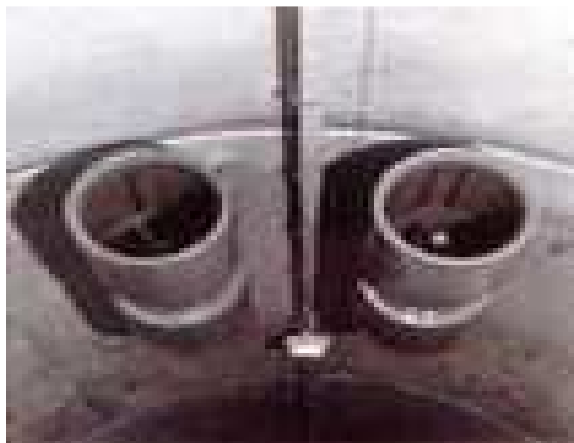
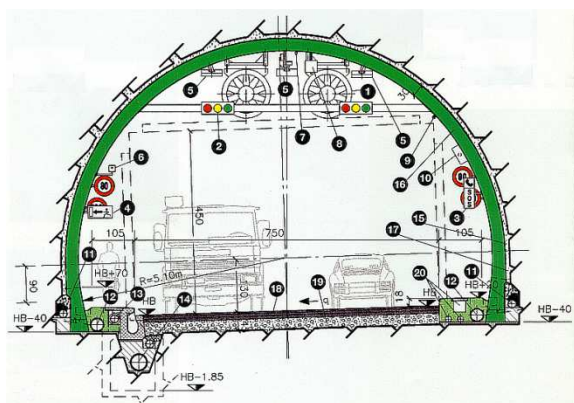


Tunnels of the Transjurane (Switzerland)



Jet fans with variable speed



Cross-sectional area showing the electromechanical installations

Description

The mountains of the Transjurane require tunnels in order to provide safe road links.

The longest of these tunnels is the Pierre Pertuis with a length of 2115 m and a slope up to 5 %, which was inaugurated in 1997. Here, the energy consumption for the ventilation was minimised by using variable-speed jet fans.

Services

HBI Haerter Consulting Engineers was responsible for the entire process regarding the electromechanical design including the engineering of the ventilation of all six tunnels, i.e. from first concepts over detailed design and planning to tendering and the selection of electromechanical contractors. Our services included with site supervision, system testing and control.

Major elements of the tunnel „Pierre Pertuis“ are as follows (see figure on the left-hand side below):

- 1) Jet fans
- 2) Traffic lights
- 3) Emergency signals (SOS)
- 4) Signs for escape routes
- 5) Lights
- 6) Video
- 7) Fire detection
- 8) Mobile telephone antenna
- 9) Radio cable
- 10) Measurement of CO, extinction and air velocity
- 11) Draining
- 12) Fresh water
- 13) Fire hydrant
- 14) Waste water
- 15) Sealing
- 16) Concrete vault
- 17) Gunned concrete
- 18) Road surface
- 19) Road foundation
- 20) Cable channels