

NATURAL VENTILATION WITHOUT NOISE

Natural Ventilation Series

www.machproducts.com

INTRODUCTION

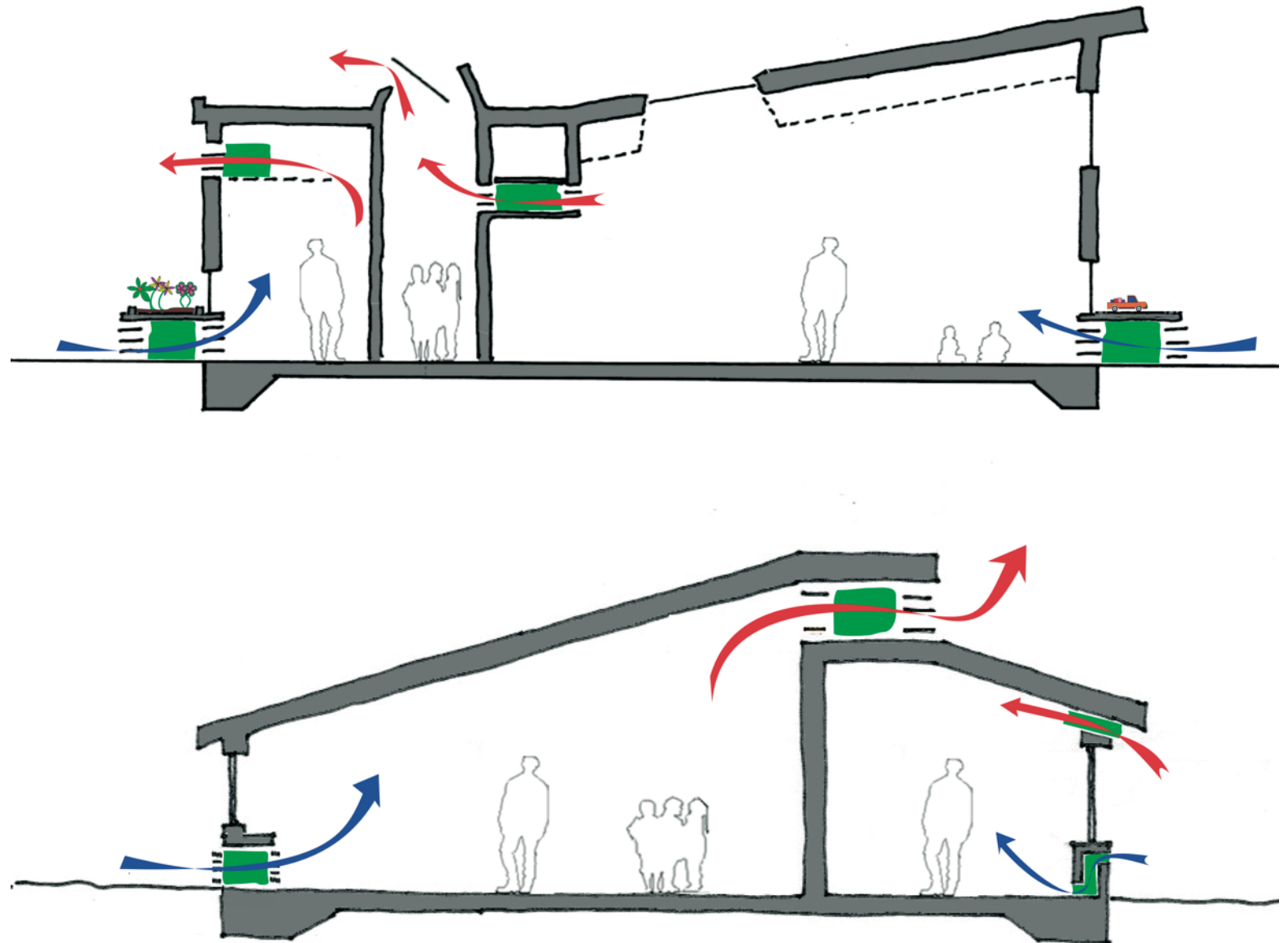
For low carbon buildings, the first choice is always to naturally ventilate or use heat recovery, however noisy facades, connected ductwork and open interconnecting spaces can present acoustic challenges.

