

Your Complete Roofing Solution

Environmentally Focused | Responsibly Sourced | Ethically Driven



Wokingham Hospital

The Phoenix Centre, nestled within the confines of Wokingham Hospital, stands as a beacon of specialised care, dedicated to administering intensive therapeutic interventions for patients dealing with complex health challenges. At the heart of the Centre's mission lies a commitment to tailoring treatments and therapies to address the complex needs of its diverse patient base.

In light of the NHS's concerted efforts to modernise its infrastructure and align with sustainable practices, there has been a heightened focus on updating NHS buildings across the country. This drive is not merely about refurbishing structures but also about adhering to the NHS's proactive agenda to reduce carbon emissions and enhance energy efficiency.

In line with this ethos, AlumasC emerged as a trusted ally in the quest for sustainable solutions. Recommended by NHS Property Services North East, AlumasC was invited to lend its expertise in tackling the persistent issue of water infiltration plaguing the facility's existing roof. This collaboration stands as a testament to the collective commitment towards ensuring that healthcare facilities not only provide exceptional care but also operate in a manner that champions environmental stewardship and sustainability.

Client Brief

The project brief encompassed a myriad of challenges that demanded meticulous attention and strategic planning. Foremost among these challenges was the imperative need to ensure the building's watertight integrity. Given the critical nature of the facility's operations, safeguarding it against water ingress was paramount to maintain a safe and conducive environment for patient care.

Moreover, the project aimed to enhance the thermal efficiency of the structure, aligning with sustainability goals and optimising energy consumption. This dual focus on environmental responsibility and operational efficacy underscored the project's significance within the broader context of healthcare infrastructure.

Compounding the complexity, the renovation and improvement works had to be seamlessly integrated into the centre's ongoing operations, necessitating meticulous scheduling and minimal disruption to patient care routines. This multifaceted endeavour exemplified the intersection of technical expertise, operational efficiency, and patient-centric considerations inherent to healthcare infrastructure projects.

Products

After thorough discussions with the client and multiple roof surveys, it became evident that the existing roof required comprehensive refurbishment and redesign. The surveys revealed critical drainage issues, indicating improper water flow that could only be rectified through a complete overhaul of the roof's design and the implementation of a new water drainage strategy. A series of rooflights across the 800m² expanse showed a number of failures adding to the risk of water leakage.

In response to the client's efficiency targets and environmental objectives, Alumasc proposed the Derbigum Olivine system as the optimal solution, which perfectly aligned with the client's requirements.

Beyond its remarkable 40-year warranty promising longevity and durability, the system significantly mitigates CO₂ emissions, playing a pivotal role in the hospital's ambition to reduce their carbon emissions.

The design of the project incorporated Alumasc roof vents, chosen for their ability to optimise airflow and address common issues like condensation buildup, moisture retention, and heat accumulation within roofing systems.

Crafted with precision and attention to detail, Alumasc roof vents seamlessly integrate with roofing membranes and other structural components. They adhere to rigorous industry standards and regulations, ensuring performance, safety, and environmental sustainability.

Beyond their technical functionality, the inclusion of rooflights serves to flood the structure with natural daylight. This feature not only enhances the architectural aesthetics but also creates a pleasant environment for patients within the centre. The infusion of natural light contributes to a welcoming and therapeutic atmosphere, promoting well-being and comfort for those using the facility.

Technical Insights

Alumasc's innovative roofing system comprises a CO₂ neutralising reinforced APP polymer modified bituminous waterproofing membrane, supplemented by underlays, insulation boards, and air and vapor control layers.

The system's upper layer, adorned with naturally occurring minerals, catalyses a chemical reaction upon contact with rainwater, effectively neutralizing CO₂ pollutants. This chemical conversion renders the runoff carbon-free as it reaches the drains, mitigating environmental impact.

Endorsed by BBA certification, Derbigum Olivine offers a fully warranted system with a life expectancy of 50 years. Despite the gradual reduction in olivine grain size with each reaction, these grains maintain efficacy for an impressive 30 years before complete depletion. Not only is the system exceptionally durable, but it also epitomizes sustainability, as the membranes utilised are entirely recyclable.

A Pioneering Solution

Detailed calculations performed by our team highlighted the numerous advantages of the Derbigum Olivine system when compared to traditional roofing methods. This environmentally aware roofing solution actively counters CO₂ emissions, with 1m² of olivine capable of neutralising approximately 1.75kg of CO₂. Moreover, our analysis indicated that the current roof's U-value fell below optimal standards, necessitating an upgrade to improve thermal performance. By installing the Derbigum Olivine system with a fully designed tapered insulation scheme, the U-value was lowered to 0.1, thereby maximising energy efficiency and reducing the centre's operational expenses.

Challenges

The project presented a plethora of challenges, particularly as the works needed to be executed while the centre remained fully operational. The essential nature of the hospital's services rendered any interruption untenable. Addressing the improper waterflow of the existing roof necessitated a comprehensive redesign; however, the stripping of the roof had to be conducted in phased sections. Careful planning ensued after thorough investigations to strip and redesign, ensuring the delivery and installation of correct component parts, balanced amidst the ongoing operations of the centre.

The entirety of the project stands as a testament to our commitment to the NHS's ongoing strategy to enhance patient care, underscoring its commitment to collaborative efforts with certified contractors to furnish a solution that is not only resilient to future challenges but also capable of evolving with the dynamic healthcare landscape.

