

# Rhone Bridge Raron (Switzerland)



## Project description

On 29 November 1998 the Swiss people laid the tracks for the future of their railways by voting for inclusion into the European high performance railway network to form a fast and environmentally friendly connection between Switzerland and its neighbouring countries. The pivotal project of this north-south axis is the NEAT (New Alpine Traverse) with a forecasted construction cost of 30 billion Swiss francs (20 billion Euros).

High-speed trains will in future be crossing the bridges at speeds of up to 160 km/h. The bridge system will be developed very rigidly allowing only minor deflections in the structures as the heavily loaded high-speed trains traverse the bridges. The maximum allowable deflection through the 65m long girders is less than 25mm, a ratio of L/2700.

The bridge forms part of the NEAT alpine crossing



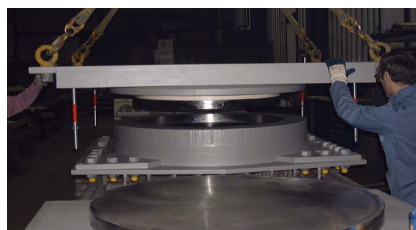
## Delivered products

The mageba pot bearings allow a transition of force and movement between the pillars and the bridge deck construction. This pot bearing was specifically chosen for this project because it best fulfils the stringent load capacity and durability requirements.

The client specified that only tested and proven materials could be used in the production of the bearings. For the PTFE and sliding plates compliance test certificates were required from an independent approved testing facility. All other materials required individual manufacturers compliance test certificates.

The bridge bearing design was governed by strict requirements imposed by the combination of heavy loads and tight space constraints. For example the fixed

Assembly of a fixed pot bearing with a weight of almost 10 tons



bearing in the middle of the bridge had to be capable of simultaneously transmitting static vertical loads of 24'000kN and dynamic horizontal loads of 2'000kN. This bearing measures 2100 x 2200 x 600mm and weighs nearly 10'000 kg.

## Highlights & facts

### mageba-products:

Type: RESTON®POT Pot bearing  
Features: Vmax. 24'000 kN  
Installed: 2001

### Bridge:

City: Raron  
Country: Switzerland  
Built: 2000-2004  
Type: Railway bridge  
Length: 962 m  
Builder: BLS Alp Transit AG

Bridge piers with installed pot bearings