ACOUSTIC CHALLENGES

When designing low energy buildings with natural ventilation, it can be difficult to prevent noise break-in from motorways, airplanes and other inner city noise. As a result, openable windows are often rejected.

While cross ventilation is one of the most effective forms of natural ventilation, maintaining privacy across partitions also presents an acoustic challenge.

MACH Products' Honeycomb Attenuator was designed to overcome these clashes between natural ventilation and acoustics. It helps to achieve a low carbon building design, even in challenging circumstances.



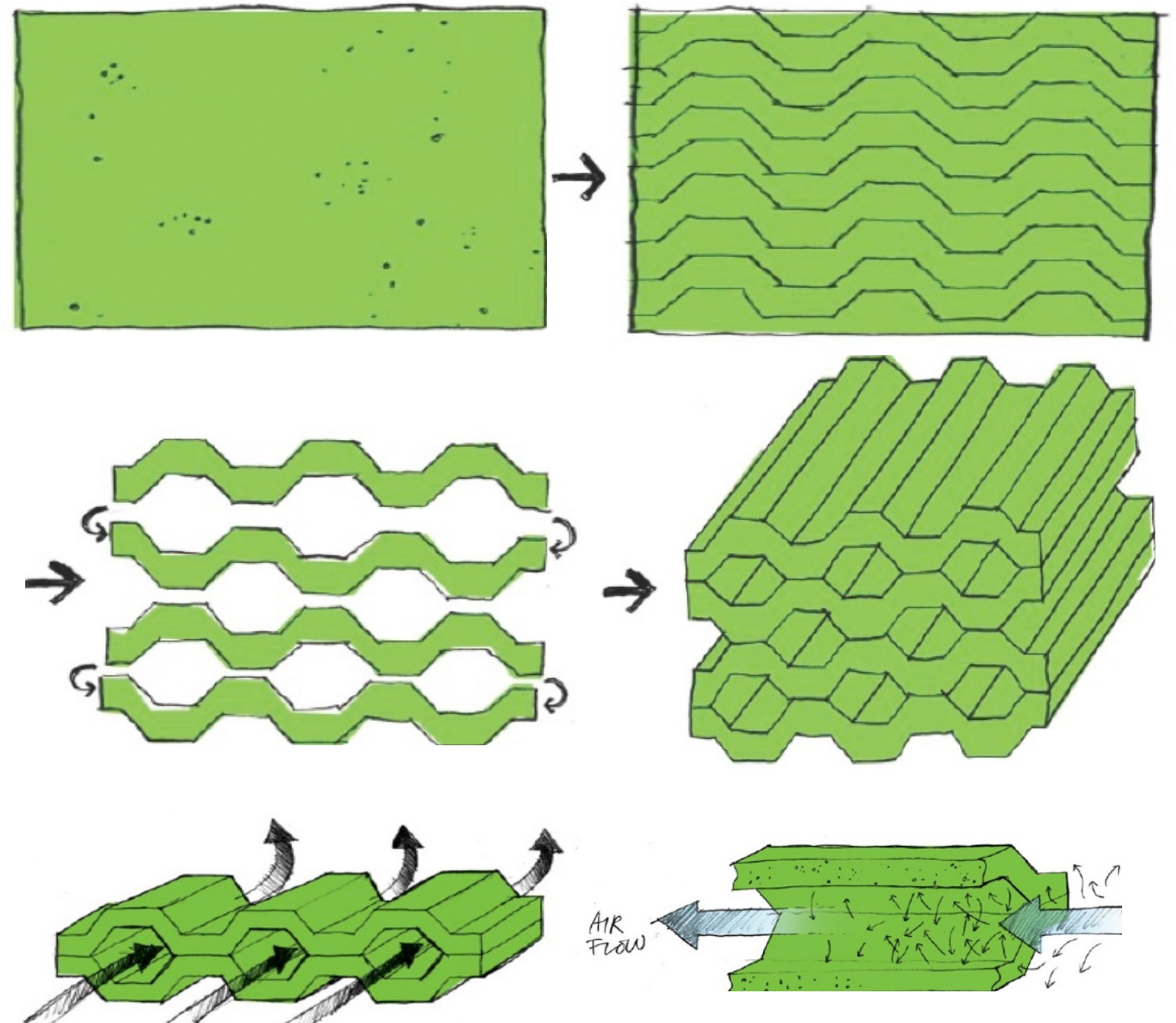
WHAT IS THE HONEYCOMB ATTENUATOR?

