



## Recalculation and strengthening of the double arch bridge

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### Abstract

Among the Netherlands' present infrastructure, some bridges do not conform to the prevailing Eurocode for new construction; some steel bridges are showing signs of (fatigue) damage. Over recent years, the Directorate-General for Public Works and Water Management (RWS) has been engaged in renovating the most critical bridges of the Netherlands, one bridge at a time. RWS is currently making preparations for the reinforcement of 3 steel bridges along the A27 motorway. Last year, Movares made complete recalculations for these bridges in order to determine what measures are necessary to reinforce them. This paper discusses the Merwede Bridge over the Upper Merwede river.

**Keywords:** Arch bridge; Assessment; Strengthening; Retrofitting; NEN 8700; Fatigue; Arch stability; rivets.



Figure 1. Merwede Bridge (source: [beeldbank.rws.nl](http://beeldbank.rws.nl))