

Case Study

Application: Sound Absorbing Walls for Rooftop HVAC
Wall Product: AcoustiSorb
Wall Manufacturer: ModularWalls
Product: Martini Absorb
Performance: Sound Absorption



Acoustic Insulation for Sound Absorbing Walls

Application Overview

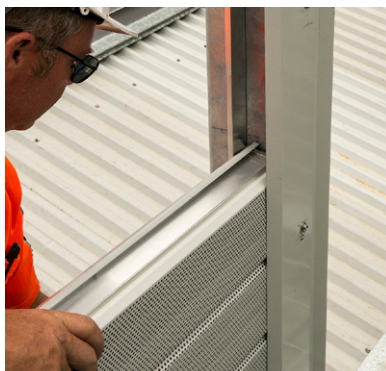
Commercial HVAC units are often located on rooftops to save space and provide easy access for maintenance. Rooftop HVAC units can create an acoustic design challenge for architects, especially when the HVAC units can be seen and heard from neighbouring multi-storey apartments.

Rooftop HVAC units typically incorporate a series of motors, fans and chillers that produce a range of noises such as throbs, rumbles, whistles, whirrs and hisses. If these noises aren't acoustically treated they can have an adverse impact on the surrounding environment and affect the health and wellbeing of neighbouring residences.



ModularWalls manufacture an aesthetic noise attenuation barrier called AcoustiSorb. AcoustiSorb is a pre-finished aluminium modular wall panel system that's commonly used to enclose rooftop HVAC units.

The panels are slotted into place between supporting posts with their perforated surfaces faced inwards towards the noise source. Martini Absorb is at the core of the panels, and because of its HD, XHD, XXHD density variations, the panels can be tuned to meet specific absorption requirements across a range of frequencies.



AcoustiSorb panels slotted into place with the simple modular composite system



The modular wall system design is lightweight, prefinished and easy to install

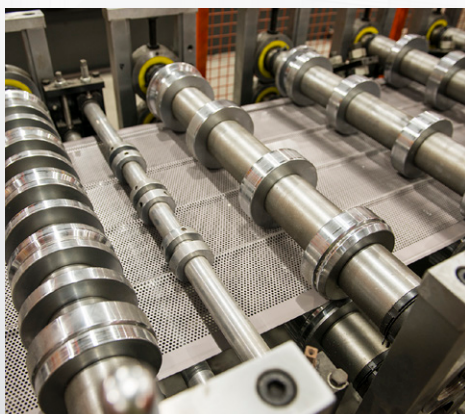


Perforated surfaces face the noise source allowing the sound energy to enter the core and be absorbed

Manufacturing

Martini Absorb is manufactured from thermally bonded polyester fibre with up to 80% recycled content from post consumer PET packaging such as empty drink bottles. Features such as high performance acoustic absorption, lightweight and low bulk properties, and weather resistance makes Martini Absorb the ideal acoustic insulation core for AcoustiSorb wall panels.

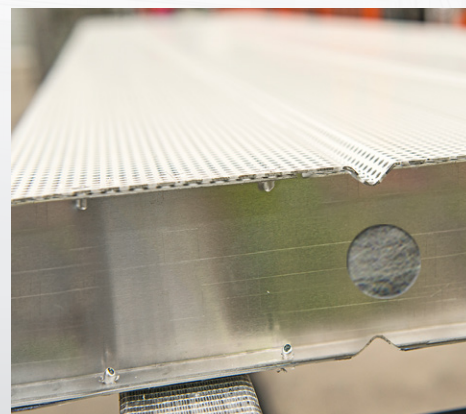
The AcoustiSorb panels are fabricated from two pre-finished aluminium skins which are shaped and cut to the required length. Corresponding lengths of Martini Absorb are then inserted and sealed between the skins.



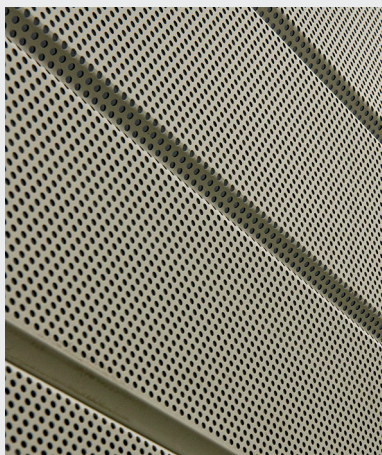
The AcoustiSorb perforated skins are shaped and cut



Martini Absorb is laid into the AcoustiSorb panel shell



AcoustiSorb panel with Martini Absorb core



Typical applications

AcoustiSorb wall panels with a Martini Absorb core are suitable for external and internal noise attenuation applications. The wall panels provide highly effective sound abatement in noise-intensive environments such as transport corridors and businesses that make extensive use of noisy machinery.

Typical applications include the following:

- Rooftop HVAC units
- Railway corridors
- Loading docks
- Machine rooms
- Perimeter acoustic barrier walls

Technical Project Support

The DesignSmart team has a wealth of construction experience and utilise industry-leading building science research for acoustic, thermal and fire insulation products. As the experts in building insulation they can assist with:

- Project-specific support
- Value engineering challenges
- Specification documentation
- System design detailing
- Product installation and certification

Call the DesignSmart team on **1800 354 044** or visit **BradfordDesignSmart.com.au**