The Honeycomb Attenuator is a simple yet effective 3D structure, laser cut from acoustic foam.

The W-shaped tiles of foam are tessellated then stacked together, forming a simple honeycomb shape which restricts noise while allowing airflow.

Small, cost effective and flexible, it can be incorporated within the façade of a building (into windows, acoustic vents or within a raised floor) or built into partitions (in a bulk head or standalone cross talk unit) to enable natural ventilation.

Once installed it allows natural ventilation and heat recovery whilst meeting the acoustic requirements and complying with current regulations such as BB93, HTM and others.



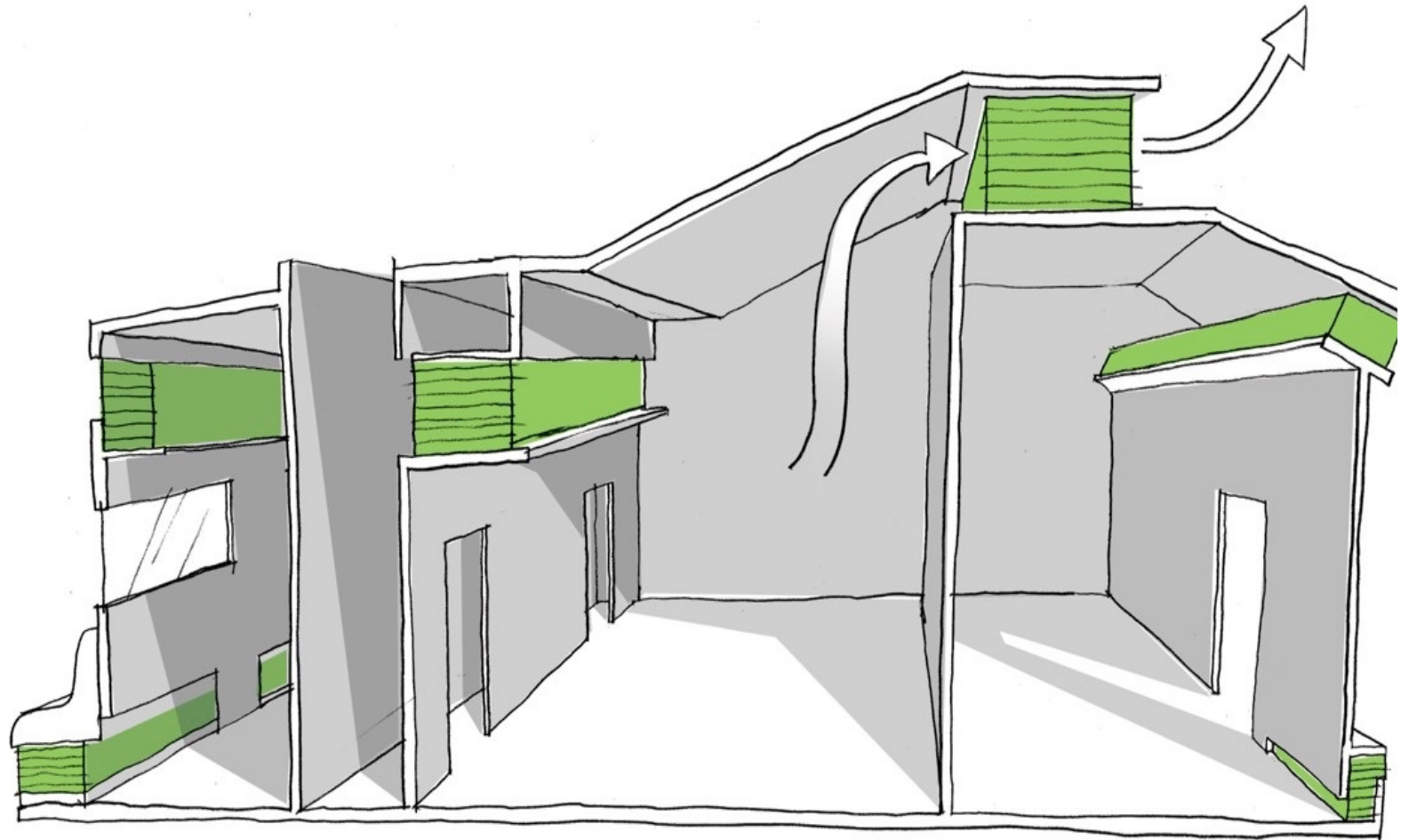
DIFFERENT VENTILATION STRATEGIES

Made from energy efficient material, it is cost effective and flexible enough to fit into almost any space within a building.

