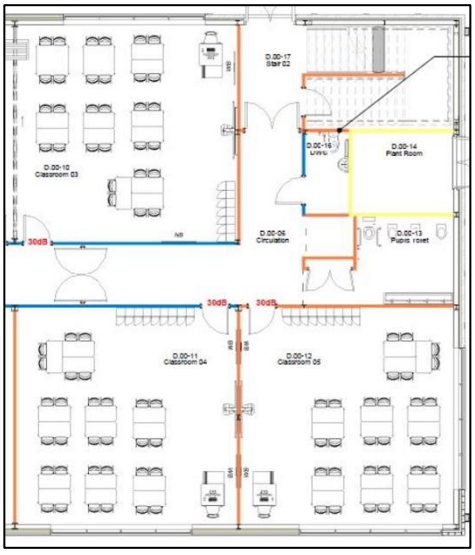
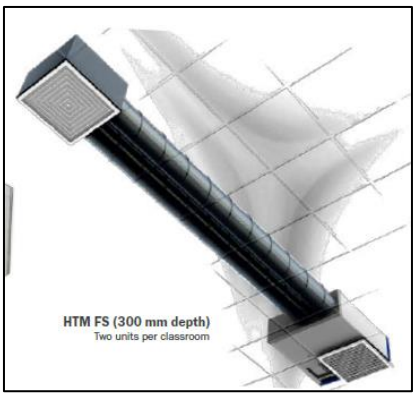
ENVIRONMENTAL CONSULTANTS

Acoustics Assessments

Sir Joseph Williamson's Mathematical School





Contact: Steve Summers

01273 573814

www.accon-uk.com

ACCON UK Limited (ACCON) was commissioned to carry out the Acoustics Assessments for the final design (RIBA Stage 4) for a new maths block at Sir Joseph Williamson's Mathematical School, Rochester, Kent.

The first task for ACCON was to confirm the sound insulation performance standards required between classrooms and other rooms so that proposed partition and floor constructions would meet the requirements of Building Bulletin 93 (BB93) *Acoustic design of schools: Performance standards.* Another early task was to assess the airborne and impact sound insulation of the proposed separating floor construction. Confirmation was needed as to whether the BB93 performance criteria could be met because the need for a thicker concrete deck would require modifications to other parts of the design in relation to structural loading. ACCON were able to confirm the BB93 sound insulation values could be met as long as a resilient vinyl floor or carpet was fitted to the floor.

The new maths block had received planning permission and ACCON was required to determine the impact of noise from the proposed mechanical ventilation systems on nearby residents in order to satisfy a planning condition. A detailed noise model was built using CadnaA for this purpose. An assessment of the noise levels from the ventilation systems was also required to ensure that the BB93 internal noise level criteria would be met. The selected ventilation units were marketed specifically for use in schools and the ACCON assessment confirmed the suitability of the system as designed.

The final stage of work involved detailed airborne and sound insulation assessments to confirm that the architect's selected partition details would meet the BB93 requirements. These calculations took account of the room layout plans and the sound reduction index (R_w) data for each partition type. In addition, reverberation time predictions were carried out based on the proposed ceilings and other room finishes. ACCON were able to confirm that with the ceiling tiles proposed by the architect the reverberation times in teaching spaces would be within the optimum range and meet the BB93 performance requirements.