

DERBY ROUNDHOUSE



After 20 years of dereliction, the world's oldest roundhouse has been sympathetically renovated and restored for a new lease of life that English Heritage site as an exemplar project.

Built by Robert Stephenson in 1839 for the North Midland Railway, the building is the world's first railway roundhouse. An unusual polygon of sixteen sides, and 58m in diameter, the space is lit from a dome-shaped roof some 15m above the ground. Having narrowly escaped demolition after the closure of Derby Railway Works, this Grade II Listed Building has been sympathetically restored as part of the main campus of Derby College.

Architects, Maber Associates, returned the building to its former glory with original features restored and complemented by a host of unique interpretation artwork, which brings to life the rich industrial and railway heritage of the site.

The large span of the existing building matched perfectly the spatial demands of the college perfectly, ensuring a sympathetic restoration with no subdivision of the principle spaces.

The roof posed the biggest challenge due to its poor condition and because it provided one of the few opportunities to improve the building's thermal performance. We were approached by the team at Maber to support the reconstruction of the roof which involved reinstating a ring of 48 trapezoidal rooflights within the existing timber frame, of which 36 open remotely using electric actuators.

As every facet was unique, we utilised 3D scanning technology to map the entire roof structure and build a 3D CAD model of the rooflight that ensured millimetre accuracy and enabled the construction team to work within the historic constraints of the existing building.

The result was a sympathetic renovation, which kept the look and feel of the original building, without compromising on modern performance.

Throughout the latter half of the twentieth century, the roof of the Roundhouse became increasingly compromised by fire, removal of slates and rooflights as well as structural movement. The strategic brief for this element of the scheme centered around restoration. The aim was to reinstate the roof in accordance with contemporary etchings and photographs from the 1860s.

Such a specialist task required specialist conservation expertise to design and supply rooflights that met the specification in terms of glass weight, section size and span. Each one of the new rooflights has slightly different dimensions, reflecting the nature of the original building and its movement over time making site measurement and accurate manufacture absolutely critical. The original Victorian rooflights were all fixed, however, new heating and ventilation design requires one in three of the rooflights to have motorised opening. The architect was very clear that the fixed and openable roof windows must have the same section sizes so they are indistinguishable from each other when closed.

Our team created bespoke Conservation Rooflights employing straight bars, the 2.3m long units follow the line of the roof hip.

The project also required a run of finely detailed, low-profile pitched roof windows to be installed on former carriage shops and engine sheds, following the runs of the original rooflights. Our linked Conservation Rooflights provided the perfect solution and 64 of these were supplied.



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Approved by leading organisations such as the National Trust and English Heritage; our extensive range of conservation roof windows are approved by planners and conservation officers throughout the UK. Key features include:

The Conservation range is conformity marked in accordance with EN 14351-1.

Achieves whole unit U-Value as low as 1.4W/m²K in accordance with BS EN ISO 10077-2:2017.

Suitable for pitched roofs between 17½ and 65 degrees.

Architect:

[Maber Associates](#)

Contractor:

[Bowmer + Kirkland](#)

Awards:

RICS Project of the Year
Project of the Year, East Midlands Centre for Constructing the Built Environment
Heritage Award, East Midlands Centre for Constructing the Built Environment, East Midlands Property Awards
English Heritage "Constructive Conservation" exemplar project

Contact us for more information:

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