An exceptional acoustic performance and clever design means bulky and heavy attenuators are no longer needed.

It can be designed and manufactured individually to best fit the proposed position, performance and size requirements. Rigorous testing at our in-house test facilities ensures it meets the most exacting project requirements.

As illustrated, options for installation are endless and it generally takes less than an hour.

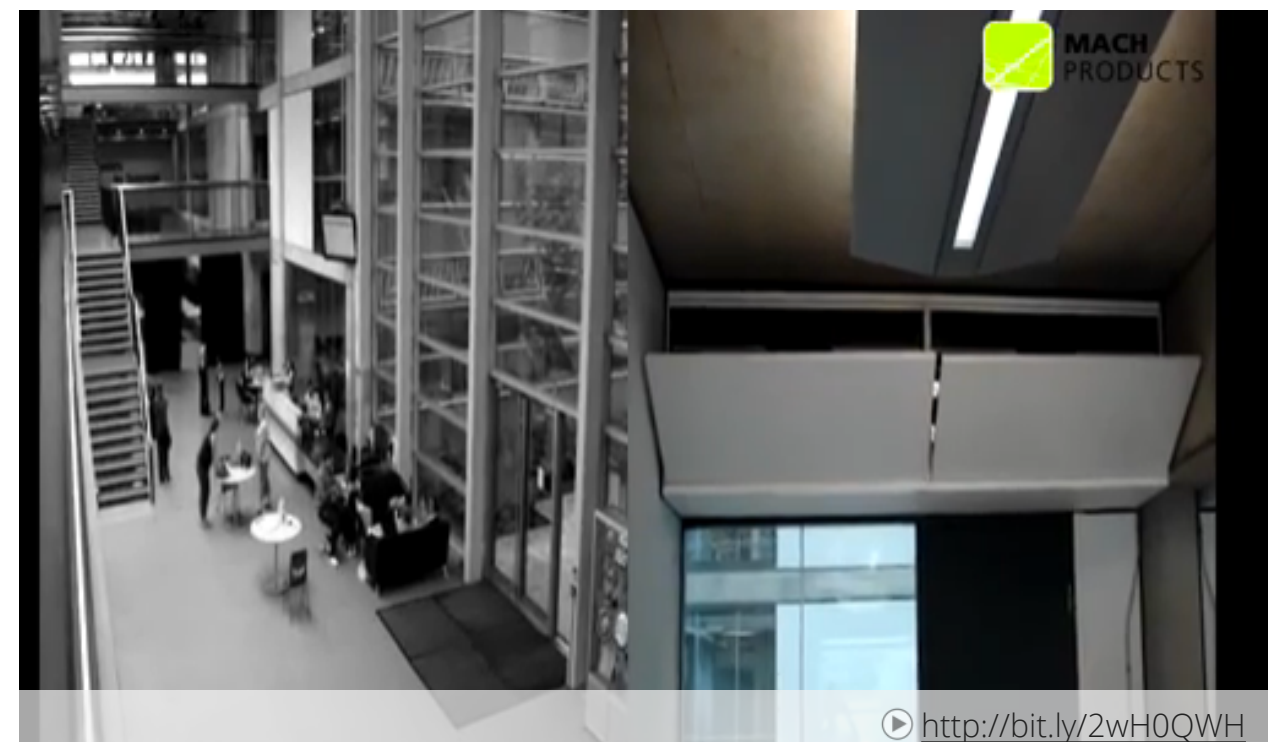


NOISE ATTENUATION AND NATURAL VENTILATION

Both external environmental noise and internal noise can be reduced using the Honeycomb Attenuator.

It prevents disturbance and increases privacy and speech intelligibility while allowing air to flow into and around a building.

To listen to the effect of a Honeycomb Attenuator installed in two different buildings in different ways, watch the videos of a school under a flight path and a busy open plan atrium.

