



# Medical Device Manufacturing Acoustic Control at Medtronic

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# OVERVIEW

Medtronic manufactures advanced medical devices and implantable technologies in highly controlled cleanroom environments where precision and sterility are essential. These facilities contain automated assembly systems, robotic equipment, and packaging lines that operate continuously to support medical device production.

The presence of mechanical systems and automated equipment can generate elevated noise levels that travel throughout the workspace. To improve acoustic performance while maintaining sterile manufacturing standards, Medtronic partnered with All Noise Control to implement VibraCore® Acoustic Cleanroom Wall Panel Systems engineered to control reverberation in medical device cleanrooms.

# CHALLENGES

Medical device manufacturing environments require sterile conditions and strict contamination control, which often results in hard interior surfaces that reflect sound energy. Equipment such as automated assembly lines, inspection systems, and ventilation systems can create continuous operational noise.

Excessive reverberation can interfere with technician communication and affect worker comfort in precision manufacturing environments. The facility required an acoustic solution that would reduce reverberation while maintaining sterile manufacturing conditions and hygiene requirements.

## **SOLUTION:**

All Noise Control installed VibraCore® Acoustic Cleanroom Wall Panel Systems designed specifically for sterile production environments. The installation used 2' x 4' x 2" fiberglass cleanroom acoustic panels with a 6–7 PCF fiberglass core engineered to provide effective sound absorption.

With an NRC rating of 0.85, these panels significantly reduce sound reflections generated by manufacturing equipment and air handling systems. The panels feature a durable PVF cleanroom surface that allows for sanitation and maintenance while meeting Class 100 cleanroom standards and ASTM E84 Class A fire safety requirements.

## **RESULTS:**

- Reduced equipment noise reflections in medical device cleanrooms
- Improved communication clarity within sterile manufacturing areas
- Maintained medical device cleanroom compliance standards
- Enhanced acoustic comfort in precision assembly environments
- Installed durable cleanroom acoustic wall systems