SHAVER INDUSTRIES INC.

CASE HISTORY NO. 5

BSC-25 ABSORBER / BARRIER COMPOSITE

INDUSTRIAL PRODUCT OR MUSEUM PIECE?

Portland Museum of Art | Portland, Maine

It was getting pretty hot at the Portland, Maine Museum of Art. Director of Facilities, Kevin Eames, decided that the best way to improve the efficiency of the museum's air conditioning system would be to install a new rotary screw chiller. The problem was that it had to be placed in the same location as the older, quieter unit, a maintenance workshop space measuring about 15' x 40'. Unfortunately, it would also be adjacent to one of the museum's display areas.

Kevin's concern was that the higher noise levels generated by the new Carrier chiller would disturb visitors in the display viewing area. He was also worried that he would lose the effective use of the remaining workshop space--more than 400 square feet. Another consideration was the heat generated by the unit itself. Would it overheat the entire work room, making it impossible to work in?

He called NEVA Associates, a noise-control manufacturer's rep firm located in Newburyport, Massachusetts. Bill Veazey of NEVA Associates recommended an acoustical curtain enclosure as the most cost-effective way to reduce the noise. He knew that Shaver Industries' acoustical curtain enclosure design would provide: accessibility, sufficient air flow for ventilation, and most important, the noise reduction necessary to allow for undisturbed enjoyment of the museum's displays. Kevin was delighted to learn that this kind of acoustical treatment could be fitted around the equipment to allow for use of the rest of the space. His work room would be intact.

As soon as the chiller was installed, NEVA Associates took sound-level readings. Generally, the levels were 93 dB (A) with the dominate disturbing frequencies at 250,500 and 1,000 hz. NEVA Associates selected Shaver Industries BSC-25 to

provide the required sound attenuation as well as random sound absorption within the concrete-surfaced workroom. BSC-25 is a combination of a quilted fiberglass sound-absorption material with a loaded vinyl noise barrier septum. It is fabricated into modular acoustical curtain panels with grommets at the top, and hook and loop fasteners along each edge. Individual panels are joined together to form any configuration necessary.

After the enclosure was constructed, NEVA Associates again took sound-level readings. The results were more than satisfactory:

- The acoustical curtain enclosure brought the work space noise levels down to 73 dB (A) - a reduction of 20 dB (A). According to Kevin, it is now quieter than it was when the old chiller was operating!
- The Shaver Industries vent baffles were placed to duct air over the hot spots, thus causing the chiller to be properly cooled, and the work space to be at normal temperatures.
- The noise of the chiller in the museum viewing area is lost in the ambient background levels of the low 50's. We were very pleased with the results almost as much as Kevin Eames and all the patrons of the Portland Museum of Art.

BSC-25 Acoustical Composite Product

ACOUSTICAL PERFORMANCE

FIELD MEASURED NOISE REDUCTION Octave Band Center Frequencies (Hz)						
Location/Frequency	**A**	**125**	**250**	**500**	**1000**	**2000**
Equipment Room Before (6" from chiller)	93	74	86	89	88	82
Same Location After (6" from chiller)	73	70	68	73	69	63
Noise Reduction	20	4	18	16	19	19

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