Pultrac SoundAbsorb

Management of economic environment impact issues has never been so demanding for Project Managers.

Look around any site or read through any scope of works and you will be reminded of our obligation as users, designers and installers to comply with noise related guidelines and standards.

Pultrac specialises in a wide selection of sound mitigating options in the market place and can provide innovative solutions for sound reduction.

Pultrac understands that great form and function of a product is only half of the story. Our challenge has been to design and provide Easy, Safe and Simple to install, prefabricated modular compliant solutions to reduce noise emissions.

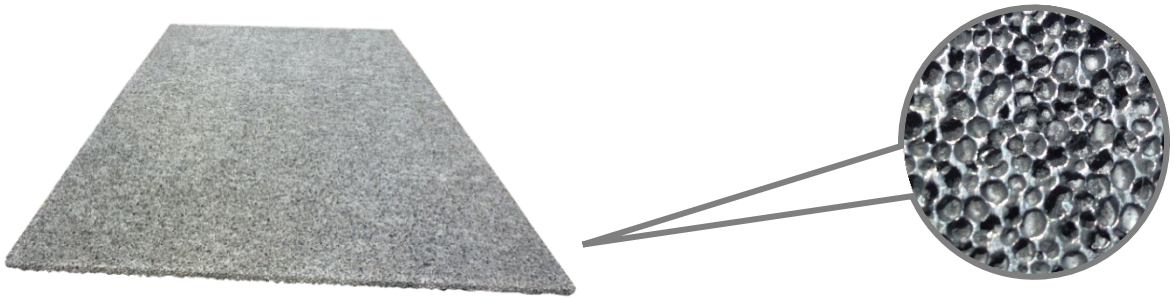
Pultrac modular sound absorption boxes and prefabricated wall systems provide outstanding sound reduction qualities resulting from a unique combination of extremely lightweight sound absorption and soundproofing composite materials.

Pultrac has combined two unique materials to deliver a three-dimensional solution to the reduction of noise emissions to the environment.

Pultrac Pty Ltd 4 Curban Street, Underwood. QLD 4119 Ph: 07 3219 8555 www.pultrac.com.au

Aluminium Foam Panel

The first dimension is a strong, lightweight foamed aluminium panel with a series of punched holes. This new concept, ultralight metallic material is soundproof, fireproof and waterproof.



The physical properties make them suitable for use by a wide range of industries due to:

- Sound and heat insulation
- Fire Resistant
- Excellent sound absorption properties
- Lightweight but strong
- 100% recyclable

Application for Aluminium Foam Panels

Engineering and Construction Industry - Aluminium foam panels can be used as sound absorbing materials in railway tunnels, under highway bridges or inside/outside of buildings due to their excellent acoustic insulation.

Automotive, Aviation and Railway Industry - Aluminium foams can be used in vehicles to increase sound dampening, reduce the weight of the automobile, and increase energy absorption in case of crashes.

Architectural and Design Industry – Aluminium foam panels can be used as decorative panels on walls and ceilings, giving a unique appearance having a metallic lustre.

They are Easy, Safe and Simple to install without mechanical lifting equipment. Perfect for working at heights, for example ceilings, walls and roofs.

Physical Properties		
Basic	Chemical composition (Aluminium)	> 97%
	Cell type	Closed Cell
	Density (kg/m^3)	200 - 400
Acoustic	Acoustic Absorption Coefficient (NRC)	0.7-0.75
Mechanical	Tensile Strength (Mpa)	1.3-2.0
	Compressive Strength (Mpa)	1.5-2.0
	Thermal Conductivity (W/m.K)	0.268
Other	Electromagnetic Shielding (dB)	> 90
	Spray salt testing	No Corrosion