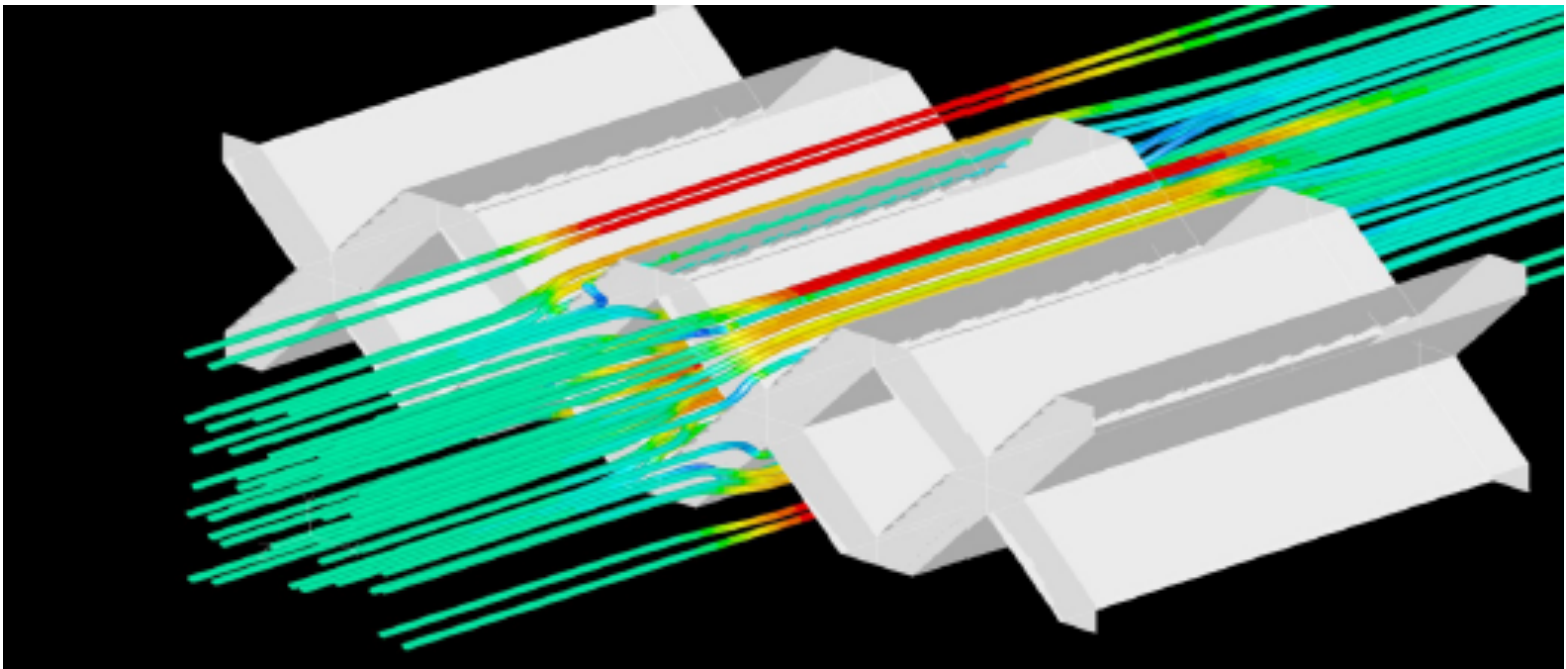


ACOUSTIC PERFORMANCE

Designed for low energy buildings, the Honeycomb Attenuator offers extremely low airflow resistance, with better acoustic performance than conventional designs.

The attenuator is adjusted simply by extending the length of the design. In this way it can achieve performance levels from 20 dB $D_{n,e,w}$ to 40+ dB $D_{n,e,w}$.

Each attenuator is manufactured to fit the project needs, but the table opposite provides a range of typical sound reduction levels.



$D_{n,e,w}$	Free Area	Face Area	Length
(dB)	(%)	(m ²)	(mm)
39	40	1.50	1100
37	40	2.10	1100
32	40	1.50	600
32	50	2.10	1100

