

CABLE-STAYED BRIDGE TALAVERA DE LA REINA (TOLEDO)



ACTIVITY:

Reparation and corrosion protection of cables tighteners of suspension bridge. Key parts for the proper maintenance of the cable-stayed bridge; if those parts lose structural density it will seriously compromise the stability of the bridge, still remain paramount protection. Including anti-vandal protection, as the tighteners are exposed to vandalism because of the access to the pedestrian and foot traffic.

LOCATION:

Suspension bridge in Talavera de la Reina (Toledo)

FINALIZATION:

June 2011

CONTEXT:

The examined surface showed white rust and saltpeter on galvanization, due to bad curing of galvanization, anti-vandal and imperfections caused by the action of oxygen with a bad curing of the galvanized protection while application.



DESCRIPTION:

For correct protection and knowing that the structure is located in an environment with high humidity (freshwater environment), we make the following corrosion protection system:



ANTICORROSIVE SYSTEM

It consist in the elimination of corrosion, by applying an aluminum coating for reinforcing metallic structure against corrosion and finalizing with a protection of the metal coating with an advanced coatings resistant to vandalism impacts.

Process:

1º. Surface Preparation: Remove white corrosion.

Elimination of corrosion of the metal surfaces of the anti-vandal protection and guide tubes that protect tensors of cables of the suspension bridge, by mechanical sanding to remove saltpeter from the shabby galvanization, correcting imperfections formed by the presence of oxygen adjacently to the poorly cured galvanization.



The surface required, as proper treatment, an exhaustive sanding to show a significant white corrosion of the galvanization as nitrate and oxide.

The metal parts were completely pure and prepared for subsequent phases of the anticorrosive system.

2º. Metal coating of aluminum

Application of an aluminum metal coating specific for galvanized surfaces suitable for corrosive atmospheres. Providing an excellent bridge between the galvanized surface and the next phase of the system.



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3º. Finishing: anticorrosive and protection against vandalism system with advanced coatings.

To provide the best anticorrosive and anti-vandal protection, given the importance of the structural function supported by the parts to protect, advanced coatings were employed getting a top quality finish in high humidity environments.

