NORTHBROOK COLLEGE

PROJECT: Northbrook College, West Sussex

CLIENT: M&E consultants

SCOPE OF PROJECT: New canteen and refurbishment of the college's engineering block

PRODUCTS: em.glaze modular circular glass rooflights, em.glaze shedlights and em.tube tubular skylights

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Bespoke rooflight design creates a more effective learning environment

THE CHALLENGE

When the time came to create a new-build extension, Northbrook College seized the opportunity to refurbish its engineering block. Existing clerestory windows were leaking air and rainwater, and overheating was an issue. The contractor needed specialist design input into rooflight curbs for the new build, which could achieve a large reveal depth through the roof, and allow rainwater runoff.

THE CONSULTANCY AND SOLUTION

Our team was brought in to revise the existing plans for both new build and refurbishment phases, where previous designs had fallen short on standards and budget. We were asked to provide solutions which would suit the architect's aesthetic ambition, limit solar gain, improve acoustic insulation, and meet the M&E consultant's predetermined calculations for free-flow ventilation. We consulted with the entire project team to draw up proposals, fine-tune and present final design drawings which met both brief and budget.

THE RESULT

In phase 1, the new build, we provided contemporary circular daylight solutions to dining and corridor areas, including units more than 3 metres in diameter. In total, we provided 12 em.glaze modular circular glass rooflights on bespoke aluminium fabricated upstands to flood the interior with natural light. The larger units were cleverly manufactured as multi-section units for simpler transportation and final assembly on site.

In phase 2, the refurbishment, we installed 19 bespoke em.glaze shedlights which met the architect's vision and replaced the leaking clerestory windows. The vertical side incorporated electrically operated vents for ventilation – all shielded from prevailing winds. Our glass specification manages solar gain, meets U-values and maximises daylight. Nine em.tube tubular skylights are now daylighting the internal corridors.

THE BENEFITS

- A low-carbon, low-cost daylighting solution in both new and existing areas of the college
- Thermal efficiency and internal comfort levels restored with high-performance rooflights
- Free-flowing ventilation reduces CO2 build-up for a safer learning environment
- The architectural design intent is maintained and roofing works were made simpler
- All products are certified compliant to relevant building regulations

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