Defeating the Decibels

Managing Noise-Induced Hearing Loss in Mining & Manufacturing

flex SHIELD®

www.flexsoundproofing.com.au

Introduction

Noise-induced hearing loss (NIHL) is caused by exposure to either a sudden, loud noise or exposure to loud noises for a period of time. Excessive noise exposure is the cause of 37% of hearing loss, making it the single most significant cause of hearing loss in Australia [1] .

Hearing loss isn't the only impact of excessive noise exposure, it often leads to feelings of frustration and isolation. It also has a significant economic impact, costing Australia almost $12 billion a year. Most of this loss can be attributed to the impact on productivity, with almost 160,000 people not working due to poor hearing [2]. Additionally, "compensation claims for noise induced hearing loss, due to excessive noise at work, comprise a very significant proportion of all claims for occupational diseases" [3].

"In the manufacturing industry there are numerous sources of loud noise, such as air arc gouging, which can reach levels of 140dB."

The Dangers

But at what point does a sound go from merely being loud to being a health hazard, and which workers are most at risk of NIHL?

The threshold for hazardous noise in the workplace has been established at 85 decibels on the A weighted scale (dBA) [4] . To be considered at risk for hearing loss, an employee's average noise exposure for a standard, 8 hour workday must equal or exceed this 85 dBA level [5].

Many noises we encounter in our everyday life are 85 decibels or higher, however imagine trying to work the entire day with the sound of a household vacuum cleaner (85dBA) [6], a lawn mower (90-95dBA) [7] or truck traffic (90dBA) [8] constantly in your ears?

The mining and manufacturing industries offer more opportunities for noise exposure than most. Drills, shovels, crushers, mills, screens and many other types of processing equipment are inherently noisy and employees working in these industries are particularly vulnerable to NIHL if proper precautions are not taken.

In the manufacturing industry there are numerous sources of loud noise; hammering, grinding, cutting and pressing to name just a few. Some of these processes, such as air arc gouging (commonly used in the mining industry to repair damaged digger buckets), can generate dangerous sounds of over 140 decibels: enough to cause immediate deafness [9].

Your Responsibilities

Employers have a duty of care to protect their workers health. Section 9 of the Mines Safety and Inspection Act 1994 outlines general and specific provisions for duty of care, enshrining in law employer's responsibility to implement appropriate control measures that ensure a safe working environment.

According to the National Standard for Occupational Noise (NOHSC 1007:2000), specific action must be taken when employees are exposed to an average noise level of 85dB over an 8-hour working day or a peak noise level of 140dB or higher. This means that, in situations where noise levels still exceed specified acceptable levels, further to controls being put in place, an employer must reduce the length of time that an employee is exposed to noise [10].

(Mobile acoustic panels for air arc gouging)

"Flexshield's acoustic panel 'Sonic System' can reduce noise by up to 47dB, helping to minimise downtime."

(Mining camp power station enclosure)

(Acoustic covers on pumps)

The Solution

As experts in providing sound-proofing solutions for the mining and manufacturing industries, Flexshield have designed two solutions to tackle NIHL risks for employees: Mobile Soundproof Panels and Acoustic Enclosures.

Mobile Soundproof Panels allow you to cordon off an area where high-decibel tasks are being conducted, limiting noise exposure to those working nearby. Quick and easy to assemble, these panels can help reduce noise by up to 12dB and are customised to suit the exact application and environment. They can also be adapted to different work areas as required.

Acoustic Enclosures offer a more specialised noise reduction solution and each enclosure is designed to meet the exact requirements of an individual application, including noise reduction, access, maintenance requirement, materials and aesthetics.

Utilising Flexshield's innovative, acoustic panel 'Sonic System', you can reduce noise by up to 47dB. This helps ensure you meet your responsibilities as an employer while also helping to minimise downtime.

Flexshield has full NATA certified test results for their products. These along with samples are available on request.

[1] Hearing Australia, "Hearing Loss in Australia": http://www.hearing.com.au/upload/media-room/Hearing-loss-in-Australia.pdf
[2] Access Economics: Listen Hear! The economic impact and cost of hearing loss in Australia, February 2006
[3] Hearing Australia, "Hearing Loss in Australia"
[4] Cascade Health & Safety, "How Loud is 85 Decibels?": http://www.cascadehealthsafety.com/http:/www.cascadehealthsafety.com/how-loud-is-85-decibels
[5] Noise Control in Mines – Guidelines, Mining Industry Advisory Committee (MIAC), 2006
[6] Cascade Health & Safety, "How Loud is 85 Decibels?"
[7] Cascade Health & Safety, "How Loud is 85 Decibels?"
[8] Decibel Comparison Chart, Galen Carol Audio: http://www.gcaudio.com/resources/howtos/loudness.html
[9] 'Air Carbon-Arc Guide', Victor Technologies, 1998
[10] Noise Control in Mines – Guidelines, Mining Industry Advisory Committee (MIAC), 2006

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