

SOUND SOLUTIONS

Lencore
Acoustics Corp.

KAISER PERMANENTE

Challenge:

Kaiser Permanente – the largest not-for-profit health plan serving over 8.6 million members with 2008 revenue of \$ 40.8B – was looking to improve their medical office building standard (in particular exam rooms,) comply with Health Insurance Portability and Accountability Act (HIPAA) personal information privacy standards, and reduce cost. Kaiser maintained a slab-to-structure building standard which did meet the HIPAA requirements.

Speech Privacy Can Be Objectively Measured Using Articulation Index (AI) and Privacy Index (PI)

Speech Privacy Levels	AI	PI
Normal	≤0.20	≥80%
Confidential	≤0.05	≥95%
Secure	Special consideration required.	

As per ASTM E - 1130 Standard for Speech Privacy
AI varies from 0 (absolute privacy) to 1.0 (perfect intelligibility, no privacy)
PI is a related rating system and the inverse of the AI
An AI of 0.15 is a healthcare standard versus an AI of 0.20 for open office plan as a standard

The challenge was to develop an alternative that would work with architectural details, reduce cost and still meet the HIPAA standards.

Solution:

Lencore Acoustics Corp.— a leading manufacturer of sound masking solutions— has worked with Kaiser Permanente’s Manager of Standards for years and in over 40 facilities. Lencore leveraged a simple approach of asking “What do you want it to achieve?” Lencore listened to the challenges and the specific requirements of Kaiser and custom designed the system around those needs.

The result: A specific acoustical solution by room type – verified by an independent acoustical consultant – that surpassed the acoustical requirement. According to Kaiser’s acoustical consultant, they exceeded the standard with the Lencore solution.”

Furthermore, by looking at alternative construction, significant cost savings are expected. This solution now provides an option in the new National Standards book released by Kaiser in May 2009.

Result:

Kaiser Permanente describes the outcome as providing significant cost savings through alternative construction. They anticipate hundreds of thousands of dollars in savings.

Lencore’s solution provided Kaiser with a superior patient experience while allowing physicians to better focus on their function by significantly reducing audible distractions.

Independent Commentary:
The Use of Sound Masking
by Erik Ryerson of Shen Milsom & Wilke, LLC Chicago:

“Based on a client’s requirements, sound masking is a very viable solution when used in conjunction with the architecture. It really is about understanding the application and then determining whether or not the right solution is a combination of increasing the level of noise in a controlled and predictable way within the space to increase speech privacy. It is not the right solution for every application but I certainly support it when appropriate.” Ryerson went on to describe his approach to speech privacy and the type of construction utilized. “The introduction of sound masking should have a positive effect on moving the sliding scale towards ‘Good’ or even ‘Excellent’ speech privacy in floor-to-ceiling applications.”

Construction Savings

Calculating general cost savings is difficult due to the variance across the country as well as the construction standards¹, however, here is an example provided by general contractor company Pepper Construction for a typical 10’x10’x12’ metal stud, drywall with insulation room:

- Slab-to-Structure: 12’x10’ times 4 walls = 480 sf x \$ 8.75 per sf = \$ 4,200 per room
- Floor-to-Ceiling: 9’6”x10’ times 4 walls = 380 sf x \$ 7.80² per sf = \$ 2,964 + \$ 100 (approx. \$1 per sf for installation of sound masking solution) = \$ 3,064
- **Savings** = approximately \$ 1,136 per room or **27%**

¹Check with your local general contractor for actual construction costs and local requirements

²Floor-to-ceiling cost is approximately 11% less expensive than slab-to-structure

³Added benefit for Floor-to-Ceiling construction is renovation is easier and less expensive