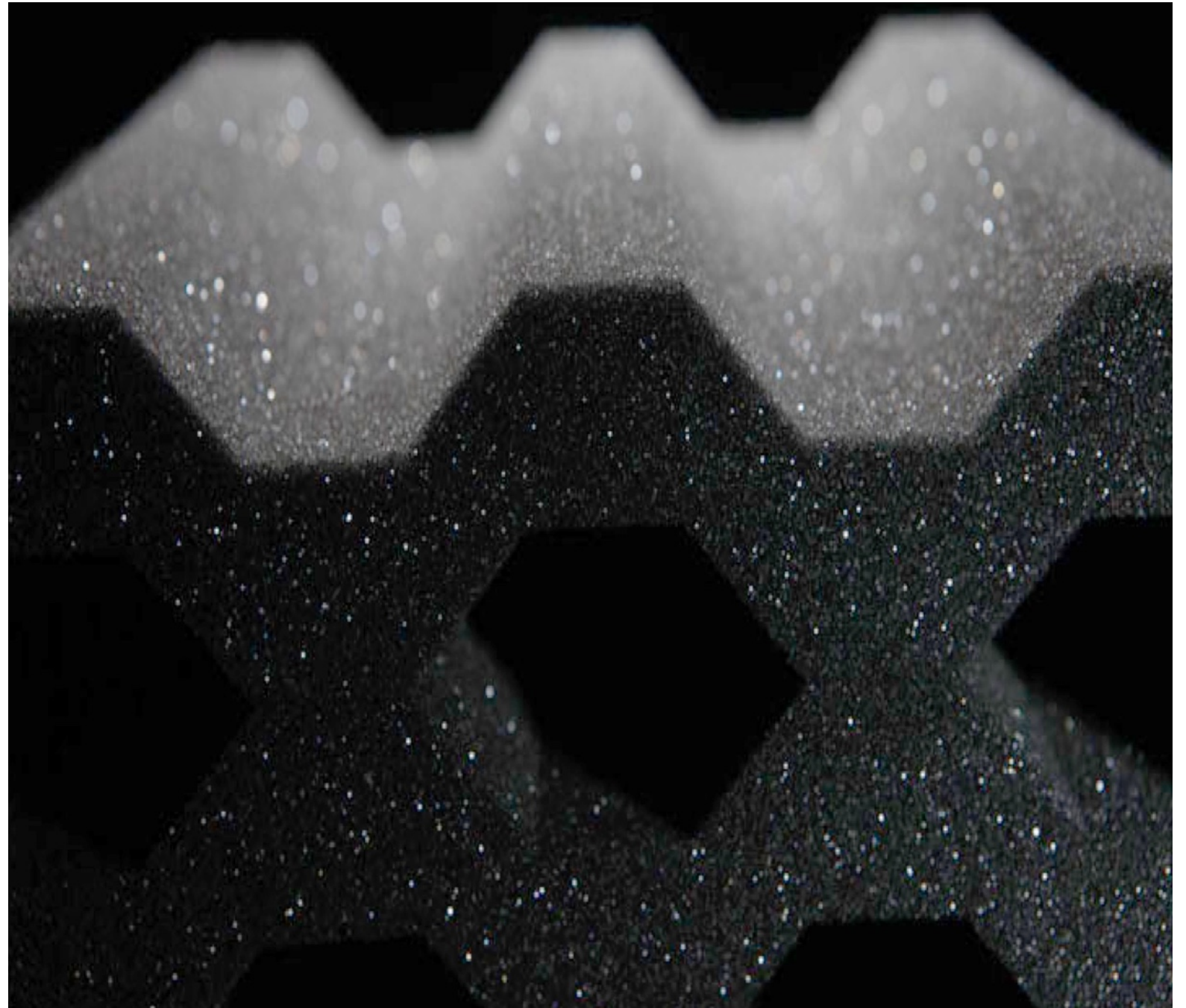
HOW TO ORDER

The Honeycomb Attenuator has been designed, developed and produced by MACH Products.

MACH Acoustics' free design service helps develop the best acoustic design for each building.

This includes an assessment of the acoustics and air flow requirements, detailing the optimum length and shape of the unit to meet these needs and establishing the best installation methods.

MACH Acoustics will liaise with onsite and design teams and contractors as required to ensure a smooth design and installation.



MACH Acoustics and MACH Products offer acoustics consultancy and products for all types of building. As one of the UK's largest & fastest growing acoustics businesses, we are proud of our award winning designs and the performance of our buildings.



www.machproducts.com



MACH
PRODUCTS

BRISTOL MACH Products
3rd Floor, 4 York Court,
Upper York Street,
Bristol
BS2 8QF

LONDON MACH Products
Tagwright House,
35-41 Westland Pl,
London
N1 7LP

TEL: 0117 944 1388
EMAIL: info@machproducts.com