

JAGUAR LAND ROVER ENGINE MANUFACTURING CENTRE, WOLVERHAMPTON

BRETT MARTIN DAYLIGHT SYSTEMS



When Jaguar Land Rover, the largest automotive employer in the UK made the decision to invest in a new £500 million advanced engine manufacturing facility in the West Midlands, they set themselves a goal of achieving a BREEAM excellent rating with a building designed to minimise energy demand through the use of a number of sustainable initiatives. Vital to this was an innovative and thermally efficient architectural glazing system from Brett Martin Daylight Systems.

Maximising energy efficiency

Reducing the energy needed for lighting and cooling is paramount for any manufacturing facility and for both the machinery plant and assembly hall at the Jaguar Land Rover plant, the designers incorporated sustainable solutions comprising insulated cladding, photovoltaic panels, automatic louvres and glazing. These would not only ensure the

entire facility would become an exemplar of energy efficiency but would also enhance the productivity of the workforce.

In looking for a glazing system which would not only maximise daylight but also offer exceptional air tightness, fire performance, durability and UV stability, the Marlon Clickfix 1040 polycarbonate glazing system from Brett Martin met the project requirements and was the most thermally efficient way of introducing daylight into the two buildings.

“The Marlon Clickfix glazing system was chosen for this manufacturing facility because of its thermal efficiency, weather tightness and fire performance,” commented a spokesperson from Arup Architects. “We were able to maximise natural light into the plant and create a thermally efficient building envelope which has helped the building achieve an Excellent BREEAM rating.”

UK innovation

As well as satisfying the architect’s performance criteria, the system’s polycarbonate glazing panel is manufactured at Brett Martin’s Mallusk site in Northern Ireland where a wind turbine supplies 20 percent of the electricity required to run the manufacturing facility.

Comprising lightweight 40mm polycarbonate panels which offer impact resistance, resilience and structural strength, Marlon Clickfix provides a U-value of 0.99 W/m²K, for a more energy efficient building. Installation is very straightforward due to the modular design, which consists of interlocking panels that simply click and fix into place for glazed areas of unlimited size and shape. The Marlon Clickfix 1040 system has a choice of two thermally broken aluminium glazing bar systems depending on the application. The Marlon Clickfix VF glazing bar system has been specifically developed for vertical installations such as façades, partitioning, rain screens and vertically glazed northlights whilst Marlon Clickfix RL has been designed for use in low pitch rooflights and canopies.

With extensive areas of northlights and façades, Brett Martin supplied over 10,000 square metres of clear glass effect Marlon Clickfix polycarbonate panels to provide naturally diffused daylighting in the machinery plant and assembly hall and a further 8,000 metres of Marlon Clickfix VF powder coated aluminium frame profiles for installation by the specialist contractor Hathaway Roofing Limited.

Keeping with the sleek lines of the project and to satisfy the design criteria, the system's interlocking glazing panels simply clicked together to create the seamless northlights.

The additional weight that traditional glass northlights could potentially add to the roof structure was an initial concern. Much lighter than glass at just 4.3kg/m², the lightweight nature of the Marlon Clickfix system was found to be the perfect daylighting solution and reduced the need for additional roof support structures.



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The system also features as vertical glazing at upper levels on the north and south facing walls on both Jaguar Land Rover buildings bringing further daylight into each facility.

'This was our largest order to date for the Marlon Clickfix system and to meet a fast turnaround of 4-6 weeks, our production facility was able to supply all the panels cut and prepared for installation, blown free from dust and taped at both ends to reduce the chance of error,' commented Chris Czyzyk, Brett Martin Regional Sales Manager.

Ease of installation

Quick and easy installation was a key factor for the specialist contractor Hathaway Roofing Limited as this was the largest installation of Marlon Clickfix panel glazing system they had undertaken. Brett Martin invited two representatives to attend a product installation training session at the company's Coventry site to practice installing the product on training rigs before installation on site.

"The training and technical support from Brett Martin was of great benefit to our site team," commented Dave Ramsey of Hathaway Roofing Limited. "Any minor issues were quickly resolved which kept the installation process on track and within the required timelines and budgets."



Daylight Systems

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