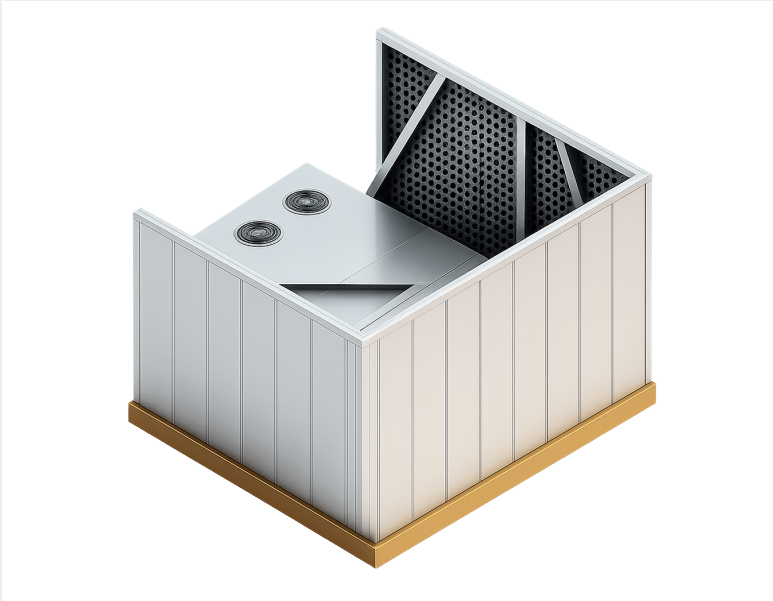




PRODUCT TECHNICAL DATA SHEET

Executive Summary

Millennium WHISPER® Acoustic Screen Walls are permanent, self-supporting noise-control systems designed for rooftop mechanical equipment. The system provides acoustic attenuation, architectural integration, and structural reliability without penetrating the roof membrane.

System Description

The modular acoustic wall system consists of high-density rock wool acoustic panels mounted on a self-supporting engineered structure. Each installation is custom designed according to wind loads, acoustic performance requirements, architectural constraints, and project-specific conditions.

Applications

HVAC equipment, chillers, cooling towers, generators, mechanical penthouses, rooftop equipment, terraces, and architectural screening applications.

Key Advantages

- No roof membrane penetration
- Modular and customizable configurations
- Reduction of noise, resonance, and echo
- Easy installation on flat and low-slope roofs
- Architectural integration with building facades
- Engineer-approved structural design
- Durable low-maintenance construction



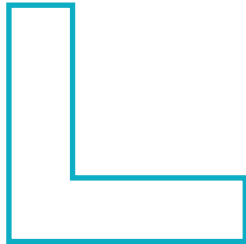
Panel Construction

Component	Description
Acoustic Panels	High-density rock wool insulation; perforated G90 galvanized steel inner face 22 GA; solid G90 galvanized steel outer face 16 GA
Base Track	G90 galvanized 18 GA, pre-drilled Ø 3/16 in., 12 in. spacing
Protective Mat	Flexible PVC
Channel	Galvanized interlocking profile with Ø 3/16 in. perforations at 12 in. spacing
Rain Cap	G90 galvanized with Ø 3/16 in. perforations at 24 in. spacing

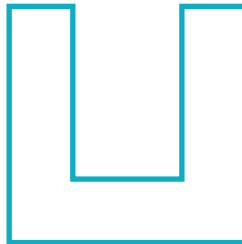
Design Configurations

Available as L-shaped walls, U-shaped walls, full equipment enclosures, terrace screens, and custom engineered configurations.

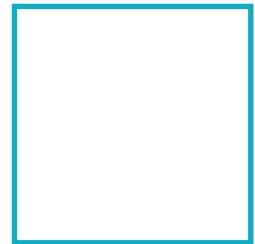
L-Shaped Acoustic Screen



U-Shaped Acoustic Screen



Full Equipment Enclosure



Structural System

Posts and Cross Members: 48 mm (1.9 in.) diameter 6061-T6 aluminum tubes.

Counterweights: ASTM A48 Class 30 cast steel weights, 18.91 kg (41.7 lb) each.

Connection Components: Cast aluminum alloy 535 fittings including elbows, linear joints, T-joints and Y-joints.

Additional reinforcement and SIMIC cables may be incorporated where required by structural analysis.

Acoustic Performance

Testing is performed in accordance with ASTM E90 (Sound Transmission Loss) and ASTM C423 (Sound Absorption Coefficient).

Performance varies according to panel thickness, steel gauge, insulation density, and wall configuration.

Quality Assurance & Certifications

ISO 9001 certified quality management system.
 Certified welding procedures in accordance with CWB requirements.
 Professional engineering design by licensed structural engineers (P.Eng.).
 1-year paint finish warranty and 10-year material warranty.

Material Properties – Aluminum Alloy 535

Density : 2.57 g/cc (0.0928 lb/in³)

Aluminum : 91.4–93.3%

Magnesium : 6.6–7.5%

Copper : ≤0.10%

Iron : ≤0.15%

Manganese : 0.10–0.25%

Silicon : ≤0.20%

Titanium: ≤0.25%

Quality and Compliance

Quality Management: Product manufactured in accordance with an ISO 9001 certified quality management system ensuring process control, traceability, and continuous improvement.

Structural Welding: All welding operations are carried out in accordance with the certification requirements of the Canadian Welding Bureau (CWB).

The system includes a one (1) year warranty on paint finish and a ten (10) year warranty on all materials, starting from the date of purchase.

All engineers working for Millenium hold a Professional Engineer (P.Eng.) designation in Structural Engineering, qualifying them to design safety equipment projects across all Canadian provinces and ensuring a professional, code-compliant design for your projects.

Millenium Building Envelope Systems & Components

Across Canada, Millenium supports architects, engineers, contractors, and building owners with innovative rooftop safety, architectural, and building envelope solutions.