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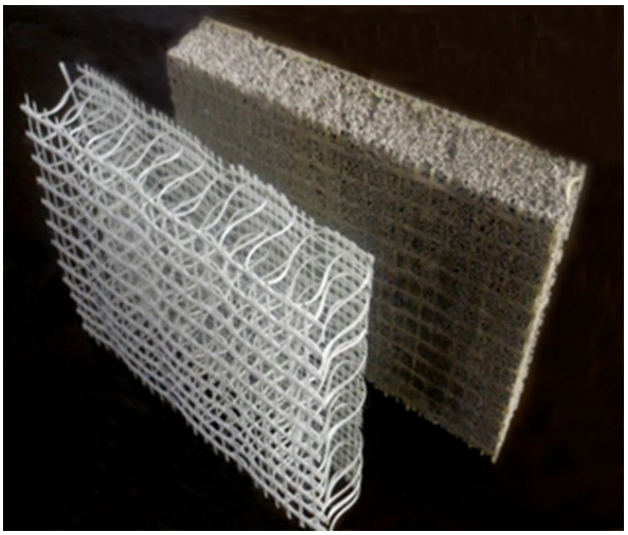
3D Reinforced Foam Cement Panel



The second dimension is a lightweight 3D reinforced foam cement panel providing sound proofing. The patented panels are manufactured using a 3D woven structural fibre reinforcement filled with a modified cement foam. They are recommended for use in areas requiring sound and heat insulation, with the benefits of:

- Superior sound and thermal insulation
- Fire resistant
- Light weight, but strong
- Long Service life
- Easy, Safe & Simple installation

Technical Data (panel thickness - 20mm)

Sound reduction measurement (db)

	Sound-proofing (**db**)							
Frequency Hz	63	125	250	500	1000	2000	4000	8000
Foamed Cement Panel	16.5	23	25.6	28.4	30.3	38.7	42.3	43.3

Physical Properties	
Acoustic Absorption Coefficient (NRC)	>0.7
Density (kg/m^3)	235
Heat Conductivity (w/mk) 25^{o}C	0.05
Compressive Strength (Mpa)	0.55
Tensile Strength (Mpa)	0.53
Water Absorption (%)	7.2

Pultrac 3D Reinforced Foam Cement Panels are available in a range of sizes up to a maximum of 2400 x 1200mm and thicknesses from 20 - 100mm. We can also offer a range of architectural finishes.

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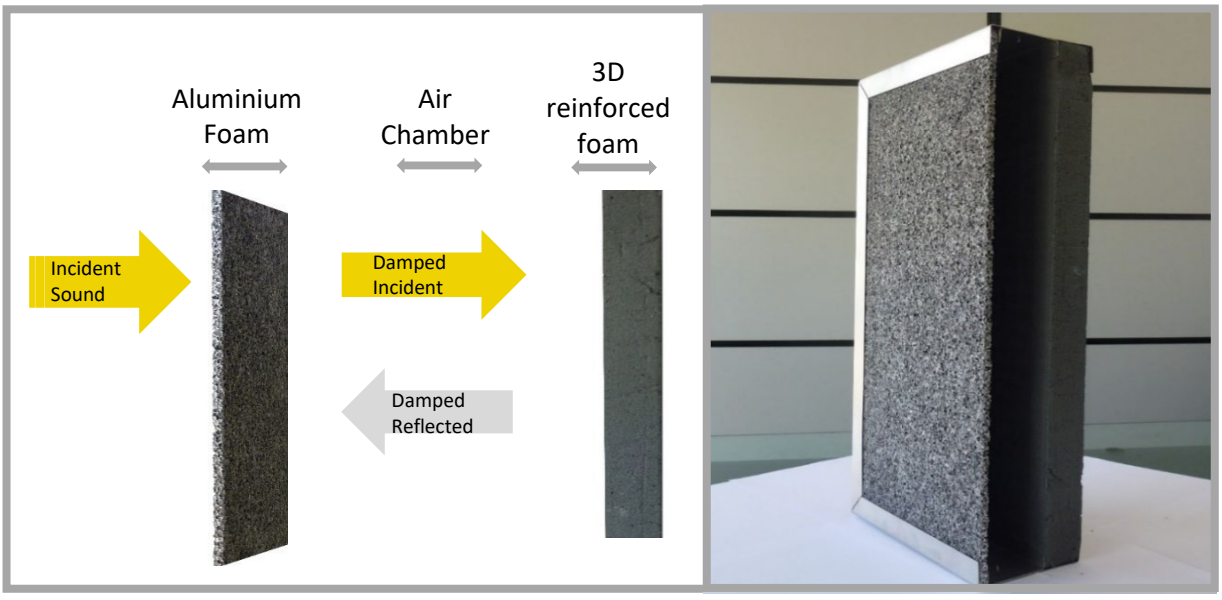
3D Reinforced Foam Cement Sandwich Panel

