

Acoustic Attenuation

Some projects require acoustic attenuation in order to successfully employ natural ventilation. This is often the case on particularly noisy sites where break-in noise becomes an issue, or when preventing cross-talk between spaces.



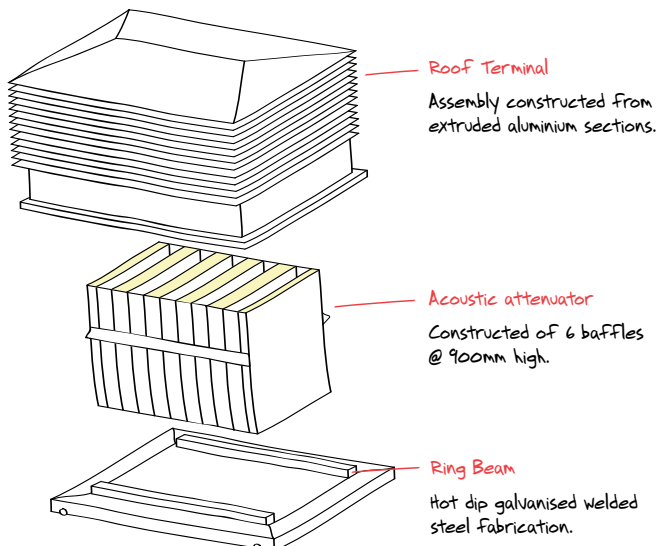
Breathing Buildings' acoustic attenuation solutions are designed to meet BB93 regulations for schools, and BS8233 code of practice for other building types. Each acoustic solution can be adapted to be site and building specific.

On the flight path

At Barnfield South Academy in Luton, the new building is underneath the flight path of Luton Airport and immediately adjacent to the M1 motorway. BB was required to provide a high performance ventilating element of R_w 25dB, to reduce noise break-in and meet the ambient noise level (35dB L_{Aeq}). The challenge was to meet the acoustic requirements while maintaining a low pressure drop across the attenuator for effective ventilation. The system was designed such that most of the ventilation was carried out through the roof mounted units, although windows can be opened in particularly hot conditions.

The attenuation solution included an 1000x1500x900mm attenuator within each of the roof terminations for the R-series units. The attenuator consists of a series of baffles, constructed from steel mesh and filled with a mineral wool of varying densities designed to absorb different frequencies of sound.

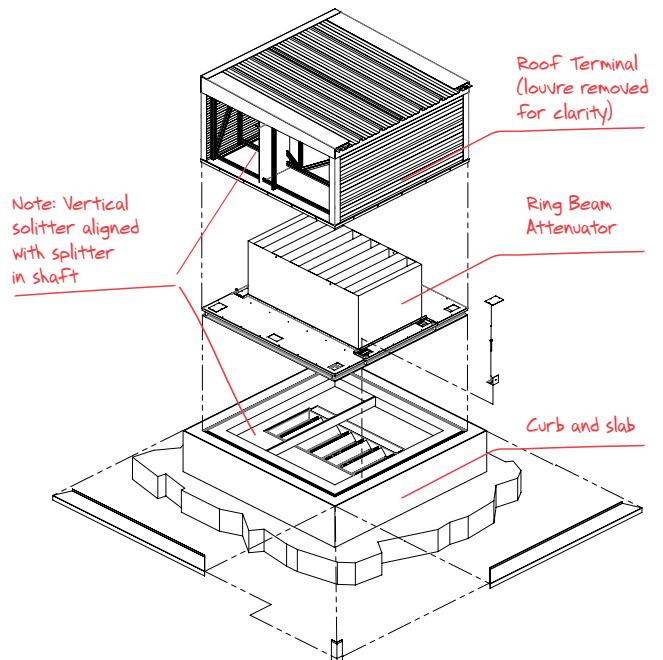
General assembly of roof terminal and attenuator as used at Barnfield South Academy



Order in the court

Another example of acoustic attenuation provided by Breathing Buildings is at the University of Hertfordshire Law School. Here acoustic attenuation is needed to reduce external break-in noise to the full sized mock courtroom as well as the classrooms. Breathing Buildings designed a bespoke roof termination, incorporating an acoustic attenuator for the R-series units. The building also has attenuated low level dampers providing the air inlets, which Breathing Buildings incorporated into the system design.

University of Hertfordshire attenuated roof terminal



For More Information Contact Breathing Buildings at:

Breathing Buildings
The Courtyard,
15 Sturton Street,
Cambridge CB1 2SN

Tel: +44 (0) 1223 450 060
Fax: +44 (0) 1223 450 061
Email: info@breathingbuildings.com
Web: www.breathingbuildings.com