



**MACH**  
PRODUCTS



## **CASE STUDY : EBBW VALE LEARNING ZONE**

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# HONEYCOMB ATTENUATOR CASE STUDY

## EBBW VALE LEARNING ZONE

APPLICATION : VENTED FACADE  
UNDER FLOOR CROSS VENT

REQUIREMENTS : BB93  
BB101

KEY PRODUCTS/SERVICES : CONSULTANCY  
HONEYCOMB ATTENUATOR

PARTNERS : RMJM ARCHITECTS



## THE PROJECT

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The Learning Zone lies at the heart of the redevelopment of the former steelworks at Ebbw Vale, the largest regeneration project in Wales.

MACH Acoustics worked with architects BDP to develop a natural ventilation strategy between classrooms.

Simple, effective, MF plasterboard bulkheads were used to enclose the Honeycomb Attenuator which was cut to allow services to pass through it, reducing the overall space required and delivering significant cost savings to the project.

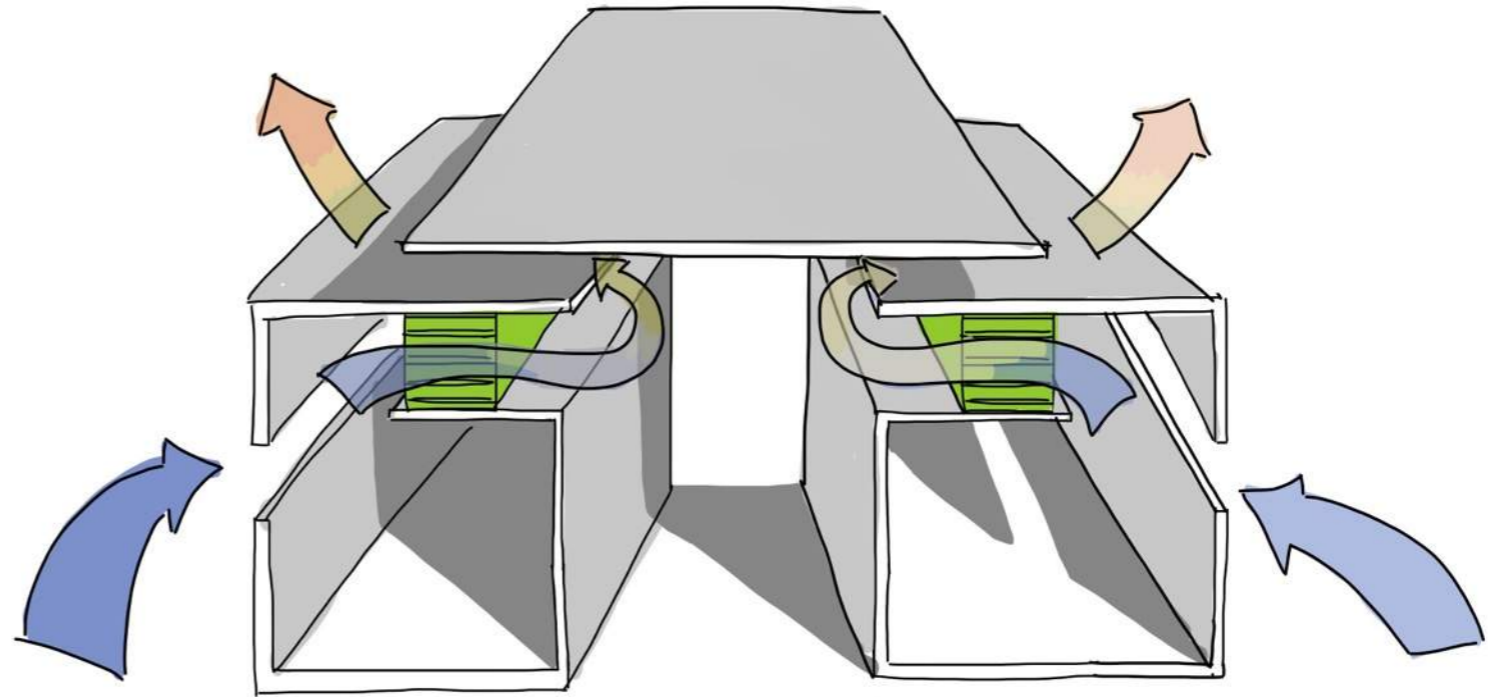


## CROSS VENTILATION

Cross ventilation is one of the most effective forms of natural ventilation.

A key benefit of the Honeycomb Attenuator is its simple implementation of cross ventilation through a corridor wall, whilst still maintaining acoustic integrity.

At Ebbw Vale Learning Zone, cross ventilation is used from classroom to corridor within MF tracks and also between floors.



