Case Study: Crystal Peaks Shopping Centre, Sheffield

Installer:
P&R Structural Glazing

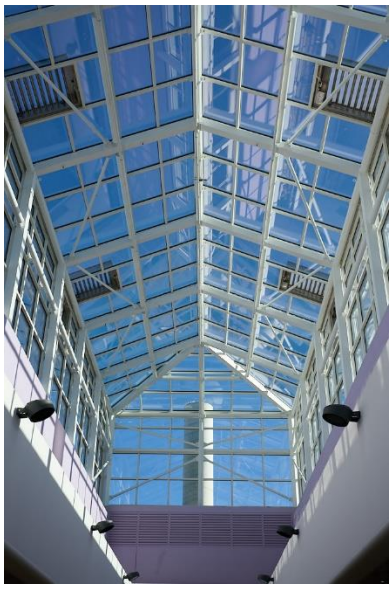
Product:
LAMILUX Glass Roof PR60 Product webpage

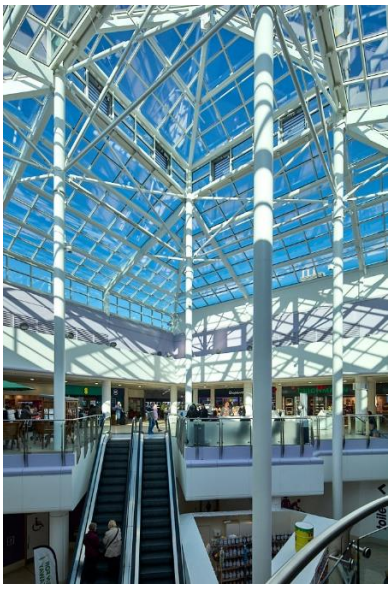
Crystal Peaks, a major shopping centre in Sheffield, Yorkshire, has been refurbished with three new large, glazed roofs thanks to the collaboration between LAMILUX, a leading provider of high-performance rooflights, and P&R Structural Glazing, a specialist in rooflight installation.

The project involved the supply and installation of three Glass Roof PR60s, the advanced and bespoke roof glazing system from LAMILUX, which was designed to enhance natural daylighting, energy efficiency, and the overall aesthetics of the shopping centres architecture. A remarkable total of 1,389 glass panes were installed across the three rooflights to give approximately 1,533 square meters of glass. Additionally, natural smoke ventilation was integrated into the glazing systems.

LAMILUX and P&R Structural Glazing worked closely together throughout every stage of the project, from the initial design concept to the final installation, engaging in numerous meetings to ensure a seamless collaboration. Through this partnership, both companies successfully delivered a cutting-edge solution that met the needs of the project whilst ensuring long-term durability and performance in the busy commercial environment. This proactive partnership was essential in overcoming a wide range of challenges, including limited access to certain areas of the shopping centre and the complex logistics involved in carrying out the work while keeping the facility operational.

Crystal Peaks Shopping Centre, which promotes sustainability as part of its sustainability ethos, had outdated and inefficient original glazing that required significant modernization. Due to the age of the building, original architectural drawings were not available for this large-scale retail development, necessitating a comprehensive survey. This survey was essential to facilitate the creation of a 3D model of the structure at the beginning of the design process.



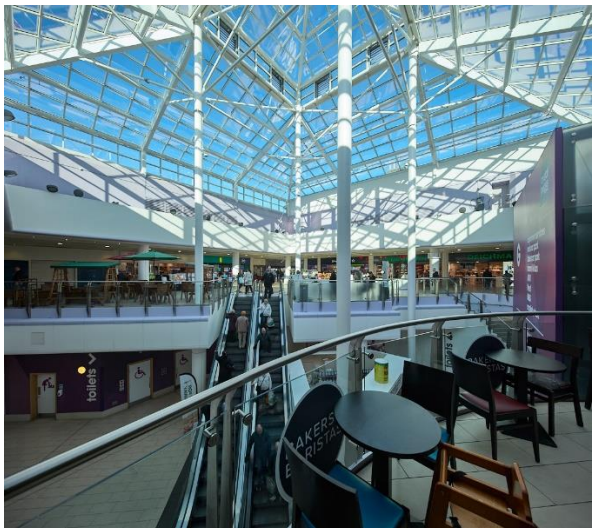


Safety was a top priority, and the teams coordinated carefully to implement measures that allowed the renovation to progress without disrupting Crystal Peaks Shopping Centre's daily operations. The installation of the East atrium rooflight, which boasts glazed dimensions of 24.5 meters in length and 5.5 meters in width at the apex, was planned for the Christmas trading period, which therefore required meticulous planning and consideration. By maintaining clear communication and a flexible approach, both companies successfully navigated the technical and operational hurdles, ensuring that the project was completed to the highest standards, while minimizing inconvenience to shoppers and staff. A provisional ceiling structure was constructed, featuring temporary lighting integrated into the false partition ceiling. In addition, an external canopy was erected to safeguard both the building and the workers from adverse weather conditions during the course of the project.

The LAMILUX PR60 Glass Roof is renowned for its versatility and exceptional thermal efficiency, making it an ideal choice for a wide range of applications, including large commercial spaces like shopping centres. Designed to deliver both aesthetic appeal and functional performance, the PR60 Glass Roof can be customized to suit various architectural styles and design requirements. Its construction allows for flexible configurations, enabling the system to be

adapted to different roof shapes and dimensions, which was necessary to accommodate the distinct shapes and sizes that differed among the East, West, and Central atrium rooflights of the shopping centre. In terms of thermal performance, the PR60 Glass Roof features advanced insulation technology that minimizes heat loss, helping to regulate the internal temperature of the building and reduce reliance on artificial heating and cooling. This energy-efficient design not only contributes to lower operational costs but also enhances occupant comfort by maintaining a consistent, pleasant indoor climate. With its combination of flexibility, energy efficiency, and visual appeal, the PR60 Glass Roof is a top choice for projects that prioritize both functionality and sustainability.

Incorporating natural daylight into a shopping centre offers many benefits, not only improving the overall environment but also contributing to enhanced sales performance. Studies have shown that exposure to natural light positively influences shoppers' moods, creating a more pleasant and welcoming atmosphere. Additionally, research indicates that natural daylight can increase the amount of time customers spend in stores, which directly relates with increased sales. One notable study by the Heschong Mahone Group found that retail spaces with natural daylight saw a 20% increase in sales compared to those with artificial lighting. Furthermore, natural light contributes to energy efficiency, reducing the reliance on artificial lighting and lowering operational costs, making it a sustainable and cost-effective feature for shopping centres.



The group effort between LAMILUX and P&R Structural Glazing brings extensive experience in handling large and complex rooflight installations. Expertise in the installation of intricate glazing systems is backed by experience with working on challenging sites, where precision, technical skill, and meticulous planning are essential. P&R Structural Glazing's team is well-versed in managing the logistical complexities of large-scale installations, including ensuring safety standards are met, and minimizing disruptions to ongoing operations. Their ability to navigate the unique demands of each project—whether it's working in confined spaces or dealing with challenging access points—has earned them a reputation for reliability and efficiency in delivering high-quality installations on time and within budget. This experience was crucial in ensuring the successful installation of rooflights in the Sheffield shopping centre, where careful planning and execution were necessary to meet both the design specifications and operational requirements.