

Refurbishment Roof Glazing **Heritage Considerations**

Introduction

Where it is important to preserve the appearance of traditional roof glazing whilst also taking advantage of the benefits of modern glazing materials, a number of options are open to designers.

This brief report aims to present these options and provide examples of where they have been used.

Design Criteria

Material Selection:

Multiwall polycarbonate has a similar appearance to Georgian wired or frosted glass when viewed from a distance. Certain grades of multiwall, such as the 25mm clear or opal material, have reduced light transmission levels and whilst not having the exact look of the old glass will, we believe, be acceptable.

Glazing Bar Centres:

Most traditional glazing bar centres are glazed at 2 foot (610mm), which reflects the availability of glass sizes at the original time of installation. Modern multiwall polycarbonate can be glazed at much wider centres of up to 1250mm, depending upon the glazing thickness fitted. However, in order to preserve/replicate the overall visual appearance of a buildings' original glazing, multiwall polycarbonate systems can be glazed at reduced centres, such as 610mm, should this be desired.

Glazing Bar Colour:

Whilst traditional glass glazing bars were almost invariably in a grey mill finish appearance, aluminium is usually polyester powder coated to protect the bars from future oxidation (which can give a chalky effect). If the original grey appearance is required bars can be powder coated to a grey finish. Alternatively, many heritage organisations have accepted an alternative colour that perhaps reflects the original building fabric or steelwork.

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Completed Projects

The following are examples of previous jobs where heritage considerations were important and where the glazing was refurbished with multiwall polycarbonate.

London Underground - Surface stations

London Underground (LU) have their own Heritage Department, whilst also working under local authority planning guidelines.

A great deal of their surface asset base is old steel structures glazed with frosted or wired glass and many of their buildings are in need of renovation. Whilst the current building requirements such as non-fragile roofing and energy efficient glazing cannot be achieved easily with traditional glass systems, multiwall polycarbonate glazing can meet these requirements and offers an attractive solution.

In order to meet the LU heritage requirements the following was agreed:

- Glazing bar centres would be kept at the original two foot centres (610mm).
- 25mm polycarbonate was selected to most nearly match the existing look of the original frosted glass.
- Glazing bars would be polyester powder coated in green to match the existing steel structures.
- The original design and size of overlapping glazing would be retained.

The following two projects at Ealing Broadway and Edgware Road stations illustrate the end results possible when glazing with multiwall polycarbonate.

Edgware Road Tube Station



Edgware Station - before
with traditional glass



Edgware Station - after with
multiwall polycarbonate

Ealing Broadway Station



Ealing Broadway - before



Ealing Broadway – before (bottom left of above photo) & after (bottom right and all of top row)



Ealing Broadway - after



Ealing Broadway - after

Rolls Royce Building – Barnoldswick

The Rolls Royce Aero Engine Building is an old mill building converted by Rolls Royce to accommodate their aero engine business in World War II.

In the 1990s when refurbishment was required to replace the old Georgian wired glass system, 25mm multiwall polycarbonate glazing was selected by their engineers and heritage department; see below.



The rooflights at Rolls Royce, Barnoldswick

Boots – Nottingham manufacturing unit

The Boots company were required by English Heritage to maintain the appearance of their Nottingham complex when they carried out refurbishment work on their D6 and D10 buildings. Multiwall polycarbonate was approved for re-glazing many of the old glass roof lights in the complex.



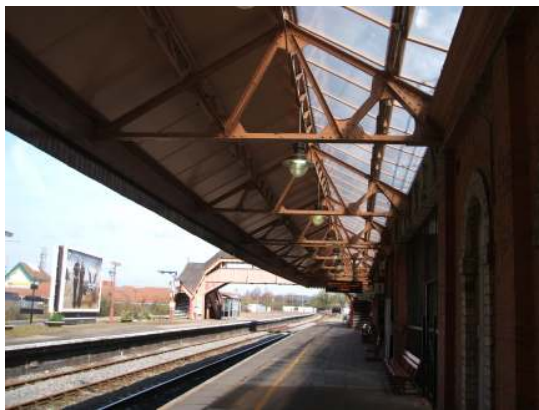
Boots - roof light before



Boots - roof light after

Network Rail

Network Rail operates in a similar manner to London Underground and many key heritage projects are supported by funding from the Railway Heritage Trust. Polycarbonate glazing has been approved for selected projects and two are shown below: the stations at Stratford upon Avon and Crewe.



Stratford upon Avon glazed with polycarbonate



Crewe Station, Platform 12, glazed with Twinfix Multi-Link Non-Fragile pre-assembled polycarbonate panels