

SONIUM® is a revolutionary fibre-free, lightweight sound absorbing aluminium honeycomb panel.

It is faced on one side with a flat micro-perforated aluminium sheet (**SONIUM | FLAT**) or with a corrugated micro-perforated aluminium sheet (**SONIUM | CORR**).

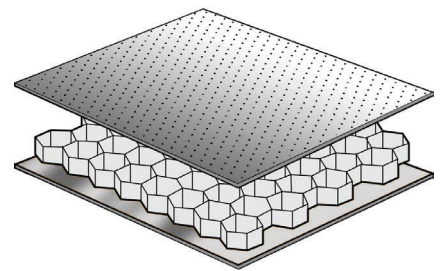
The panel has outstanding sound absorption, particularly at low frequencies. The sound absorption properties are unique and remarkable for such a low weight and fibre free material.

Being all-aluminium, **SONIUM®** has excellent fire performance. Health and safety features are also excellent because there are no loose fibres.

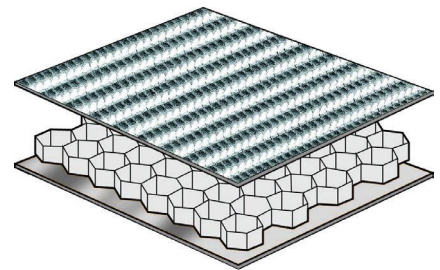
SONIUM® is the ideal material for creating sound proof enclosures, wall and ceiling absorbers and for sound absorption in clean rooms, boats, trains and aircraft.

FEATURES

- Outstanding sound absorption especially at low frequencies
- Free of any fibrous or dust-producing materials
- Low weight, high stiffness & easy to fabricate
- Fully recyclable
- Standard panel thickness is 40mm. Panels may be manufactured to any thickness from 6mm to 80mm
- Microperforated panels may be tuned to absorb particular problem frequencies by simply selecting appropriate panel thickness
- Mill finish aluminium face sheets are 5000 series alloy, for maximum strength and anti-corrosion performance
- Plain aluminium backing sheets (5000 series alloy) are available in a range of thicknesses including 0.3mm, 0.5mm, 0.8mm, 1.0mm, etc.
- **SONIUM | FLAT** face sheet is 0.9mm thick, **SONIUM | CORR** face sheet is 1.0mm thick
- Attractive powder coated and anodized finishes are available, on request, for **SONIUM | FLAT**
- **SONIUM | FLAT** can be painted using techniques which do not block the micro perforation holes
- Patent Pending



SONIUM | FLAT



SONIUM | CORR

SOUND ABSORPTION

SONIUM® achieves very high sound absorption without using combustible materials, or conventional fibrous materials.