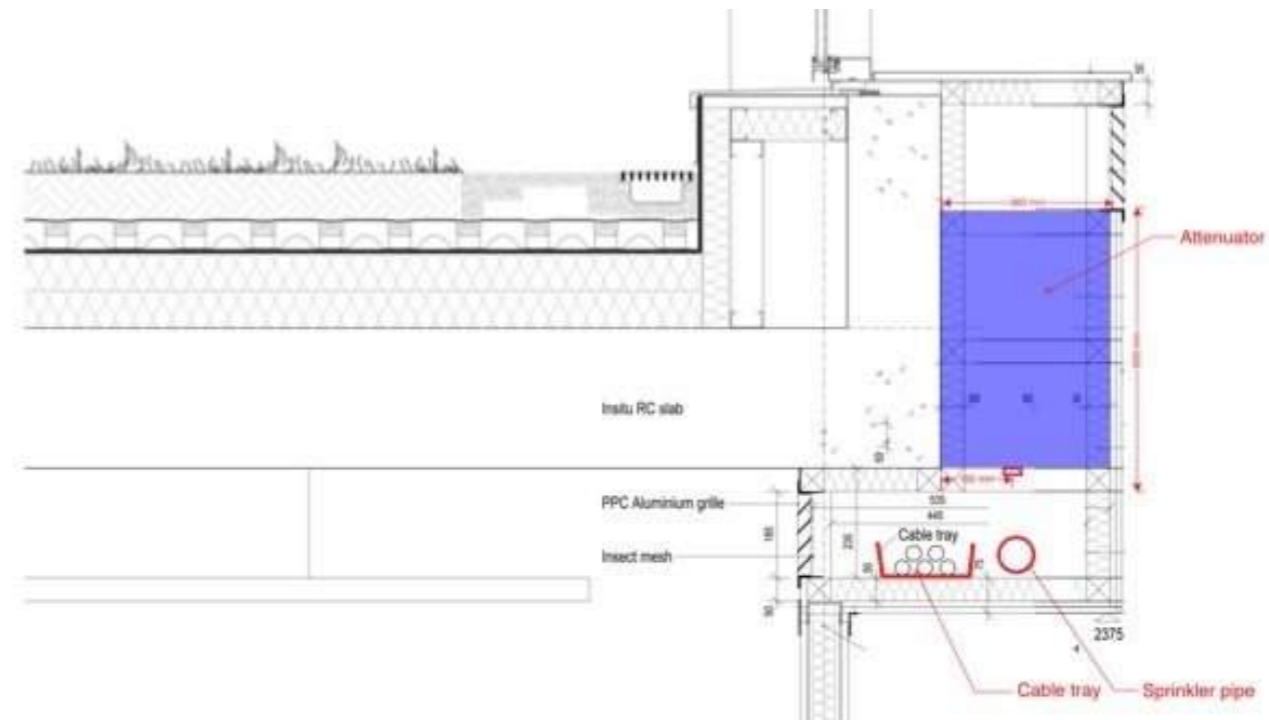
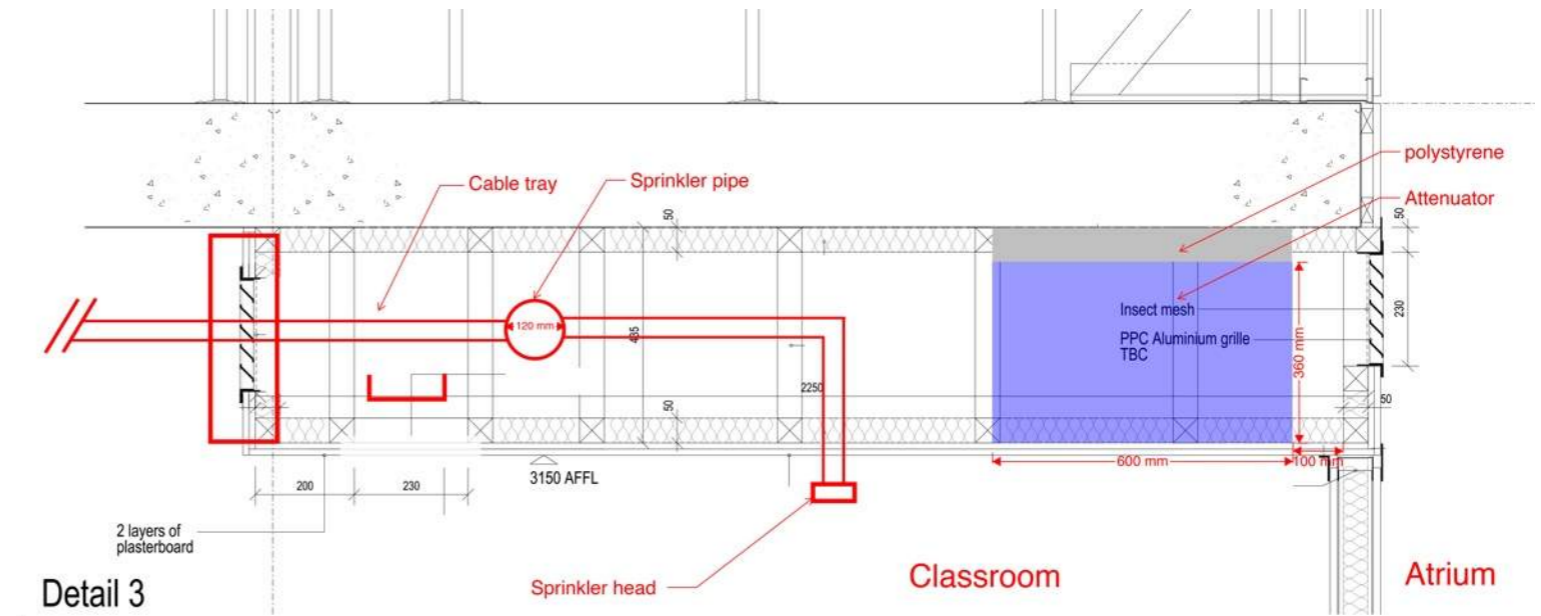
# DESIGN

