

UNDERBENCH CLASSROOM UNIT

INNOVATIVE MECHANICAL HEAT RECOVERY AND VENTILATION SYSTEM



CHRIST'S COLLEGE SCHOOL, GUILDFORD

CLIENT: SURREY COUNTY COUNCIL
CONSULTANT: DSDHA & ATELIER TEN
CONTRACTOR: WATES

The school was commissioned to replace the existing 1970's facility that had serious physical problems, while the school struggled with bullying and anti-social behaviour.

DSDHA along with its support consultants won a place on the Surrey County Council's framework. The 700 pupil Christ's College was completed in February 2009.

The building is designed to promote the feel of "one big house" with its single entrance opening into an atrium space used for assembly and group activities.

The building is not BREEAM certified but the design was assessed as BREEAM Very Good and features a concrete frame and floor slabs for thermal mass.



School: Hélène Binet, classroom DSDHA.



Nuairé worked closely with Atelier Ten to design an innovative mechanical heat recovery and ventilation system. The building has thick cavity walls, intake and outlet vents set in the brickwork underneath each window, and a Nuairé XBOXER heat recovery unit and fan unit in each classroom. Until the room comes up to temperature, a damper cuts off the fresh air supply and the unit works in re-circulation mode with an electric heater battery to heat the air.

The classrooms have no additional heating source, although the atrium and communal areas have under floor heating. The system means that there is no need for a boiler, pipes or associated costs.

The XBOXER heat recovery and ventilation system integrated into the façade, the system had only ever been used before in Germany. Although the technology was straight forward the way the system was put together was not. The contractor had to construct a frame before the façade was built. A mock up was constructed to test the air movement, the acoustics and the reverberation.

DIMENSIONS (mm)

