL (at or above 85 dB TWA) that cannot be reduced to below the PEL, or cannot be limited, will be a designated area where hearing protectors (ear plugs at min.) must be worn.

If not clearly evident by other methods, we will post **Caution** or **Notice Signs** in the local area or entry points leading to an exposed area.

Typical warning signs requiring hearing protection:



### D. Audiometric Testing

#### Baseline Testing

Each new employee whose work exposes them to noise levels above the “OSHA action level” will receive a **Baseline Audiometric Test** as part of a pre-screening physical examination to establish a baseline audiogram against which subsequent (future) audiograms can be compared to as required by the OSHA standard.

#### Annual Audiograms

Employees who are exposed to noise levels exceeding the **85 dB PEL 8 hr TWA** will be given a follow-up **Annual Audiometric Test** to monitor the exposed employee for any significant changes (shift) in their hearing ability. Affected employees will be formally notified if there is any change or **threshold shift** in their hearing as the result of the exposure or testing. Baseline testing is required in order to determine a shift of any kind.

OSHA/NIOSH Standard has defined this shift as a change in hearing threshold relative to the baseline audiogram of an average of 10 dBA or more at 200, 3000 and 4000 Hz in either ear. In determining whether a standard threshold shift has occurred, allowance may be made for the contribution of aging (presbycusis) to the change in hearing level by correcting the annual audiogram according to the procedure described in *29 CR 1910.95 Appendix F: “Calculation and Application of Age Correction to*

*Audiograms.”*

When audiometric testing is required, each affected employee must not be exposed to any workplace noise for at least 14 hours prior to his/her test. This requirement may be met by wearing hearing protectors which will reduce the employee's exposure to a sound level of 80 db (A) or below.

Audiometric tests shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation, or who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining and checking calibration and proper functioning of the audiometers being used. A technician who operates microprocessor audiometer does not need to be certified. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.

An audiologist, otolaryngologist or physician will review problem audiograms and shall determine whether there is a need for further evaluation. SilMan will provide to each person performing this evaluation the following information:

1. A copy of the *29 CFR 1910.95* Hearing Conservation.
2. The baseline audiogram and most recent audiogram of the employee to be evaluated.
3. Measurement of background sound pressure in the audiometric test room as required in *29 CFR 1910.95 Appendix D.3*
4. Records of audiometric calibrations as required by *20 CFR 1910.95 Appendix E*.

If a comparison of the annual audiogram to the baseline audiogram indicates a **standard threshold shift** as defined by OSHA, the employee will be informed of this fact in writing (by SilMan) within 21 days of determination.

Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the company will ensure that the following steps are taken when a standard threshold shift occurs:

1. An TM not using hearing protectors will be fitted with hearing protectors, trained in their use and care, and when it is required to use them; and
2. An TM already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
3. Refer the TM for a clinical audio-logical evaluation or an otological examination, as appropriate, if additional testing is necessary or if the company suspect that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
4. Inform the TM of the need for an otological examination if a medical pathology of the ear which is unrelated to the use of hearing protector is suspected. If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA average of 90 decibels indicates that a standard threshold shift is not persistent the company:
  - a) Will inform the employee of the new audiometric interpretations: and
  - b) May stop the required use of hearing protectors for that employee.

## **E. Provide Suitable Engineering and/or Administrative Controls**

Where appropriate, the company will provide engineering controls to reduce noise exposure. Due to the complexity of most remote job sites and ever-changing environments, it is very difficult if near

impossible to institute effective engineering controls for most noise exposures. When and where we have the ability to implement these controls, we will attempt to. This may be in the form of purchasing quieter tools and equipment, such as sound insulated walls on air compressors or larger mufflers on mobile equipment or converting to electric equipment vs internal combustion engines, etc.

On average the only effective means is relying on our host/client facilities to implement these controls. Otherwise as a failsafe, our employees are required to wear suitable hearing protection that reduces their overall exposure during all tasks or operations that generate noises above 85dB.

## F. Provide Hearing Protectors Where Required

SilMan will provide and require employees with hearing protectors if his/her 8 hour TWA is above the 85dB (A). We will also make hearing protectors available to all employees exposed to a TWA above 85dB (A) at no cost to the employee. Any employee who may have a significant threshold shift of hearing level will be required to wear hearing protection if they are exposed to noise TWA of 85dB.

SilMan will provide workers with a choice of at least one type of ear plug and one type of ear muff (ear muff cannot be used when anything prevents the seal of the ear muff, such as safety glasses) On some jobsites there will be a choice of two different ear plugs. The company will make a concerted effort to fine the right protector for each employee, one that offers the right attenuation, is accepted on the terms of comfort, and is used by the employee.

1. Will require hearing protection in all area with noise levels at or above the 85dB(A) and for all task which generate such noise level (i.e., grinding, drilling, cutting, jack-hammering, general plant noise, etc.). Ear plugs will be mandatory in an area and/or during tasks with a sound level exceeding 105dB at any time.
2. To alert employees to possible hazardous noise exposures, we will first train our workers through pre-task planning, safety orientations, toolbox talks, or warning signs posted in work areas in which the sound levels may exceed 85dB.
3. Evaluate the need for engineering and/or administrative controls to reduce the noise levels below the 85 dB and, where feasible, develop a plan to reduce all personnel exposures to less than fifty-percent (50%) of the OSHA allowable.
4. Make hearing protection available and enforce its use by all employees with TWA exposures at or above the fifty-percent (50%) of the OSHA allowable and/or by those who must enter or work in areas where the noise level is 85dB or above.