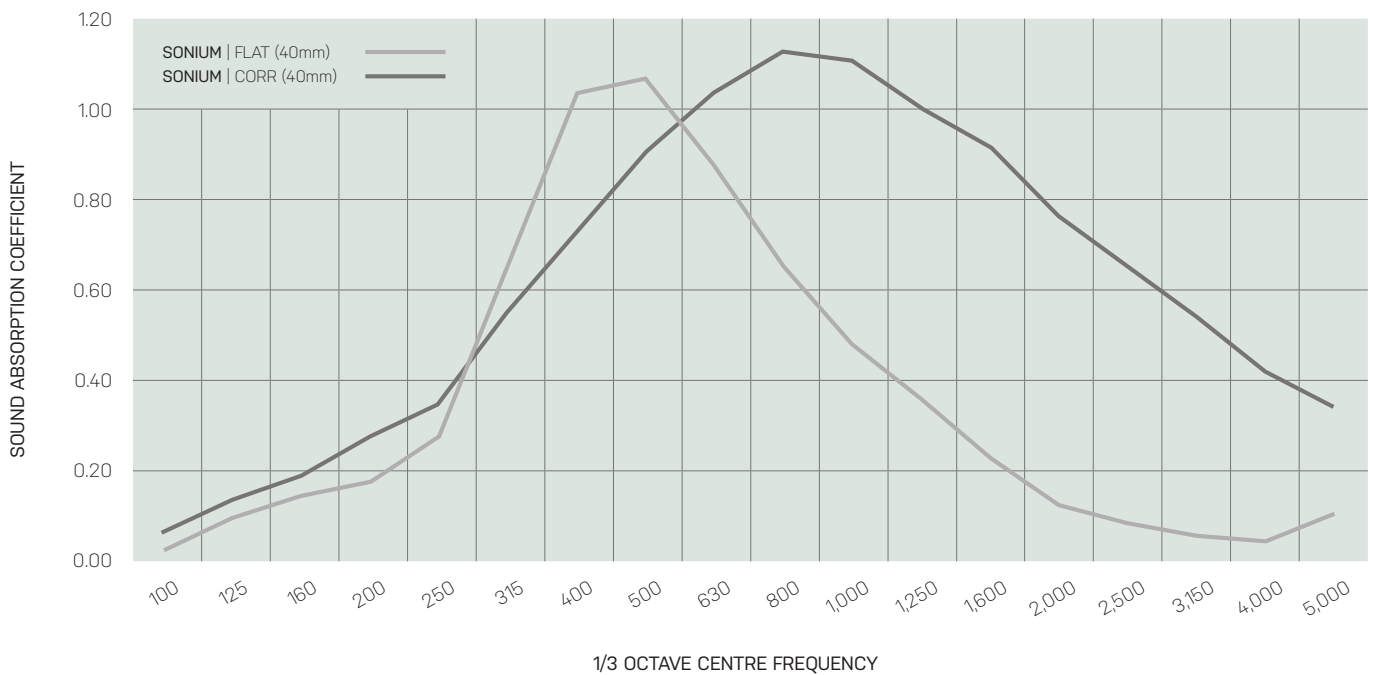
It is able to reduce interior noise and improve interior acoustic quality.

The peak absorption frequency of SONIUM® can be tailored to the frequency range required, simply by selecting an appropriate panel thickness.

The absorptive frequency range can be adjusted to as low as 250Hz, where effective sound absorption is difficult to achieve using traditional materials.

Sound absorption coefficients to ISO 354-2006 for the two different types of surface finishes are shown in the graph below.

SONIUM | FLAT has greater absorption at the lowest frequencies whereas SONIUM | CORR absorbs a larger bandwidth of frequencies.



	SONIUM FLAT	SONIUM CORR
NRC (Noise Reduction Coefficient)	0.50	0.75
Weighted Sound Absorption Coefficient	0.15 L,M	0.60 M

PHYSICAL AND MECHANICAL PERFORMANCE

Thickness (mm)	Weight (kg/m ²)	Long Beam		Climbing Drum Peel (N/76mm)	Flatwise Compression (MPa)
		Max Load (Newtons)	Deflection at Max Load (mm)		
40 (FLAT)	5.1	5250	5	188	0.9
40 (CORR)	5.4	5350	4	188	0.9

Typical estimated room temperature properties for 0.5mm aluminium backed panels.

Mechanical test procedures to AMS-STD-401

AVAILABILITY

Standard Dimensions

2400mm x 1200mm

Panel Thicknesss

Made to order, minimum thickness 6mm, maximum thickness 80mm, standard thickness 40mm

SAFETY

As with cutting operations on most materials, avoid

inhalation and eye contact with machining dust.

Wear protective equipment such as hearing protection and safety glasses during any cutting operations.

Use machine guards. Wear gloves to avoid cuts.

Wash hands before eating, drinking or smoking, and after finishing work.

FABRICATION

The micro-perforated surface is installed facing the noise source. **SONIUM®** can be easily cut and drilled with standard tools, such as circular saws, routers etc. Negative rake blades are recommended for circular saws. Caution should be taken in case of aluminium burrs on cut edges. Face sheets must be kept clean and free from any oil or grease before painting or bonding.

Components and complete interiors can be fabricated using **SONIUM®** Profiles & Assembly Accessories, cutters and polyurethane paste adhesives.

SONIUM



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