



High Performance Timber Bridges

Julio Vivas
Structural Engineer
Media Madera Ingenieros
Carreño, Asturias SPAIN
juliovivas@mediamadera.com



Julio Vivas, born 1975, dipl. Structural Engineer in University of Oviedo. Chief engineer of Media Madera Ingenieros with almost of 15 years experience in calculation and design of timber structures.

Summary

One of man's oldest building materials, wood enduring benefits and modern technology have kept it at the forefront of intelligent design. Wood is resistant to heat, frost, corrosion and pollution. Worldwide, architects, engineers and building professionals are re-evaluating the role of wood as a renewable and versatile building material to achieve a modern, natural look.

Timber can meet the same structural requirements as any other building material, the maintenance required on a timber bridge could be greatly minimized and very easy to perform. A Timber Bridge easily blends into the existing environment and enriches the surrounding area.

In this paper, I will show detailed examples of high-performance bridges who have taken advantage of the amazing features of this material.

Keywords: Timber bridges, timber structures, carbon, sustainability, design.

1. Introduction



Timber was the most important bridge construction material up to 19th century. If we look at the genealogy of bridge design we find that all structural systems such as trusses and frameworks were developed in timber bridge construction. Only timber was available to meet the demands of a wider span a very useful for efficient structural systems. Later, steel made even wider span possible, but based on the structural systems developed in timber.

Today, new engineered wood products allow us to use lower

Fig. 1: Pesquera Bridge. 105 m length, 55 m span