

Birmingham New Street

Lindapter Hollo-Bolts provided an engineered solution for securing an impressive stainless steel façade.

Project Background

Location: Birmingham, UK
Market: Façades & Cladding
Product: Hollo-Bolt® by Lindapter®
Project Value: \$1 billion
Client: Network Rail / Mace Group Ltd
Specialist Contractor: Martifer UK Ltd

In recent years Birmingham New Street railway station and the Pallasades Shopping Centre had become the subject of criticism for congestion and their utilitarian 1960's architecture. To manage increased passenger numbers and improve the aesthetics, an ambitious redevelopment scheme of the area known as the "Birmingham Gateway" project was embarked upon.

Client Requirement

The aim was to transform the railway station and the surrounding area to create a stunning 21st century transport hub. One of the most important and complex aspects of the transformation would be the 215,000 ft² of mirrored stainless steel façade consisting of over 8,500 panels, connected by half a million fasteners. Network Rail specified that these fasteners must exceed the 40 year life expectancy of the stainless steel panels.



Hollo-Bolts used to connect the panels



Countersunk head provided a neat finish

Birmingham New Street

Design Solution

Metal façade engineering and construction specialists Martifer were appointed to design, manufacture and install the cladding. Along with Network Rail engineers they explored cladding fasteners from around the world and even considered riveted connections used by BAE Systems on fighter jet aircraft.

Network Rail approached Lindapter to see if they had a suitable product and were introduced to the Technical Support and Research & Development teams. A solution was proposed that would reduce the size of an existing Hollo-Bolt product – a high performance expansion bolt that requires access to only one side of a Hollow Structural Section (HSS).

Within weeks Lindapter had designed and manufactured prototypes of a $10/32$ " version of a countersunk Hollo-Bolt with stainless steel finish. During laboratory testing at Martifer's head office in Portugal the fixing successfully passed a 45 year corrosion test, proving it could exceed the life expectancy stipulated by Network Rail, which resulted in Lindapter being awarded the contract.



Installation

Martifer used over 100,000 size $10/32$ " Hollo-Bolts to connect 8,500 mirrored stainless steel panels to the SHS framework. They utilised a drill attachment, developed by Lindapter's R&D team, to help reduce installation time and also prevent the panels from getting accidentally scratched. Each bolt was simply inserted into pre-drilled holes in the panels and HSS and tightened to the recommended tightening torque.

Lindapter fasteners such as Type A and Type TR60 have also been used throughout the Birmingham Gateway project to connect the building services, station fittings and over 60 premium retailers' shop fronts.

[Click here to watch the installation video...](#)



Result

The specification of Hollo-Bolts provided Network Rail with a solution which exceeded their 40 year life expectancy condition whilst also meeting safety and maintenance requirements.

Hollo-Bolts complemented the design of the polished façade, thanks to the neat countersunk head design and stainless steel finish.



The new, stunning, railway entrance

Key Benefits

- ✓ Made from corrosion resistant stainless steel
- ✓ Fast, cost saving installation from one side
- ✓ Attractive, architectural countersunk head
- ✓ Suitable for square, rectangular and circular hollow sections



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