

# Tower Bridge Glass Floors

Lindapter Girder Clamps provided a solution for the installation of glass floors across high-level walkways.



## Project Background

**Location:** London, UK  
**Product:** Type A Girder Clamps  
**Client:** City of London Corporation  
**Project Value:** £1 million  
**Contractor:** Ekspan Ltd



The construction of Tower Bridge was completed in 1894 and is one of London's most iconic landmarks. The bridge consists of two bridge towers tied together at the lower level by the bridge deck and at the upper level by two horizontal walkways. The high-level walkways are 42m high and form part of the Tower Bridge Exhibition which opened in 1982.

## Client Requirement

To mark the 120th birthday of Tower Bridge, The City of London Corporation wanted to create two new glass floors on the East and West high-level walkways. These would provide visitors with a unique bird's-eye view of passing traffic and experience of seeing the bridge opening from above.

The challenge due to the bridge being a Grade I listed structure was to find a suitable method of connecting the new steel supporting structural frame to the original steel lattice framework without damaging it.



*New frame connected by steel fins and support brackets*



*Original steel lattice framework was preserved*

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## Design Solution

Engineers designed a carbon steel frame using Structural Hollow Section (SHS) and incorporating support brackets attached by steel fins. Lindapter Type A Girder Clamps in a four-bolt connection were specified to connect the steel frame via the support brackets to the existing steel beams.

This would provide a high strength connection without damaging the original structure. A hot dip galvanised (HDG) finish was also specified to provide a high level of corrosion protection.



## Installation

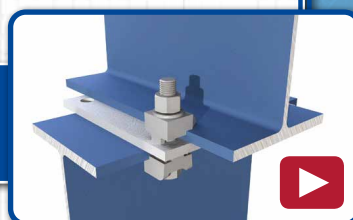
The contractor had to carefully remove several layers of the existing floor to reveal the original steel flooring which was then cut and removed. The new supporting frame was lowered into position on top of the existing lattice framework and the support brackets connected to the lattice with Lindapter Type A size M12 girder clamps in a four bolt configuration.

Installation was quick and easy as each bolt was simply inserted into predrilled holes in the support brackets with the Type A on one end and nut on the other. The recessed top of the clamp holds the bolt captive while the nut is tightened with a torque wrench to the recommended tightening torque.



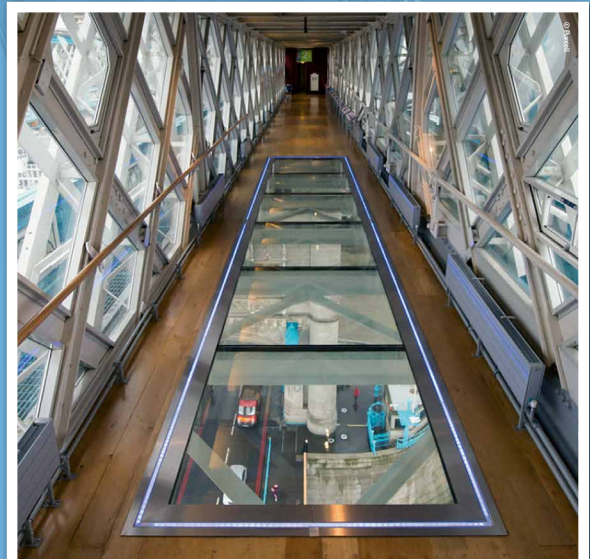
To complete the installation each walkway was fitted with six 80mm thick glass panels, each weighing 530kg, to create a glass floor measuring 11m long by 1.8m wide per walkway.

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



## Result

Lindapter Type A Girder Clamps provided a drilling and weld free connection in the field that was quick and easy to install whilst contractors were working at height. The support frame was safely and securely connected to the original steel lattice without causing damage to the Grade I listed structure.



*Completed glass floor in one of the walkways*

## Key Benefits

- ✓ No drilling or welding required
- ✓ Fully adjustable for easy installation in the field
- ✓ Hot Dipped Galvanised finish offers a cost effective and low maintenance solution
- ✓ CE Mark (ETA-13/0300), TÜV and Lloyd's Register approvals



[Click here for more details](#)