

Lecture in CSM:

Historical Masonry Arch Bridges

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ABSTRACT

What is the oldest bridge you can think of? Masonry arch bridges were built widely over the centuries and still form part of the rail and road infrastructure in Europe and worldwide. They were designed for horse and cart or steam trains but can also carry heavily increased road and traffic in the 21st century. Methods used for their design can still be used to assess their capacity. Bridge engineers need to understand how arch bridges were built, how they work, causes of defects, how to monitor and repair them. There are however very few guidelines and educational resources available on the subject. Masonry bridges are highly sustainability, resilient and generally have low maintenance needs. They are not built anymore due to the perceived high initial costs and lack of expertise. By updating the construction technology, could they be reintroduced for 21st century construction as a contemporary alternative to steel and concrete?

KEY WORDS:

Masonry arch bridges, design, assessment