REMEMBER - The client determines if a unit or work area is classified as a high noise area. After the determination is made, SilMan Industries management will instruct team members to wear the appropriate hearing protection based on the level of hazard and any engineering or administrative controls implemented.

## G. Recordkeeping

Record-keeping for this program will be maintained in our corporate office. Some records are based on company specific operations or working environments, while other records are employee based. In general, our records include:

1. Noise assessments, workspace surveys and noise level readings for common tasks and operations performed by the employee or trade/craft.
2. Engineering or administrative controls being implemented to eliminate, reduce or limit noise exposures.

3. Selection of effective hearing protectors to be used (based on task or operation). In some cases this may be employee specific if uniquely required.
4. Baseline and annual audiometric test results for each exposed employee over 85dB PEL subject to the requirements of this program.
5. Employee training records.

## H. Work Requiring Hearing Protection

There are many jobs or types of work that can produce noise level that intermittently or for short durations exceed the permissible TWA. SilMan will require all workers who are engaged in these types of jobs to wear hearing protectors. Refer to Appendix A for a common list of jobs that generate noise levels above 85dB.

## I. Hearing Protection (PPE)

Employees must use the right type of hearing protection that effectively protects their hearing when assigned work tasks that exceed, or have potential to exceed, the 85 dB PEL threshold. For ease of risk analysis, time weighted averages are considered, but not over analyzed. Therefore, hearing protection will be required when 85dBA is exceeded for more than 15 minutes on average, or 95dBA is exceeded at any time, even for acute exposures.

SilMan management will provide employees a variety of hearing protection PPE based on the noise level exposure, effectiveness of noise reduction, tool and equipment manufacture's recommendations, and preference of our team members. Personal preference of styles and types can be determined by the team member, as long as it is equally effective in reducing noise exposures. Each employee required to wear hearing protection is responsible for carrying hearing protection on his/her person. Hearing protection is furnished at no cost to employees.

All types of hearing protection shall be used correctly per the manufacturer instructions. The NRR shall be adequate for the noise level exposure of the environment being used.

If the general safety of any team member is compromised by hearing protection, (i.e. heavy equip operations, fire alarms, and or equipment back alarms cannot be heard, then hearing protection shall either be relaxed, NRR reduced, or administrative or engineering controls will be implemented and hearing loss risks will be re-assessed. Noise Reduction Ratings (NRR) for the most common protectors we use are:

- **EAR PLUGS** – Most ear plugs, when worn properly, have a noise reduction rating (NRR) on the label or package. Most ear plugs have NRR of 22-30.
- **EAR MUFFS** – Adjustable ear muffs can be worn under or behind the hard hat, and should also include ear plugs when worn over the ears to reduce noise further. Muffs should be used when noise levels exceed 100 dB at any time. Also muffs are commonly used in combination with plugs to reduce higher noise levels down even further. Most common muffs have an NRR of around 30. When muffs are used in conjunction with plugs, the combined NRR can add up to 50-60 level of protection.

Everyone's ears are slightly different therefore requiring the wearer to select the style that fits well, does not cause headaches, and is effective in hearing protection. Plugs shall be pinched, twisted and inserted into the outer ear canal and swell up to cut the noise level. Muffs are simply worn over the ears completely with a good seal around the hair and cheek.



## APPENDIX A

### Average Audible Level Readings based on Common Tasks

The following list represents average audible level readings surrounding standard work activities, tools, & equipment which will “require” the use of hearing protection to reduce or eliminate even short durations of exposure:

**Work tasks and/or Tool/Equip. - estimated average noise levels at or above 95 dB(A) within 2-3 ft from source.**

- Pneumatic jack hammers on concrete or asphalt: 110-115 dB
- Impact tools (metal on metal) 105-108
- Power Disc Grinder on metal: 100-105
- Heavy equipment operation (Bobcat chipping concrete): 90-100
- Air compressor or Generator: 90-95
- Welding operations (MIG, TIG, ARC): 85-95
- Chop-saws on metal: 100-115
- Skilsaws (or circular saw on metal): 95-110
- Chain-falls (chain operation): 90-95
- Porta-bands (band saws on metal): 80-95
- Typical plant noise (operating manufacturing equip): 75-85
- Hammering steel for weld shape cooling: 110-115

# APPENDIX B

## HEARING CONSERVATION PROGRAM FOLLOW UP TRAINING RECORD

**Trainer/Facilitator:** \_\_\_\_\_  
(Manager or Supervisor name)

The team member below was found to have a confirmed significant shift in the hearing threshold (as defined by OSHA). An investigation and additional training is required. When this form is completed and reviewed with the team member, please send to the corporate office to be placed in the employee file.

**TM Name (First, Last)** \_\_\_\_\_

**Trade & Local Union:** \_\_\_\_\_

**TM Date of hire:** \_\_\_\_\_

**Original Audiogram Date:** \_\_\_\_\_ **Results:** \_\_\_\_\_

**Post Audiogram Date:** \_\_\_\_\_ **Results:** \_\_\_\_\_

**Common work exposures during employment:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The Potential for noise exposure and specific requirements for using hearing protection in their area should be reviewed with this employee within 2 weeks. If hearing protection requirements have not been established in this work area, it must be done as soon as possible.

The retraining for this employee should include:

- The temporary and permanent effects of noise on hearing
- Established hearing protection requirements
- Any questions the employee may have on the use of hearing protection
- The proper use of hearing protection
- Comments the employee has on potential off-the-job noise exposure

**Comments on discussion:**

\_\_\_\_\_  
\_\_\_\_\_

**I have discussed the above items with this employee:**

\_\_\_\_\_  
\_\_\_\_\_

**Signature of Trainer/Facilitator:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Employee Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Manager/Supervisors Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_