Acoustic Design Elements For Workplaces

Use this module for inspiration and handy tips to make acoustic adjustments and manage noise levels in your workplace.

- MANAGE YOUR ACOUSTIC ZONES
- TIPS TO STAY ON TOP OF NOISE OVERSPILL
- NOISE BUFFERING FIXTURES AND FITTINGS

NATIONAL FOUNDATION FOR Deaf & Hard of Hearing

HOW TO MANAGE ACOUSTICS IN THE WORKPLACE

This module highlights a range of acoustic design elements that can be implemented in workplaces to improve the acoustic quality of each zone in the workplace. From quiet workstations to noisy social or industrial zones, there are a range of materials and design approaches you can utilise to accommodate work activities, while ensuring the best outcomes for employee productivity and wellbeing, especially those employees with hearing loss.

ACOUSTICS

Getting on top of workplace acoustics can benefit all employees. But will make a significant difference to employees with hearing loss who can be affected the most by background noise.

Creating a workplace plan that supports inter-space noise control is very important. For employees with a hearing loss, coping with noise in the workplace can be exhausting and make it difficult to concentrate on the task at hand or follow what a colleague is saying to them.

This module will cover:

- Acoustic zones in the workplace, and;
- Staying on top of noise levels in the workplace.

Partitioned zones for inter-space noise control

ACOUSTIC ZONES

When designing a floor plan for a workplace, it is important to identify loud zones and quiet zones, as well as how to manage any noise that might overspill from the noisy zone into the quiet.

Acoustic zones can be broken up with buffers and partitions

LOUD ZONES

Consider activities in the workplace that are noisy and look at ways to limit noise from these zones spilling into quiet zones.

It is advisable to separate out the following zones, to prevent disruption in the quiet zones.

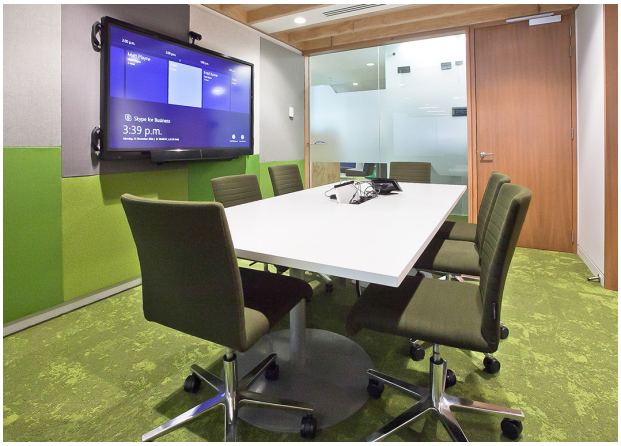
- Keep areas with noisy office equipment, such as large printers and copiers, away in isolated areas.
- Other high noise areas, such as kitchens, cafeterias, and break rooms, also need to be acoustically isolated from work areas.
- Conference rooms are another obvious example of spaces that are inherently noisy.
- Restrooms also fall into this category, as do impromptu meeting areas and lobbies.

Look at opportunities to create specific areas where noise generating activities take place without distracting other workers — for example, why not create convenient "telephone booths" that staff can duck into when they need to make a distracting phone call?

Cafeterias need to be acoustically isolated from work areas.

Conference rooms can be very noisy, additional acoustic panels along the walls and the ceiling, as well as carpet can do a lot to absorb noise and prevent noise propagation into quiet work zones.

Consider creating telephone booths, where workers can make phone calls or collaborate with a colleague.



Meeting rooms can be a noisy zone also, additional acoustic panels and carpet will help to dampen noise and prevent noise spilling into quiet zones.

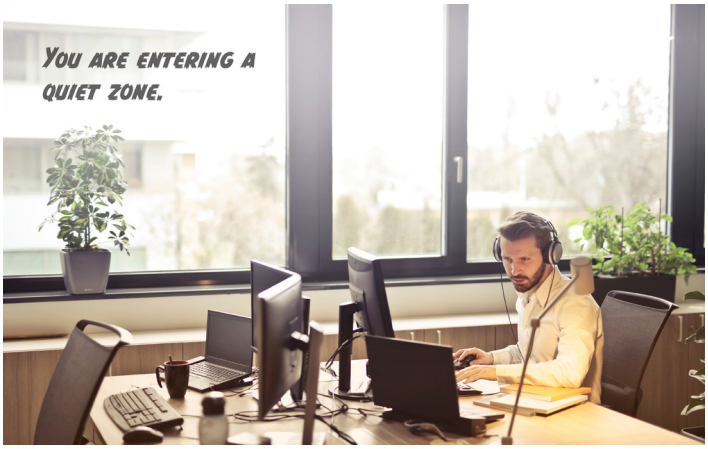
QUIET ZONES

Establishing quiet zones can do a lot to enhance productivity, and offer a less stressful work environment for employees with hearing loss.

Sometimes it's the simple solutions that can be the most effective. Consider implementing an office convention, such as signage at the entrance to a work area that indicates a request for extra quiet during a project crunch time.

It may also be beneficial to provide bookable quiet spaces for workers who need to concentrate with maximum attention. These quiet hoteling spaces are shared and can be "checked" in or out of like a hotel room. It's a great option when space is limited.

Placing partitioning around quiet zones is also an effective way to help absorb noise from loud zones, while also visually indicating where a quiet zone begins.



Use signage to indicate to employees which zones are quiet and which are noisy.

Consider providing quiet zone 'hoteling' work stations that can be checked in and out of.

