



Case Study – B&Q Mini-Warehouse, Cyfarthfa Retail

B&Q ‘Eco-Learning’ Store incorporates Evolution

The new store at Cyfarthfa Retail Park in Merthyr Tydfil is the first eco-learning store for B&Q and hosts a number of innovative eco-friendly features including an ecologically diverse plant rich green roof. The 5,000m². ft. flagship store was constructed with developer Hammerson and B&Q working corroboratively to achieve low energy, low carbon and high recycled targets. This resulted in the project winning the Sustainability Achievement Award at Property Awards 2015.

The standard of the store’s environmental performance is 50% better than the Building Regulations requirement (Part L 2010), achieving a Band A Energy Performance Certificate rating, a BREEAM rating of ‘good’ and a 23% reduction in embodied energy relative to industry bench mark standards for similar retail developments.

Zenon Evolution was specified for this project by B&Q due to meeting the safety, durability, sustainability and life expectancy objectives of the client coupled with a significant carbon reduction saving. Zenon Evolution offers the best solution for environmentally conscious buildings as it uses less resin in the manufacturing process, it is thinner, lighter and has less embodied carbon. Other benefits include a better profile definition to suit the surrounding metal sheets, more reliable sealing and a non-fragility performance which equals or betters that of heavier conventionally reinforced products.

The store includes a 4,100m² warehouse and a 1000m² garden centre incorporating rooflights to 15% of the roof area achieving a U-value of 1.3W/m²K. For the extensive areas of green roof, the specification called for rooflight openings above the surrounding vegetation, and here Zenon Archlight barrel vault rooflights were installed on site constructed kerb systems. For the remaining areas of roof, in-plane Zenon GRP rooflights were supplied to match the profile of the cladding system. Dave Humphrey, Design Manager for BAM Construction commented “Zenon rooflights were simple to integrate into the design of the congested roof on B&Q Merthyr Tydfil. They provide excellent light transmittance values and allowed us to maximise the natural light from the limited amount of area available to us. They were installed into two different types of roofing products – steel and aluminium with a green roof over. They play an important part of the overall Sustainability Award from Property Week”.

This project was developed by Hammerson, designed by Powell Dobson Architects and built by BAM Construct UK with Zenon Evolution rooflights fitted by roofing contractor ABS Elbow as part of a Euroclad building envelope system.

External view of Archlight



Archlight and green roof



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Ref: BAM Construction

Products used in this project

Zenon Archlight barrel vaulted rooflights

Archlights are manufactured and supplied as individual pre-curved self-supporting rooflight sheets characterised by a trapezoidal ribbed profile following the curve of the sheet. They are available for daylight openings or support systems up to 4 metres wide and at a fixed sheet radius of 3150mm in natural translucent or opal tinted GRP and at a nominal weight of 2.4kg/m².

They are available to suit any length of construction or opening, and are easily installed in single, double or triple skin configurations using spacer brackets depending on thermal performance required, or in combination with flat profiled liners and insulation layers in built-up self-supporting metal sheet roofing systems.

Subject to specification, they offer expected periods of non-fragility up to 25 years subject to all other elements of the assembly or roof construction retaining their integrity for the same period.

Zenon Evolution rooflight sheets

Zenon Evolution is ideal for environmentally conscious industrial and commercial buildings or where superior strength is demanded. Benefits include;

- High strength rooflight sheet with lower embodied carbon
- Available in over 1000 profiles to suit new build and refurbishment projects
- Suitable for installing in single skin and double skin assemblies
- Insulated with either polycarbonate or our patented Insulator™ core
- Compatible with both site-assembled and composite panel cladding systems
- Stronger than conventionally reinforced rooflights of the same weight
- Better profile definition to suit the surrounding metal sheets
- Increased diffusion of natural daylight
- More reliable sealing, no special sealants required
- Carries Zenon Shield, a highly durable UV protection surface film
- Exceeds non-fragility requirements
- Manufactured and CE marked in accordance with BS EN 1013
- **Best for strength, durability, performance and peace of mind**