Pultrac 3D reinforced foam cement sandwich panels combines the acoustic properties of the 3D foam cement panel with an outer layer of architectural aluminium sheeting. As with the foam cement panels, the sandwich panels offer the same physical properties and benefits combined with the aluminium layer to provide superior and unique architectural finishes as required.

Pultrac SoundAbsorb – Modular Sound Absorption Panels and Barrier Walls

The third dimension is achieved by placing these two materials in series to create an air chamber providing sound absorption utilising an inherent Helmholtz Resonator (HR) thereby reducing the noise level especially at lower frequencies. A HR Resonator is formed by the air chamber and the open holes (or necks) in the foamed aluminium panel. The volume of air in and around the neck vibrates because of the springiness of the air in the chamber thereby trapping a large part of the input energy. Attenuation of the sound occurs due to acoustic inter-reaction between the primary and secondary (formed by volume velocity of the neck) sound fields leading to energy dissipation.



For improved performance, the air chamber can be filled with fibreglass sound absorbing material. Pultrac Aluminium modular sound absorption boxes and prefabricated wall systems are available in a range of sizes and colours as required.

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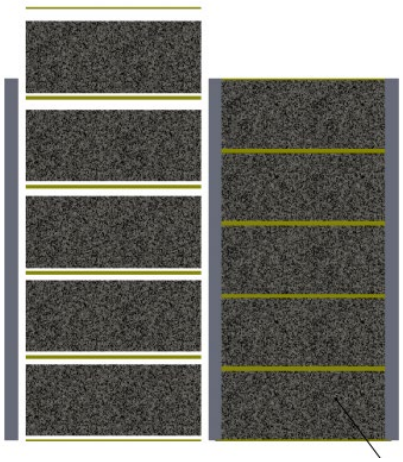
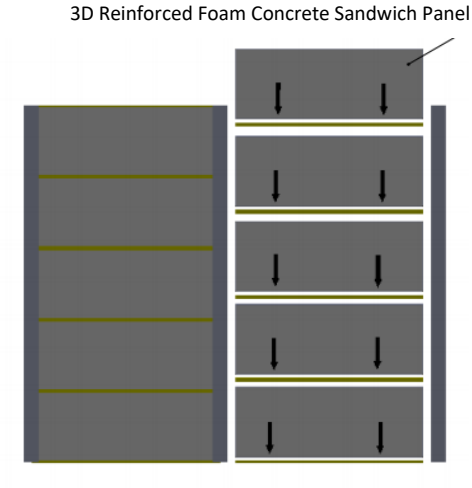
Pultrac SoundAbsorb – Modular Sound Absorption Boxes and Barrier Walls

