

# Santiago Bernabéu Stadium Renovation

Lindapter Girder Clamps provided a solution for connecting lighting equipment to the roof at one of the world's most iconic football stadiums.

## Project Background

**Location:** Madrid, Spain  
**Product:** Type AAF Girder Clamp  
**Contractor:** Horta Coslada  
**Engineer:** FHECOR  
**Quantity:** 1,800



In 2019 Real Madrid Football Club unveiled plans for a €525 million renovation project of its iconic Santiago Bernabéu Stadium. The huge renovation project would include increasing the capacity by 4,000 with an extra tier being added, increasing the height of the stadium by 10 metres, adding a retractable roof, major exterior developments and installation of a 360° video board and lighting that would encircle the entire roof area. The vision was to transform the Bernabéu into a modern, avant-garde stadium, with maximum comfort, safety and state-of-the-art technology.

## Client Requirement

One of the distinctive features of the stadium was the new lighting that needed to be safely and securely attached to the roof. The design involved connecting the lighting to the steel columns of the original stadium structure via structural hollow sections (SHS). The contractor wanted to avoid onsite welding or drilling at height for many reasons including time, cost and safety therefore an alternative connection method was required. Lindapter's technical support team were approached by FHECOR, the consulting engineer for the project, and asked to submit a steelwork clamping design solution.



AAFs secured SHS framework and lighting equipment



The stadium staged matches throughout the renovation

# Santiago Bernabéu Stadium Renovation

## Design Solution

After receiving details of the existing structural columns, the SHS framework and lighting equipment, Lindapter's technical support team were able to propose a solution. This involved welding pre-drilled steel plates to the sides of the SHS framework offsite at the fabricators and connecting these to the structural steel columns onsite with clamps. The connection design included Lindapter Type AAF adjustable high slip resistance girder clamps with M16 diameter, grade 10.9 bolts in a standard 4-bolt configuration.

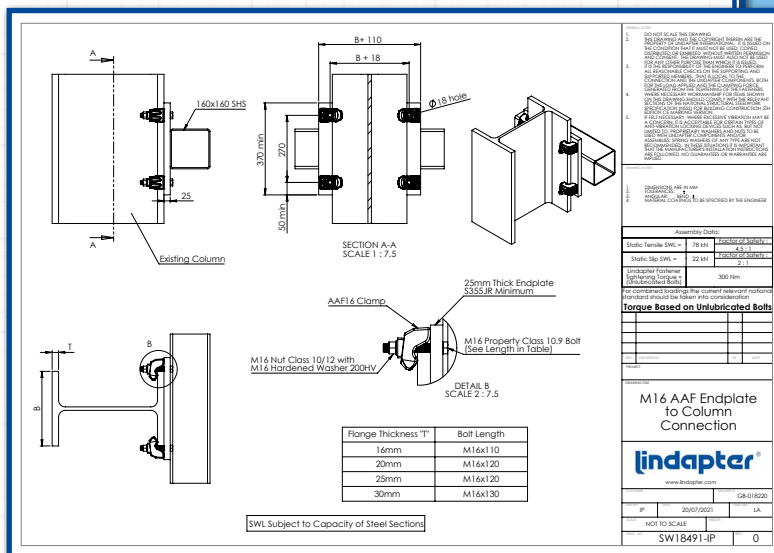
## Installation

The contractor used 1,800 Type AAF Girder Clamps to connect the SHS framework and lighting equipment to the structural columns via the "end" plates. Installation was quick and easy as the connection assemblies could be positioned close to where they were needed before final adjustments were made and the clamps fully tightened using a calibrated torque wrench.

## Result

Type AAF Girder Clamps provided an excellent solution that avoided the need for welding or drilling onsite. This offered many benefits to the contractor including a safer working environment, as no heavy tools or equipment were required, especially important as the installation was carried out at significant height. Other benefits were the time saved by clamping which resulted in lower labour costs.

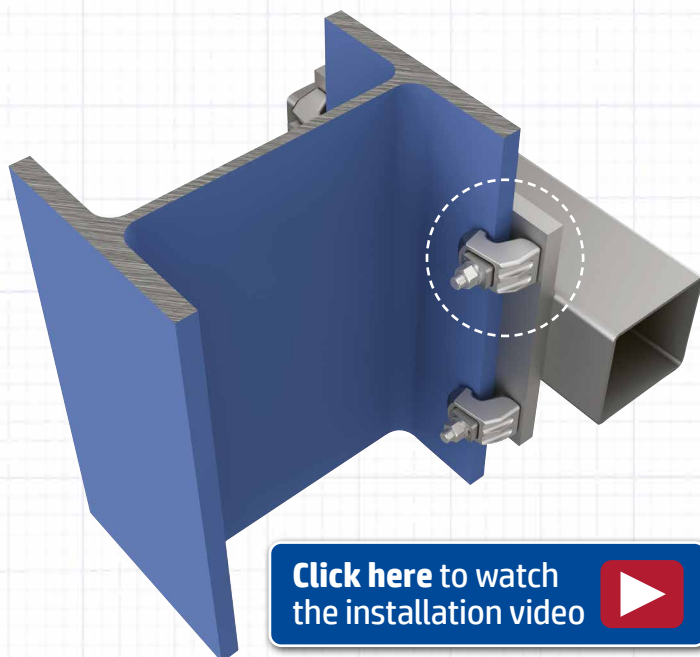
After more than three years of work the renovations are expected to be completed by the end of 2022 making the Santiago Bernabéu Stadium one of the best in the world.



## Key Benefits

- ✓ No drilling or welding required onsite
- ✓ Safe installation at height
- ✓ Fast installation, saving on labour costs

[Click here for more details](#)



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

