

# insights

FOR A BETTER BUYING EXPERIENCE

SUMMER ISSUE 2009

## Increase Productivity by Reducing Noise

### IN THIS ISSUE:

Learn how to better control noise  
in an open office environment.



# Minimize Distractions, Maximize Efficiency.

An open plan office has many advantages, such as greater flexibility and improved collaboration. But with all its advantages, there's one disadvantage: noise, a leading cause of employee frustration, stress and dissatisfaction. So does this mean you shouldn't consider a more open layout? Not at all. But we do advise you to think about the distractions such an environment creates and how you can minimize or avoid them.



Noise in the workplace is a far greater issue than it was a decade ago. This can be contributed to two factors: 1) more companies have adopted open plan designs and 2) mobile technologies have proliferated. Now more than ever, your employees are surrounded by a number of devices that distract — cell phones, PDAs and more. And where heating and cooling systems once provided sufficient white noise to mask disruptive sounds, today's HVAC systems are so quiet that nothing is dampened.

Recent research shows this increased exposure to noise can result in decreased productivity

and higher incidences of absenteeism, illness and employee turnover.

The January 2005 issue of Ergonomics reported that 57% of workers surveyed said background noise caused "major deterioration" in their ability to concentrate. Somewhat surprisingly, they did not grow accustomed to the noise over time. In fact, the longer they stayed in the office, the more noise disruption they reported.

So what can be done to counteract the negative impact of noise? Think of ways to absorb, block or cover it. If you can, do so

during the design phase where absorptive materials can be selected and incorporated early on. If you've already switched to an open plan environment, there are still ways you can make improvements (i.e. sound masking). Here are five areas to focus on:

## FURNITURE

In open plan offices, the acoustic role of furniture is to prevent sound from traveling from one cubicle to another. We recommend a workspace divider height of at least 60", though 72" is preferable. Any divider panel that's 48" or lower is entirely ineffective at blocking conversational noise. When selecting furniture, be sure to ask about its Sound Transmission Class (STC) rating. In general, you'll want a sound blocking capability of STC 18 to 20.

## LAYOUT

In addition to acoustical properties of furniture systems, you'll also want to consider how the furniture is placed. For instance, you'll want to avoid line-of-sight layouts between workers. When employees can see each other, chances are they'll hear one another, too. The one exception is glass, which is an acceptable sound barrier.

## CEILINGS

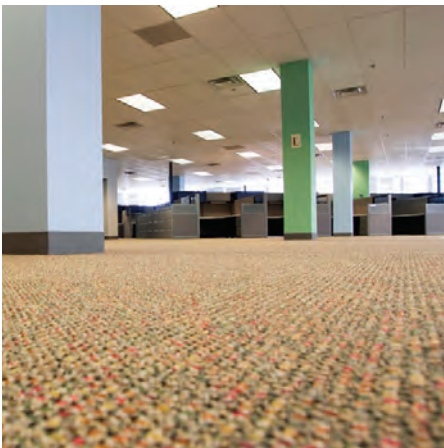
Sound doesn't just travel horizontally. It also goes up and then bounces off the ceiling. When choosing an acoustic ceiling for use in an open plan office, it's important you look at the Articulation Class (AC) rating. It measures



how well materials disperse sound. For standard ceiling heights of 9 1/2 to 10 feet, an AC rating of 200 – 180 is preferred.

### CARPETING

Carpet serves to absorb sound, reduce footfalls and help block noise from being transmitted to the floor below. According to testing conducted by The Carpet and Rug Institute, the acoustical properties of flooring are strongly influenced by the addition of cushioning. Whenever possible, select thick, permeable carpet backing — doing so will pay off in higher levels of sound absorption. Also, when evaluating your flooring options, pay attention to the Noise Reduction Coefficient (NRC). The higher the rating, the greater the absorption.



### SOUND MASKING

If you're unable to make any of the improvements above, you might want to think about adding sound masking devices. They slightly raise a building's background sound level, making it difficult for employees to understand and be distracted by their co-worker's conversations. With a sound masking device, you can increase speech privacy by up to 50 percent.

### CONCLUSION

Can addressing noise issues in an open plan office really lead to increased productivity? Without a doubt. Recently, a leading textiles manufacturer replaced ceiling systems in six different offices with more absorbent materials and added sound masking devices. With auditory distractions reduced and/or eliminated, employees reported a 25% increase in satisfaction with their overall work environment and a 27% reduction in stress. On the whole, worker productivity increased an average of nearly 20%.

### WHEN NOISE ISSUES ARE ADDRESSED:

"Conversational distractions" decreased by **51%**

The ability of office workers to focus on their tasks improved by **48%**

Physical symptoms of stress were reduced by **27%**

Performance of standard tasks improved by **10%**

Source: David M. Sykes, Ph.D., How Acoustics Affect Human Productivity

In a subsequent study involving a call center, even more dramatic results were achieved. In this facility, the acoustical corrections resulted in a 300% increase in satisfaction with noise levels and a 140% increase in satisfaction with the overall work environment. Although employees had estimated the noise reduction would increase productivity by 8%, the actual increase after six months was an average of 19.8% per worker.

