

Building Acoustics Award

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SRL Technical Services Sir William Henry Bragg Building, University of Leeds

This building has been designed explicitly in terms of its acoustic performance, to create a world class facility housing some of the most advanced electroscope technology in the UK. The new facility will enable researchers from across Europe to see and video the motion of individual molecules. All of this would not be possible if it were not for the consideration of how all noise and vibration throughout the building will travel. The smallest movements in the structure have the potential to affect the equipment within the building and so every single source of noise and vibration had to be considered in detail. This included isolation of all mechanical services plant and reduced airborne noise from mechanical services (to avoid erroneous air movement affecting test samples).

The Bragg Building is also a working University building so the control of noise and vibration had to be achieved without limiting the functionality for users in the other more traditional teaching areas and laboratory spaces. Through careful considered acoustic design work, the result has been a vibrant and collaborative space for academics and students to share knowledge and experience. Expert and detailed acoustic design advice provided has enabled the client's requirements to be realised in full and help researchers continue their ground-breaking work.

This is an impressive and complex project showing excellent collaboration with both equipment

manufacturers, design team and the client. The judges observed that designing for vibration sensitive equipment with lightweight slabs and multiple storeys is always challenging and increases the complexity of a project but the consultants have made this work. The variable air flow system and BREEAM approval for the design were also noted as was the use of BB93 to create a methodology and reference point, even though this was not a requirement for this type of building. The whole project is contingent on success of acoustic design and the contractor's testimonial sums up why this in the 2021 Building Acoustics Award winner:

The acoustic design of the Sir William Henry Bragg Building is integral to the successful operation and use of this world class research and learning facility. Without design advice and support from SRL, we would not have been able to provide future users with the ultra-low noise and vibration environments needed to continue their research and work. – J. Conway, BAM Construction

