

**U.S. CONCRETE, INC.  
SAFETY POLICY and PROCEDURE MANUAL**

<b>FUNCTION</b>	Safety
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<b>TOPIC</b>	Hearing Conservation Program
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- OBJECTIVE(S):** To provide a work atmosphere that is conducive to attaining a high work standard and as free as possible from safety and health hazards. To that end, U.S. Concrete has developed this hearing conservation program to ensure that employees are protected from occupational noise exposure.
- GENERAL POLICY:** (Defined below)
- APPLICATION:** U.S. Concrete, Inc.
- RESPONSIBILITY:** President/General Manager

**(1) STATEMENT OF POLICY**

When exposure to average sound levels of 85 (dBA) or greater, based on a 8-hour Time Weighted Average (TWA), are encountered, implementation of feasible engineering or administrative controls are required to reduce exposure levels.

When effective engineering controls are not feasible, administrative controls and the appropriate hearing protection will be utilized. The company will provide the appropriate equipment which is most applicable to reducing exposure levels to those specified by the California Occupational Health and Safety Administration (CAL OSHA).

The following sections contain the necessary elements for implementing an effective hearing conservation program in accordance with all applicable CAL OSHA, NIOSH and ANSI Standards

(2) **PROGRAM ADMINISTRATION**

The designated Safety Manager is responsible for the administration of the hearing conservation program. The duties of the program administrator shall include the following at a minimum:

1. Establishment and maintenance of the written hearing conservation program.
2. Implementation of operating procedures for conducting and evaluating noise exposure assessment.
3. Identification of noise/sound level hazards and the implementation of effective control measures.
4. Establishment of an effective audiometric testing program.
5. Selection of the appropriate protective devices.
6. Employee education and training in the proper use of the protective equipment.
7. Recordkeeping
8. Annual evaluation to determine the effectiveness of the program.

All employees who participate in the hearing conservation program are required to use the equipment in accordance with all instructions and training received, and it is managements' responsibility to ensure that all aspects of this program are enforced.

(3) **CONDUCTING, EVALUATING, AND NOTIFICATION OF NOISE EXPOSURE ASSESSMENTS**

All noise surveys should be conducted with the objective of obtaining data that is truly representative so the employee's exposure (daily noise dose) can be evaluated. All assessments must be made, and representative, of the employee exposures without adjustment for any type of hearing protection being utilized. All daily noise dose exposures must be made with a Type II Sound Level Meter and/or Personal Noise Dosimeter. Each unit shall be maintained to integrate all sound levels between 80 and 140 dBA on the A-Weighted scale with slow response instrument settings. All monitoring will be conducted using a 90 dBA criterion level with a 5 dB exchange rate.

Monitoring activities should be conducted to establish a relationship of actual time spent in each work area to the level of noise measured. This monitoring activity should be representative of single and multiple equipment operations, general area levels and the specific relationship of personnel to the noise/sound levels obtained, (i.e. personnel dosimetry readings). All measurements should be representative of the monitored individuals' full shift.

All segments of the survey must be directed towards evaluating the employees noise exposure to determine which controls; engineering, administrative, or personal protective equipment, will be most effective in reducing exposures.

Prior to the commencement of any noise monitoring, the monitored individual(s) and/or their representative shall be notified to afford them the opportunity to observe the noise exposure monitoring. This notification will include the anticipated date and time of the proposed monitoring episode.

Within fifteen (15) calendar days of the conclusion of any noise monitoring conducted, those employees who participated in the monitoring must be notified in writing. The written notification must include the exposure determination (i.e. exposure levels), and the corrective action to be taken.

**(4) AUDIOMETRIC TESTING**

The health and safety program provides for initial physicals for all potential employees. An audiometric test is part of this initial physical examination for all employees who must participate in the hearing conservation program. The audiometric testing shall be provided at the facility's Occupational Health Clinic by licensed physicians or certified audiometric technicians. All initial/baseline audiograms shall only be conducted after the employee has had a minimum of 14 hours non-occupational noise exposure. If exposed to high noise levels during the 14 hour period, the use of hearing protectors may be substituted for this quiet period. In addition, employees shall be instructed to avoid high levels of non-occupational noise for this same 14 hour time-frame prior to examination. Furthermore, all participating employees will receive, at a minimum, annual audiograms. All audiometric testing will be performed in accordance with CAL OSHA Title 8, its applicable appendices, and ANSI Standard S1.4-1971.