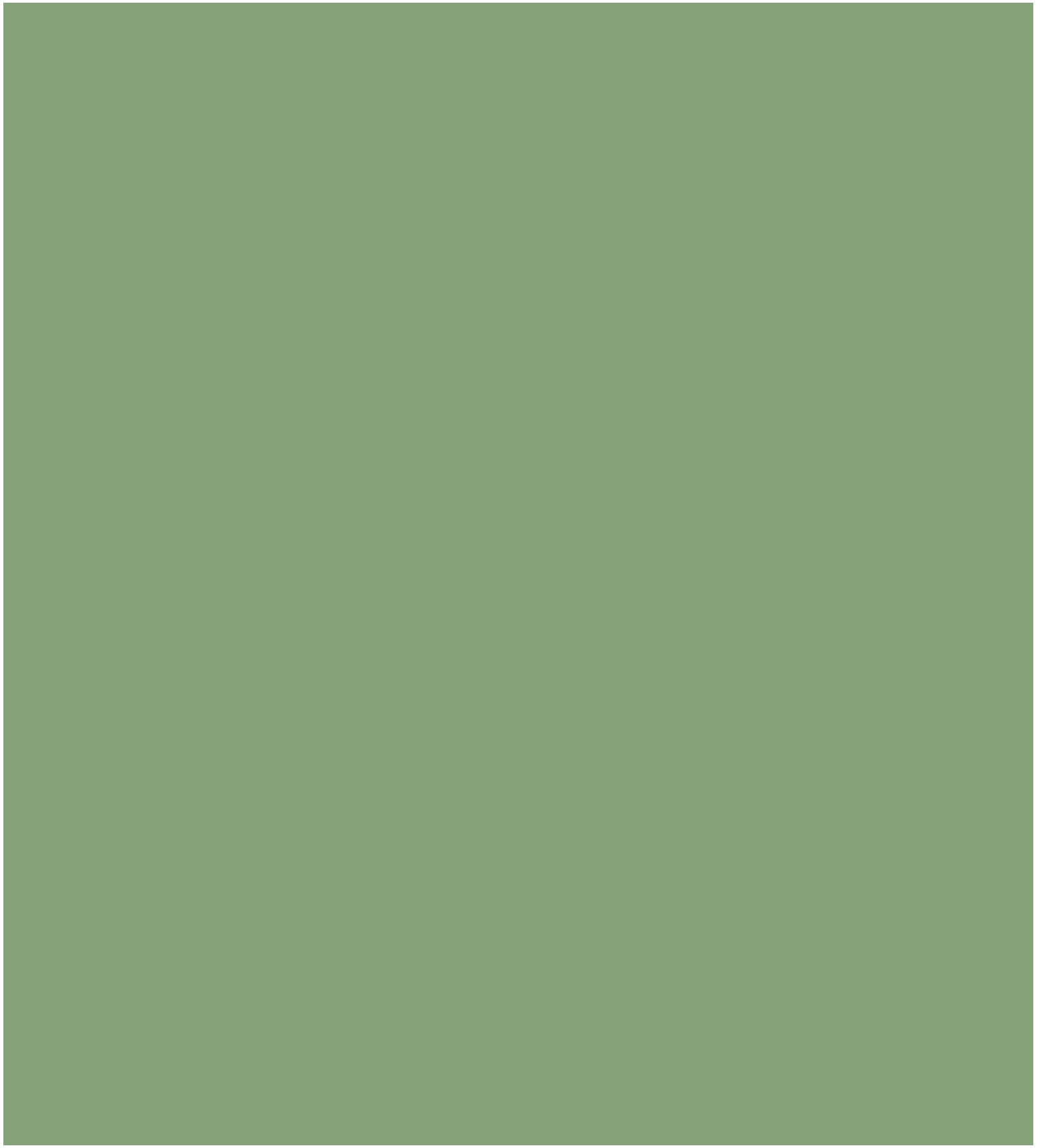
So before you move ahead with an open plan office — or before you make any changes to the open plan office you have — call us today. Our noise knowledge and general office expertise can help you create a workplace that can positively impact your employees, their output and your bottom line.

### SOURCES

ASID, Sound Solutions: Increasing Office Productivity Through Integrated Acoustic Planning and Noise Reduction Strategies  
Buildings.com, Productive Silences

### WHY IS NOISE CONTROL IMPORTANT NOW?

- Open plan offices are the norm. An estimated 70% of office workers perform their work in cubicles or other open work areas.
- As employers reduce costs by minimizing floor space, workstation densities have doubled. This means employees are working closer to each other than ever before.
- With Wi-Fi and other technologies allowing employees to work together virtually anywhere, there's a greater chance they're disturbing coworkers engaged in "heads down" work.
- Phones, PDAs, pagers and other devices with electronic ring tones and audio alerts are more common, creating a greater number of disturbances.
- Heating, ventilation and air conditioning equipment have become so quiet that they no longer provide enough white noise to adequately mask noises.



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