

# Recovering the roof at Aberdeen station

Over the years **Twinfix** has supplied modular polycarbonate panels for use as rooflights in many railway stations and depots

Replacing the old canopy glazing used at rail stations with products from Twinfix's range of polycarbonate glazing options floods the area with daylight while eliminating the common issues that occur with historic railway roof-glazing. Aberdeen railway station is the busiest railway station in Scotland north of the major cities of Glasgow and Edinburgh. With seven platforms and 2.948 million passengers travelling through the station last year. It was built as Aberdeen Joint Station between 1913 and 1916, replacing an 1867 structure on the same site and has been designated as a 'Category A' listed building.

Last year, £8 million was invested in to a twelve-month programme to refurbish the station roof and replace 10,000 existing glass panels which were prone to cracking, leaking and discolouration. Story Contracting was the Principal Contractor for the project, Twinfix supplied the roof-glazing system and Macleod Roofing installed it.

The main challenge Story Contracting faced was how to safely access the works at height to carry out the glazing replacement with as little impact as possible on the daily operation of the station and passengers. They overcame this by using an innovative rolling access platform to carry out the work allowing access to one third of the main concourse roof from below and the works to progress quicker and more safely due to fewer dismantling and erecting phases. The glazed panels were replaced with the innovative Multi-Link-Panel NF (Non-Fragile) roof-glazing system with 6mm solid obscure Georgian wired effect polycarbonate. Approximately 8,000 square metres of the Multi-Link-Panel NF system were installed at Aberdeen.

The Multi-Link-Panel NF system installed at a vast number of stations across the UK, (now including Aberdeen Station) is an aluminium-framed modular rooflight system, designed with a patented fixing method that results in incredibly quick installation times – a real bonus when working with limited possession times. It is a cleverly designed and well engineered roof-glazing concept that combines simplicity with sophistication, which has long been available as a non-fragile system that conforms to the HSE's approved drop test

for non-fragility, ACR[M]001:2014.

Twinfix offers a range of different glazing options for these non-fragile rooflight panels:

- multiwall polycarbonate – incredibly light in weight
- solid polycarbonate – the clear product looks like laminated glass but is virtually unbreakable
- 6mm solid obscure Georgian wired effect polycarbonate

The quick and easy install meant that Macleod Roofing could easily install a large number of panels each night maximising the possession time. David Mackinnon, General Manager for Macleod Roofing said: 'We have worked with Twinfix on several large projects to date. Due to the lightweight nature, strength and versatility of the Twinfix product, you can cover large areas in a limited time, this is really helpful when working on live railway stations, when you are restricted to night shifts and trackside possession hours.'



The Georgian wired polycarbonate glazing combines the appearance of Georgian wired glass with all the material benefits of polycarbonate. Quite simply, it's a 6mm thick dimpled surface solid polycarbonate with the traditional look of Georgian wired glass.



It is the ideal material for station canopy glazing because the combination of its light weight of just 7.2kg/m<sup>2</sup>, which is substantially less than the glass alternative, and impact resistance make it safer to install than the glass alternative. Being virtually unbreakable also negates future costly broken glazing replacement. It can withstand natural forces like severe wind, hail and snowstorms and absorbs vibrations caused by train movements without cracking, crazing or breaking. It also provides a low-maintenance, long-lasting rail roof solution, which is strong, corrosion-resistant and self-cleaning.

Eddie Esdale, Contracts Manager, Story Contracting said: 'The finished results at Aberdeen station are fantastic. The key challenge for the project was to keep passenger disruption to a minimum and we were able to maintain good light levels and good pedestrian flow throughout the work. We were also able to take experience from the canopy replacement works we previously delivered at Stirling where we installed almost 5,000 new Twinfix polycarbonate glazing panels in the busy central Scotland station.'

As well as improving the overall environment in a lighter, brighter station, the addition of the Twinfix Georgian wired polycarbonate at Aberdeen has preserved the listed building's unique appearance and character, while providing modern levels of safety for passengers and staff. A further improvement at Aberdeen was the introduction of 482 hatches, enabling staff to safely carry out gutter cleaning without having to gain access above the glazing – something that wasn't previously possible at the station.

Andy Savage, Executive Director of the Railway Heritage Trust (RHT), said: 'The



restoration of the Aberdeen canopies is not a project that we were involved in funding, but the RHT is delighted that Network Rail has restored the canopy glazing, especially over the unglazed section of canopy on Platform 7. The RHT is most happy with the finished work, in its appearance as a structure, in improving the passenger experience, and in making future gutter maintenance so much easier and safer.'

Over the years the Multi-Link-Panel NF (Non-Fragile) roof-glazing system with 6mm solid obscure Georgian wired effect polycarbonate has been installed in many listed stations, really complementing these

stations but at the same time enabling the stations to be improved to meet modern day safety standards.

Managing Director for Twinfix, Vicky Evans commented on the project: 'Working on Aberdeen Station has been a real honour, I take a particular interest in the work we carry out on listed stations as it is great to help enhance these stations that are so steeped in history. I am proud that we can assist in the refurbishment of these listed buildings by offering a roofing product that is in keeping with their heritage features, while also providing a modern, safe and long-standing roof that is fit for the modern day. Aberdeen has been a great project to work on and the station looks fantastic. I am really happy we were part of its restoration and glad it can be enjoyed by many passengers and visitors for years to come.'

Network Rail were pleased that the project was a success and that Aberdeen station had been restored to its former glory.

Valerie McMillan, Asset Manager for Network Rail commented: 'Twinfix provided an excellent service throughout the project. From designing a solution specific to Aberdeen station with larger access hatches for safe roof cleaning, to visiting the site regularly to oversee the installation and provide expert advice to the Contractor as required. As a Client this was important and provided us with the assurance that a quality solution was implemented. The Georgian wired effect polycarbonate is indistinguishable from the traditional Georgian wired glass which appealed the Planners and means that cracked and leaking panels will be a thing of the past. The new roofs provide a much-improved station environment for our customers and passengers to enjoy.'

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