The results of the annual test will be compared to the initial baseline audiograms. If a Standard Threshold Shift (STS) is noted, testing will be repeated within thirty (30) days, and follow-up examinations as prescribed by the physician will be given, at no cost to the employee. A standard threshold shift is defined as a change in recorded decibel levels of 10dB or greater in either ear at 2000HZ, 3000HZ, or 4000HZ.

If a comparison of the annual and baseline audiograms indicates a STS, then the employee will be notified within twenty-one (21) days. If the STS is determined to be work related or aggravated by occupational noise exposures, then the facility will provide the employees with hearing protectors (Determination on whether an STS is work related shall be made by comparing the baseline audiogram to the most current audiogram). These protectors must have an attenuation sufficient to reduce employee exposure to a TWA of 85 dBA. All employees requiring the use of this medically mandated hearing protection will be trained in their use and care, and be required to use them at all specified times.

If subsequent audiograms indicate that an employee has an STS, that is not persistent, and is exposed to less than the 8-hour TWA of 90 dBA then the facility may discontinue the required use of hearing protectors.

All results of the audiograms will be provided to the employee by the audiometric testing firm. All physical records are managed in accordance with the respective CAL OSHA Noise Standards.

**(5) EQUIPMENT SELECTION**

The selection of hearing protector devices shall take the form of earmuffs that are worn over the external ear and provide an acoustical seal against the head, earplugs, or sound bands that provide an acoustical seal at the entrance to the external ear canal.

Equipment selection shall consist of two types of earmuffs, two types of earplugs, and two types of sound bands. The earmuffs shall consist of either hardhat mounted or under the chin/over the head devices. All earplugs and sound bands shall be either formable or molded in nature. All units shall be selected to provide the proper Noise Reduction Rating (NRR) appropriate for the sound level exposures at a given facility or with a specific operation conducted at the facility.

Employees' may request the use of a different type of protector in order to maximize their noise exposure reduction, comfort and acceptance of the use of hearing protection. The selection of equipment shall be expanded for those individuals who are precluded from using their originally selected device(s) due to medical conditions.

Sound energy may reach the inner ears of persons wearing protectors by four different pathways:

1. passing through bone and tissue around the protector;
2. causing vibration of the protector which in turn generates sound into the external ear canal;
3. passing through leaks in the protectors; and
4. passing through leaks around the protectors.

Due to the varying noise/sound levels encountered in an occupational environment, these various pathways of exposure are considered when selecting sound attenuation devices.

The three basic types of sound attenuating devices available are:

1. Earplugs
  - (a) formable
  - (b) molded
2. Sound bands
3. Earmuffs

**A. Earplugs (Formable)**

While other types of ear plugs are available, U.S. Concrete has determined that under most exposure conditions, formable earplugs offer adequate protection from noise levels common to our operations.

Formable earplugs are made of materials such as cotton, wax, polymers, etc. Typically, they are of a sponge type resin material.

The protection provided by the formable earplugs varies according to the material used and how well the plug is seated and maintains the noise seal throughout the day.

In general, malleable plugs made of non-porous and easily formed materials are capable of providing attenuation values equivalent to those provided by the best sized-type molded earplugs. The plugs must be carefully formed and firmly inserted to obtain this high level of performance.

Formable earplugs should be formed and inserted with clean hands because any dirt or foreign objects inserted into the ear may cause irritation or infection. Formable earplugs should be inserted at the beginning of a work shift, and they should not be removed and reinserted during the work period unless the hands are cleaned. Therefore, formable plugs (and to a somewhat lesser extent, all earplugs) are a poor choice for use in dirty areas having intermittent high noise levels, or in other locations where it may be desirable to remove and insert protective devices during the work period

**B. Earplugs (Molded)**

The best molded earplugs are made of a soft and flexible material that will conform readily to the many different ear canal shapes so that a snug, airtight, and comfortable fit is possible.

The earplugs must be non-toxic and have smooth surfaces that are easily cleaned with soap and water. Earplugs are also selected that will retain their size and flexibility over long periods of time. Care must be exercised in using earplugs due to some ear waxes which may cause changes in size and flexibility of protectors after extended use.

**C. Sound Bands**

Sound bands are typically worn behind the head or under the chin and consist of a rigid structure with two formable, sponge type resin material ear caps.

Sound bands, by design may be quickly inserted at any time during the work shift. When not in use, the unit is typically worn around the neck. This may lead, in dirty areas, to the attraction of material to the caps. Therefore, care should be exercised to ensure that the caps are clean prior to insertion into the ear opening. In addition, in extremely they may not be a suitable choice for protection.

