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End client: Bridgend County Council

Architect: Scott Brownrigg

Main contractor: Leadbitter

Mechanical & electrical consultant: Arup

Technology: Passivent SoundScoop®
acoustic air transfer ventilation units

Gateway to the Valleys School, Bridgend



Gateway to the Valleys School is a new secondary school and community campus developed for Bridgend County Council.

Located on a 39 acre site, the 1,570 place school for pupils aged 11 to 18 sits alongside a new community campus which also incorporates a 604 square metre dedicated community facility including a café, a multi-agency hub, child care unit and a range of other community activities.

Representing one of the largest single investments in a shared community and education building in Wales, the school comprises a series of 'colleges' grouped around a community 'heart space'.

Designed and delivered through BIM, the scheme won the BREEAM Education Award 2013 and was the first BREEAM Outstanding High School of its type in the UK.

The challenge

A ventilation strategy was required to allow natural air flow through the school while ensuring that sound from noisier areas of the school did not filter into noise-sensitive areas such as classrooms which might disrupt learning.

The project required a cross-talk attenuator that adhered to the noise compliance requirements outlined in BB93 (Acoustic design of schools: performance standards), to provide a high level of free area together with high acoustic performance.

Gateway to the Valleys School, Bridgend

The solution

Passivent worked closely with Arup to specify Passivent's SoundScoop technology as a fully customised solution. A total of 277 units were manufactured and supplied by Passivent, and installed by main contractor Leadbitter.

SoundScoop was selected as it offers the required attenuated cross-flow ventilation strategy while providing robust acoustic performance. As noise passes through each SoundScoop unit, it is acoustically attenuated, resulting in the reduction of noise. SoundScoop units are positioned at high level, between the classrooms and the corridors, providing a pathway for the flow of air and acting as a bridge between one area and another. This enables the atrium spaces to be used as large open teaching spaces without any issues of noise transfer, and prevents noise from being carried into quieter teaching and meeting areas.

SoundScoop technology has been specifically designed for air transfer applications targeting voice frequencies. It offers high acoustic performance and high levels of free area, in a small and lightweight package.

Its low weight of 14kg and compact dimensions mean that both structural loading and associated installation costs are reduced, making the system easier and more cost-effective to install on site. Benefits of its smaller face area include a smaller opening, bulkhead and cover grilles between rooms.

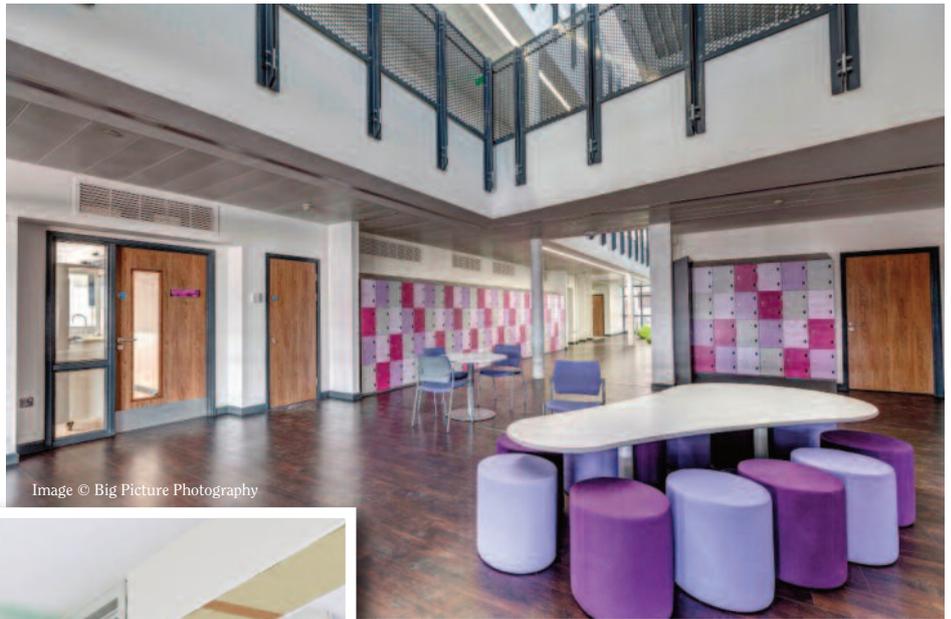
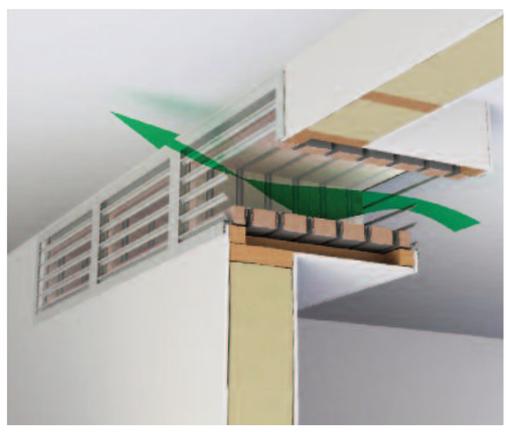
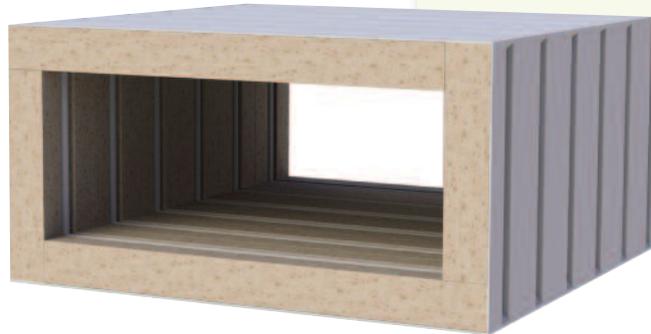


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Elaine Veaudour, Senior Engineer at Arup said, "SoundScoop technology was specified by Arup for the Gateway to the Valleys School because it provided a cross-talk attenuator that was aesthetically pleasing from an architectural perspective while - very importantly - also assuring compliance to cross-flow performance standards".



passivent

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