

Magdeburg Bridge Refurbishment

Lindapter Girder Clamps provided a solution for the installation of district heating pipes during the bridge refurbishment.

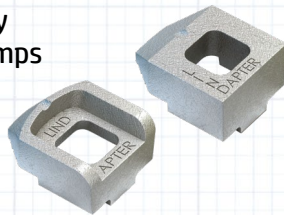
Project Background

Location: Magdeburg, Germany

Product: Type A & B Girder Clamps

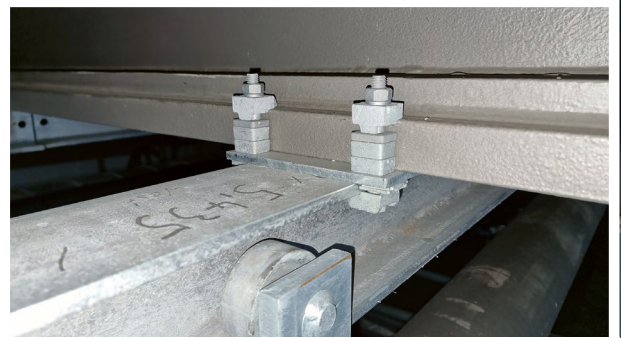
Contractor: Schottstädt und Partner Tiefbau GmbH

The Magdeburg Bridge was inaugurated in 1965 and spans 260 metres over the river Elbe in Magdeburg, Germany. It connects Magdeburg's old town with the Elbe island of Rotehorn and the Werder district located there. In addition to two lanes for tram traffic, the structure has four lanes for motor vehicles and footpaths and cycle paths on both sides.

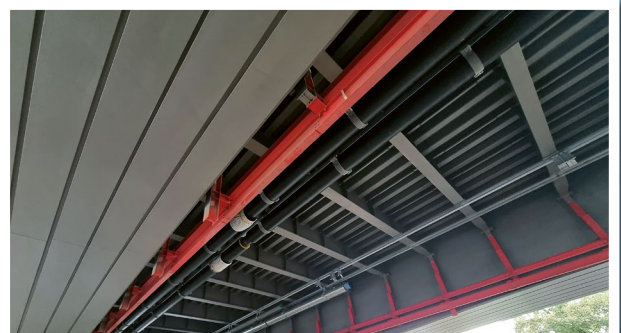


Client Requirement

The bridge was identified as requiring refurbishment due to the amount of rust that had built up over the years. The proposed work included, removing the rust, applying a new corrosion protection coating and then installing pipework to the underside of the bridge that was essential for the district heating system in the town. There were four pipes that had to be installed, two for the heating, one to carry water and the other gas, the client wanted a solution for connecting the pipes to the bridge that would not damage the new protective coating.



Lindapter's solution connected pipes to the bridge without damaging the new protective coating



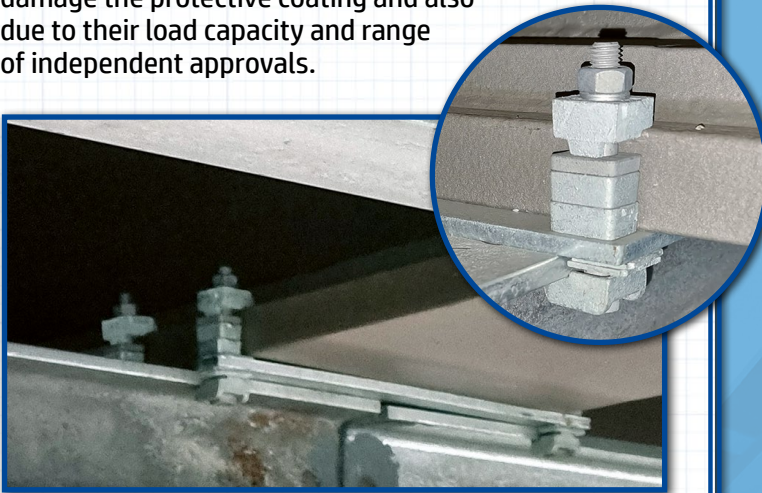
2,152 Type A & Type B girder clamps and 369 location plates were used to support the pipes

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Design Solution

Additional steel beams were to be installed to the underside of the bridge and pipe hangers with wheels attached to them. The wheels on the pipe hangers were to allow for expansion of the pipes horizontally due to temperature changes.

Lindapter CE approved Type A & B Girder Clamps in a four-bolt configuration with location plate and packing pieces were specified on the project to connect the secondary steel to the bridge because they would not damage the protective coating and also due to their load capacity and range of independent approvals.



The client was concerned that clamps could become loose overtime due to the vibrations caused by the trams on the bridge deck above, and the additional cost of maintenance if they had to go under the bridge to retighten them. To provide extra reassurance and for a “belt and braces” approach anti-vibration washers were specified, Lindapter are the only manufacturer to have ETA approval for the use of anti-vibration washers with girder clamps.



Installation

To begin with a temporary “red” steel frame and moveable platform were installed to the underside of the bridge to allow the installation of the heating system pipes. The additional steel beams to support the pipes were then connected to the bridge using 2,952 Lindapter Type A & Type B girder clamps and 369 location plates.

Installation was straightforward with each bolt inserted through the Type A clamps and pre-drilled holes of the location plate with the required packing pieces then added, followed by the Type B clamp, anti-vibration washer and finally the hexagon nut that was tightened with a torque wrench to the recommended torque.

Result

Lindapter Type A & B Girder Clamps provided a solution for connecting the pipes to the bridge without damaging the new protective coating. The solution was ETA / CE approved therefore providing the reassurance to all parties involved with the project that the product was more than fit for purpose.

The Lindapter products were all supplied in a hot dipped galvanised finish to provide the connections with a high level of corrosion protection, this will ensure a longer lifespan and reduce maintenance costs over the lifetime of the bridge.

Benefits

- ✓ No damage to the protective coating
- ✓ ETA / CE approved solution
- ✓ High corrosion protection hot dipped galvanised finish
- ✓ Combination of clamps with anti-vibration washers



Click here to watch the installation video >>>