**D. Earmuffs**

Earmuffs that offer the maximum protection have protector earcups formed of a rigid, dense, imperforate material. In general, the size of the enclosed volume within the muff shell is directly related to the low frequency attenuation. The earcups should have a small diameter so that the acoustic seal takes place over the smallest possible irregularities in head contour. Additionally, a small seal circumference also minimizes leaks caused by jaw and neck movements.

Earmuffs are generally made of a smooth plastic envelope filled with foam. Skin oil and perspiration have adverse effects on cushion materials, so that, after extended use, the soft and pliable cushions may tend to become stiff and sometimes shrink.

The acoustical seal materials used on earmuffs will provide maximum protection when placed

on relatively smooth surfaces; therefore, less protection should be expected when muffs are worn over long hair, glasses or other objects. Glasses with close-fitting, average-sized, plastic temples will cause about five to ten decibel reductions in attenuation in most cases, but this loss of protection can be reduced substantially in smaller, close fitting, wire temples are used. Covers for acoustical seals to absorb perspiration also reduce attenuation by several decibels because noise leaks through the porous material.

The loss of protection is directly proportional to the size of the obstruction under the seal and every effort should be made to minimize these obstructions.

The force applied by the muff suspension is another factor directly related to the amount of protection provided. A compromise must be made in choosing the suspension force on the basis of performance versus comfort. Suspensions should never be deliberately sprung to reduce the applied force if maximum protection is desired.

#### **E. Dual Hearing Protection**

Earmuffs and earplugs must be used in combination to obtain maximum noise attenuation, if an individual's noise exposure exceeds a TWA of 105 dBA or equivalent after integrating all sound levels from 90 to 140 dBA. Company sound level meters are set to integrate all levels between 80 and 140 dBA. It is the company, and affected individuals' responsibility to ensure the concurrent use of both an ear plug and earmuff protector when exposure levels exceed the 105 dBA, Dual Hearing Protection Level.

Caution should be exercised when using this combination in areas where audible operating alarms or verbal instructions/communications are used.

#### **F. Employee Notification and Training**

A training program has been implemented for all operational employees who may be exposed to either intermittent, impact, impulse or continuous noise levels that may be in the 80-140 dBA range. The training will include the following:

1. The effects of noise on hearing;
2. The purpose of hearing protection;
3. The advantages and disadvantages of various forms of hearing protection;
4. Selection, fitting and use of hearing protection;
5. The general requirements of the applicable MSHA or CAL OSHA standard;
6. The company's and employee's responsibilities for maintaining noise controls;
7. The purpose of audiometric testing and an explanation of test procedures; and
8. Areas or jobs involving excessive noise levels.
9. Areas identified as having exceeded the recommended levels:
10. Activities identified as having exceeded the recommended levels:

This training will be repeated no less than annually or when operations or equipment require changes to the program. Training will be documented on standard Employee Meeting

Records, Acknowledgements of Training and on Employee Development Records, or their equivalent. Copies of these forms can be found in Attachment #3 of this document.

Employees will be notified of areas requiring hearing protection by the posting of **CAUTION – HEARING PROTECTION** Signs restricting the area from persons who do not have hearing protection.

(6) **RECORDKEEPING**

Exposure measurements are signed off by employees on notification forms and placed in employee files as well as in the industrial hygiene monitoring records. These records shall be retained for a minimum of two years.

Audiometric testing becomes a part of the employees Medical Records package. Due to confidentiality restrictions, copies of these records can be obtained by an employee at the occupational health clinic or by contacting the Safety Manager.

All records are managed in compliance with CAL OSHA Title 8

All records will be made available to the requesting employee, or representative, within 15 calendar days. The first copy will be supplied at no cost. Additional copies, at the company's discretion, may be charged for at reasonable rate.

(7) **PROGRAM EVALUATION**

The program evaluation shall be performed by the designated Safety Manager. This evaluation will consist of observing these written procedures in practice. The evaluator shall correct any deviations or inadequacies observed. The evaluator shall also review with each affected employee his or her responsibilities under the hearing conservation program.

The designated Safety Manager will review this program at least annually, for compliance with all aspects of the program.

<b>Approved by:</b>	Original at US Concrete Houston
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<b>Effective Date:</b>	1/1/03
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<b>Signature:</b>	Original at US Concrete Houston
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