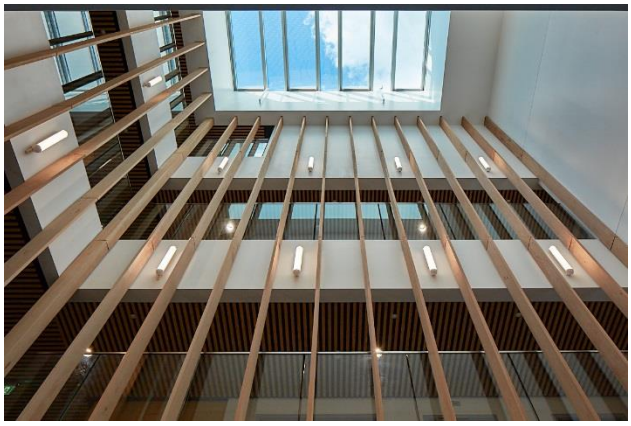
Case Study
Harris Academy Sutton Secondary School

Products
Ten Glass Roof PR60 Passivhaus rooflights and two Smoke Lift Skylight FE's

Architect: Architype
Main Contractor: Willmott Dixon

An innovative daylighting solution from LAMILUX – for a landmark in sustainability

Harris Academy Sutton is the first, and largest Passivhaus secondary school in the UK and has gone on to be recognized for the buildings outstanding performance. The well insulated and exceptionally airtight building, designed by Architype, provides a naturally light and inspiring setting to accommodate the 1,275 pupils and 95 members of staff. With the staff and pupil's wellbeing a significant aspect in the design, the rigorous Passivhaus requirements of the build result in better air quality, ideal thermal temperature and the right amount of natural light throughout the whole year, consequently providing an optimum building to teach and study in.



LAMILUX designed, supplied and installed ten Glass Roof PR60 Passivhaus rooflights throughout the corridors, assembly hall and sports hall areas of the School, bringing high levels of daylight to public areas within the four-story building. The triple glazed, Passivhaus certified rooflights were designed with integrated opening vents to further enhance the environment with natural ventilation.

The LAMILUX Glass Roof PR60 Passivhaus sets the benchmark for energy efficiency standards for atrium glazing. It has been independently assessed by the Passivhaus Institute and awarded the highest efficiency rating, the phA Advanced Component classification. The system features a Ucwi value for the complete skylight of <= 0.82 W/m²K, utilizing warm edge triple layer glazing with Super Spacer, as standard.

The aluminium extruded mullion/transom glazing bar system allows for designs of almost any shape, inclination and size which meant each of the ten uniquely sized rooflights were designed with flashings and interfaces to suit the bespoke project requirements, as drawn by the Architect. The thermally separated structure, watertight to 1200 Pascals, with RE1200 rating and Class E to EN 12208, was designed for a shallow pitch inclination, and in this case the rooflights were installed on a 3° pitch.

LAMILUX worked with main contractor Willmott Dixon to achieve the required light and solar performance. The triple glazed rooflights were specified with a toughened neutral high performance coated outer pane to provide comfort within the building whilst achieving impact safety to CWCT TN92 Class 2. U-values and air-tightness values, according to the Passivhaus certificate, were verified during the detailed design phase of the project.

Constructionline Gold Member

Acclaim Accreditation

Passivhaus Trust MEMBER

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LAMILUX U.K LIMITED | Suite 1 Beacon House, Kempson Way, Bury St Edmunds, Suffolk. IP32 7AR
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In addition, two EN12101-2 certified Smoke Lift Skylights and SHEV control panels were supplied and installed by LAMILUX. To achieve the required high energy standards, and because there were no additional daylight requirements, the smoke vents were installed with solid insulated panels to give the best thermal performance possible, contributing to the buildings exceptionally low energy use and outstanding user comfort. The smoke Lift Skylights were delivered as fully factory fitted units, pre-assembled to 500mm high GRP upstands, to simply fix directly to the opening in the roof deck.







The project was completed in July 2019, with the School opening for its first intake in September 2019. This extraordinary Passivhaus school sets standards for sustainability and excellence and is an inspirational example for future schools to follow.

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