NAVIGATING BETWEEN ZONES

Consider also colour coding zones or using different materials, so that employees can intuitively read the expected noise behaviours in each zone. As per the example right, green indicates noisy social zones, wooden floors indicates travel zones and grey indicates quiet work zones.

Consider colour coding zones to indicate noisy zones, (green) travel zones (wood) and quiet zones (grey).

ACOUSTIC ABSORPTION

While increasing the acoustic absorption in a workplace doesn't make noise leave a room, it can dramatically reduce the amount of noise experienced by reducing the reverberation (echo) traveling in the space, making it a much more comfortable environment.

Place noise absorbing furniture along walls or large windows to reduce noise reflection.

FURNITURE

It is a good idea to select furniture that contributes to noise absorption.

Where you have large reflective surfaces, such as long walls or windows consider the placement of sound absorbing furniture. This will help to reduce the reflection of noise within an enclosed space.

You may also wish to consider noise absorbing materials that can be incorporated into cubicle furniture, such as noise absorbing storage cabinets or desk dividers.

There are now many casual seating furniture solutions that incorporate office noise control devices, ranging from privacy panels with built-in baffles to soft upholstery fabrics that help absorb noise.

Furniture with built-in baffles help to absorb noise.

Noise absorbing desk dividers.

Furniture with built-in baffles and soft upholstery fabric that help to absorb noise.

CEILINGS

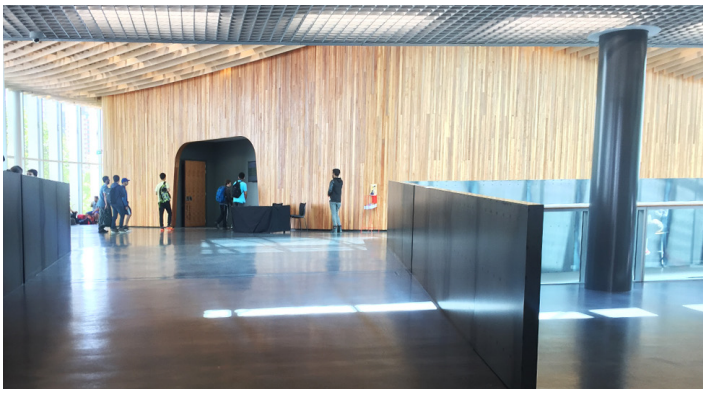
It's not uncommon to have unfinished concrete or wood on ceiling panels in workplaces.

Unfortunately, the reflective nature of these ceiling surfaces can wreak havoc with the acoustics in the workplace.

One attractive solution is to create acoustic panels made out of industrial-looking materials, such as per-drilled hardwood or perforated metal, with sound absorbing panels hidden on the back side. These perforated panels help control office noise.

It is also beneficial to install additional acoustic panels, clouds or baffles in any zone where people gather in groups or where there are a mix of noisy activities occur in the same zone. For example, at the lifts, at receptions, in the cafeterias or just outside conference rooms.

Pre-drilled panels with fabric panels on the backside are an effective.



Place additional acoustic panels or baffles above high noise zones, such as entrances or exits of conference rooms or lecture halls.

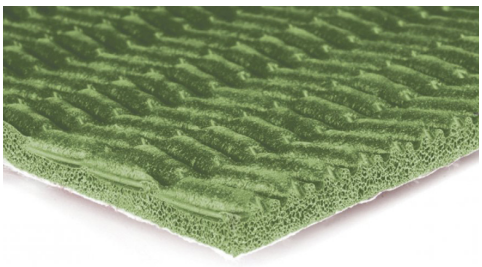
FLOORS

Carpets can help to reduce sound transmission through the floor, such as heavy footfalls from pedestrian traffic in the office.

Carpet absorbs sound and its benefits can be maximised by choosing carpet with permeable matting and open cell foam underlay.

If you want the look of hardwood or tile, but want to keep the noise down, you may want to consider installing engineered floating floors. As the name suggests, floating floors simply lay on top of the floor structure underneath without using fasteners, which can transmit sounds. They also maintain a small gap where they meet the walls, so sound can't transmit through the walls either.

Carpets can be a great way to control impact noises like footfall in high traffic zones.



Add additional mass by installing open celled rubber mats under carpets.

WALLS

Acoustic wall panels also do a lot to absorb unwanted noise, such as an echo, within a space. Many vendors now offer to print an image of your choice on the panels as part of the service. The end result is a significant noise reduction and an aesthetic effect similar to hanging a canvas.

Acoustic pin boards are also a useful way of controlling reverberation. They manage noise, while allowing employees to utilise the space to display information about upcoming events and important notices.

Acoustic wall panels are an aesthetically pleasing way to absorb unwanted noise in a room.

PARTITIONS

Increase visual and auditory privacy and reduce the echo effect in an open plan office without committing to a remodel by installing acoustic panels between workstations.

Break up an open space into several smaller acoustic spaces, through the clever use of partitioning.

Installing acoustic partitions, can be a successful way to achieve a quiet, calm environment for employees and can be implemented in both quiet zones and in loud zones.

Use acoustic partitions to help manage noise in both quiet and loud zones.

FOR MORE INFORMATION

Engage a suitably qualified acoustic consultant, such as a Member of the Acoustical Society of New Zealand or a Member Firm of the Association of Australasian Acoustical Consultants.

For the list of the Association of Australasian Member firms in New Zealand, go to aaac.org.au/nz

Partitions can break up an open office into several acoustic spaces and minimise spill.

** Source: Forma Space*

Helping you and your team to become more inclusive of hearing loss in the workplace.

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