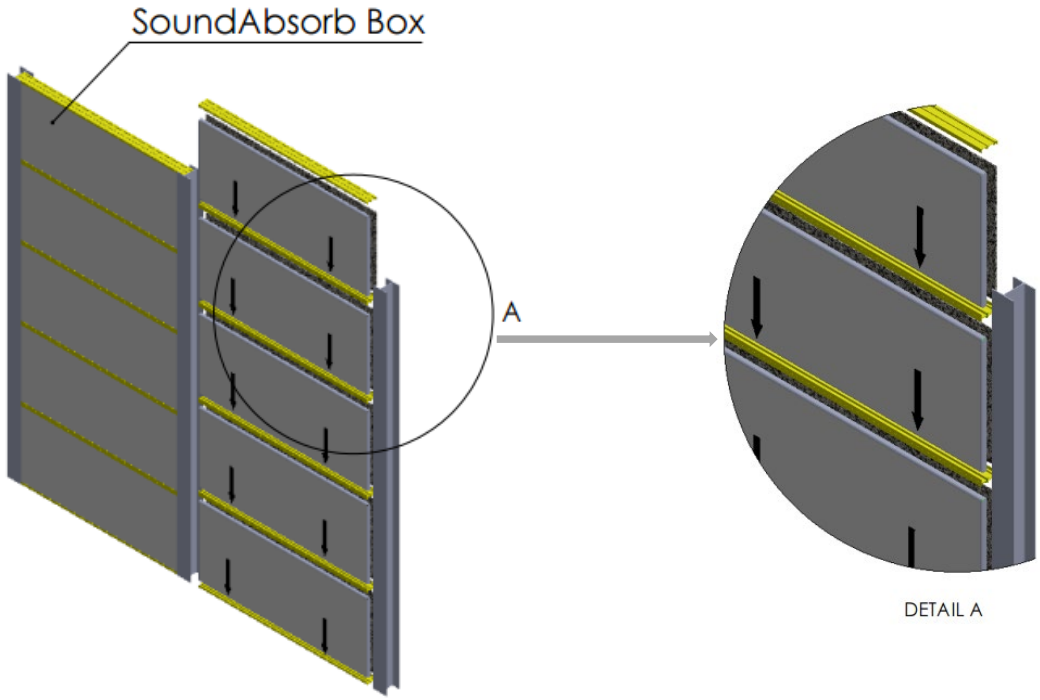
Sound waves penetrate the perforated face of the panel and are absorbed within the air chamber and reflected by the 3D reinforced foam cement panel.



Aluminium Foam Panel

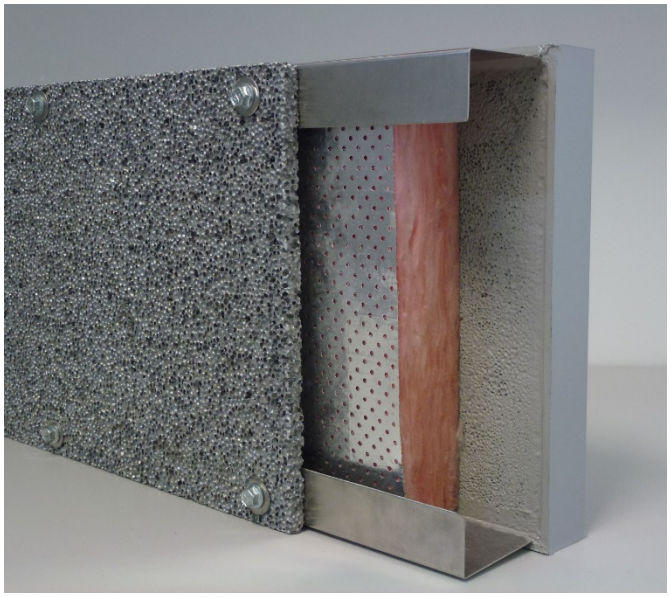


Pictorial Prespective



DETAIL A

Pultrac SoundAbsorb - Optional fill



For improved performance, the air chamber can be filled with fibreglass sound absorbing material.

Cleaning

This information is offered as a general guide only. Cleaning instructions are for the outer aluminium composite panel only (do not clean the foamed aluminium panels on the interior face of the wall).
For general cleaning of your laminate surface, simply wipe the ACP with a soapy damp cloth, spray with a multi-purpose cleaner and wipe with a clean cloth or light pressure wash. Gentle rubbing with a dry clean cloth can help to bring back the brightness of the ACP. Always rinse surface after cleaning.

Do not use scourers or abrasives, as this will damage the surface.
Do not use pressure washers on a high pressure setting.
Do not place hot objects directly onto the surface.
Do not cut on the aluminium surface, as this will scratch it.
Do not use acidic, alkaline cleaners or bleach for normal cleaning as these might damage the surface.

Storage and handling

During transport use a flat stable pallet that is at least the same size as the sheets.
When handling, lift the sheets to avoid scratching.
The sheets should be stored in dry premises under cover to avoid moisture and heat.
Sheets should be stored flat to minimize any bending or bowing.
Remove the protective film once the sheets are installed.

