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## **HORN FACTORY FINDS SOUNDPROOFING SOLUTION TO NOISE PROBLEM**

You'd think noise would be just part of the job at places such as construction sites, tooling plants - and car horn factories. But at FIAMM Technologies, where more than 60,000 truck, car, and boat horns are made daily, noise has been toned down as part of the factory's drive toward product quality, worker safety, and ISO 14000 certification. Instead of feeling like they're caught in the middle of a busy intersection all day, workers at the Cadillac, MI plant now walk comfortably around the floor, no longer required to wear earplugs during their shifts.

At FIAMM, the goal is to manufacture the world's best car horn with minimal environmental impact -- including noise. Until recently, the sound of all those horns used to reverberate throughout the plant, making earplugs for employees mandatory to meet OSHA safety standards: less than 90 decibels averaged over 8 hours. Seeking to improve employee comfort as well as the overall sound of the plant, FIAMM installed a system of wall panels and ceiling baffles from illbruck, inc., which meet two key criteria: the panels are especially designed for easy installation in the large FIAMM plant, and they provide excellent sound absorption to reduce reverberation.

### **Sound-Absorbing System Eliminates Earplug Requirement**

"With 84,000 sq ft of production area made of concrete walls and floors, as well as high metal ceilings, we had a reverberation problem," said Brenen Fuller, a technologist at FIAMM. "We sound each horn briefly as it comes off the production line, and then test it more thoroughly in a test chamber. The sound of the horns coming off the production line, combined with typical manufacturing sounds such as welders, compressors, and conveyors, reverberated off all the hard parallel surfaces."

The horns can be as loud as 115 dB at frequencies of up to 500 hertz, a significant interruption to employee communication and concentration, not to mention long-term hearing ability.



FIAMM contacted Memtech Acoustical, an illbruck distributor, who conducted sound level tests throughout the plant before recommending SONEXvalueLine™ Panels and Baffles from illbruck, inc. to absorb reverberant noise. An important factor in meeting FIAMM's criteria is that the panels are Class 1 fire-rated for flame spread and smoke density.

Made from willtec®, illbruck's proprietary foam, SONEXvalueLine panels are fiber-free, and their open-celled construction enhances their ability to dampen sound over a wide range of frequencies. The 2 x 4 ft white panels add to the clean, crisp look of the production area, and their lightweight construction makes them easy to install: SONEX Panels are adhered to the walls about 20 ft up from the floor, and SONEX Baffles hang from cables.

### **New Baffle Installation Method Saves Time, Money**

FIAMM's U-shaped production area posed an initial challenge to installation. Typically, baffles are suspended from lightweight chains or cables inserted in the ceiling via a scissor lift positioned directly below the installation point. However, a scissor lift in the middle of the FIAMM production floor would have been inconvenient and would have interrupted production time. illbruck's new installation method, which allows baffles to be installed over the production area from one side of the room, provided significant time and labor savings for FIAMM.

Each baffle is outfitted with two corkscrew hangers, which are clipped to a cable suspended across the width of the production area. After the first baffle is slipped over the cable, installers can easily push the rest of the baffles across the row without having to reposition the scissor lift. To contribute to the open, airy look, baffles can be spaced evenly across the cable (with illbruck's PVC spacer bars). Spacers also provide clearance for ductwork, lights, or other fixtures.

The new system cut installation time in half, while the baffles reduced overall sound in the plant by 5 to 10 dB. "The baffles certainly helped to quiet the area and provide a comfortable and productive work environment," said Fuller. "An unexpected benefit is that we have identified other noise areas we want to address.

"The primary benefit is that FIAMM Technologies employees can make quality warning systems at levels and frequencies that sound loud and clear without the feeling that they're in heavy traffic."