PIECE BY PIECE

The Bizkaia Bridge is a colossal work of a purely structural nature, free of all concession to decoration except for the Gothic-style arch at the bottom of the towers.

Towers:

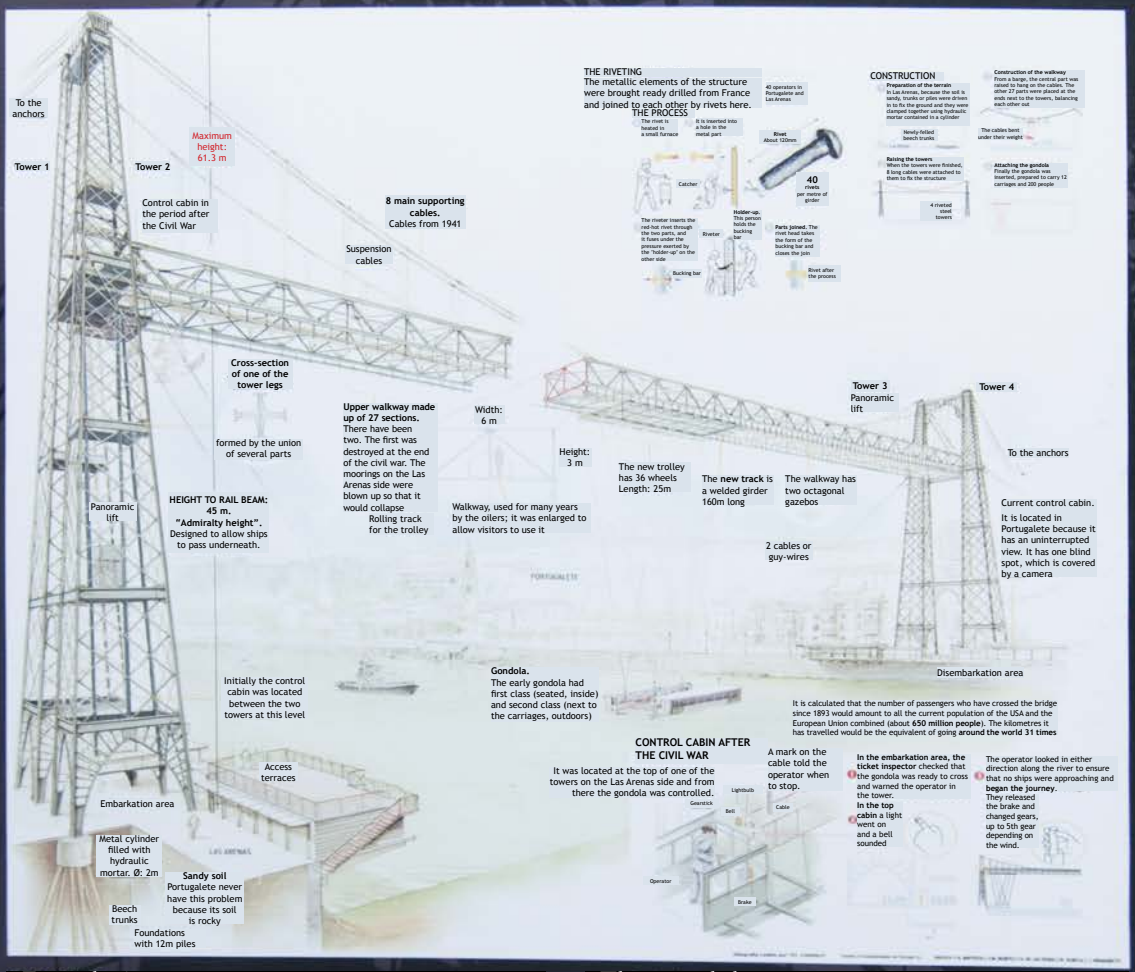
The Bridge is made of four steel lattice towers, 61.3m high, which stand as two intertwined towers on each side.

They were assembled wholly from rolled iron parts held together by hot-driven rivets.

Anchors:

The 8 main supporting cables are fixed from the edges of the towers and from them the main crossbeam is hung by suspension cables.

On each bank, from the top of the towers, there are main fixing cables that are anchored in solid cement foundations 110m away and lateral cables that are anchored 60m away.



Foundations:

The excavations for the foundations of the four towers were 10 m deep. In Las Arenas, because the soil was sandy, trunks or piles were driven to fix the ground. They were clamped together using hydraulic mortar contained in a cylinder.

Upper beam:

It is a lattice beam at 45m height with a span of 160m, 3m deep and 6m wide.

The gondola:

It made the journey between the two sides of the river pulled by a trolley on rails on the upper beam, suspended by 18 oblique cables to prevent oscillations. The present trolley has 36 wheels and is 25m long.

Lifts and walkway:

Two panoramic lifts ascend to the pedestrian walkway, used for many years by the oilers and widened to 6m to allow visitors to use it.

In the bridge construction they were used:

- 728,447 kg laminated iron
- 10,629 rivets
- 88,248 kg steel cable
- 21,041 screws