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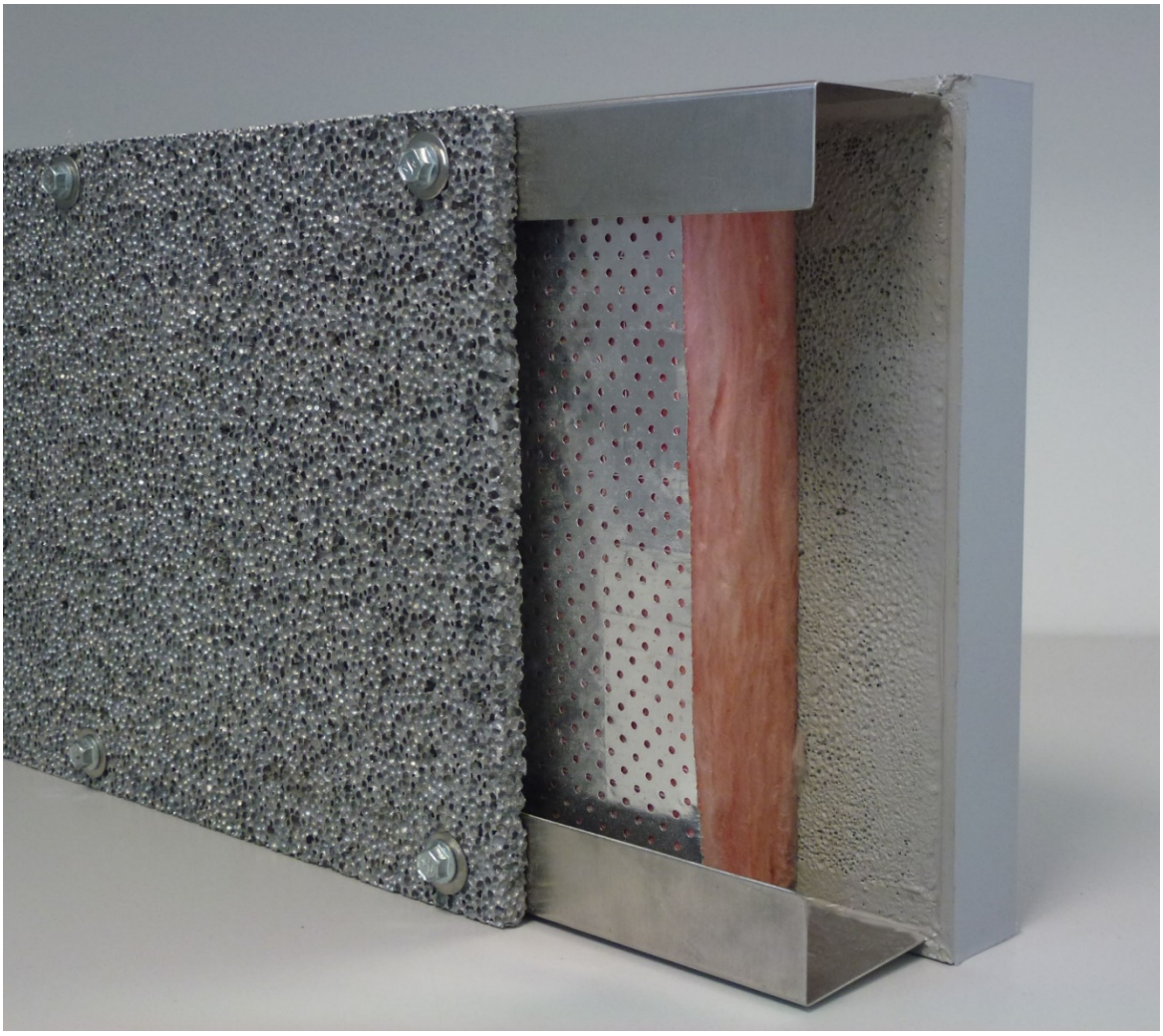
Australia Catholic University, Banyo. Queensland



Other Products in the Pultrac Range

FRP Walkway Systems

FRP Mesh
FRP Structural Profiles
FRP Handrail Systems

Acoustic Solutions

Acoustic Louvres

Architectural Treatments

Foamed Aluminium Panels
Aluminium Composite Panels
Architectural Louvres

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