As a teaching space, the building had to meet BB93 acoustic standards along with BB101 flow rate requirements.

Additionally, space and budget was limited, making a purpose-built plasterboard duct unfeasible.

Thanks to the flexibility of the Honeycomb Attenuator, MACH Acoustics could make use of the MF track designed for the building services.

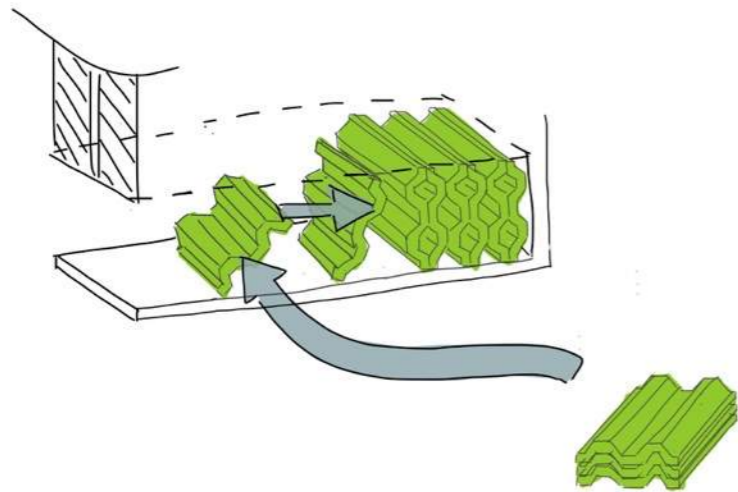
Dog leg ventilators were used to ventilate between floors. The 90 degree bend minimises the impact on space and increases the acoustic attenuation.



## MF TRACK INSTALLATION

The Attenuator is not supplied in a pre-defined container, so it can be cut to fit around MF track supports and services. Generally a 1100mm depth attenuator is used to sit between the standard 1200mm wide MF supports.

The foam is positioned within the MF track in layers to form the honeycomb arrangement, which allows air to flow whilst attenuating noise.



<http://bit.ly/2weDISt>

## DOG LEG INSTALLATION

A dog leg duct arrangement works well between floors. The Honeycomb Attenuator is positioned such that air flows vertically through it, with a 90° bend to the lower partition. The bend creates acoustic attenuation, requiring a reduced depth of foam and saves space by sitting in the existing plasterboard cavity.

Like the MF track installation, the foam is layered into the plasterboard frame to create the honeycomb shape. This layering allows room for pipe work and other building services.





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*The Honeycomb Attenuator has been designed for low energy buildings to overcome the clashes between ventilation and acoustics. Easily incorporated into facades and cross vented corridor walls.*

*Simple. Cost efficient. Flexible. Customisable*

## OTHER CASE STUDIES

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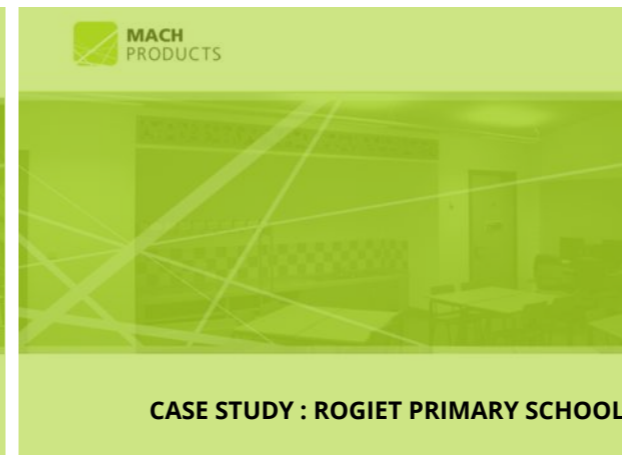
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