



Overview of the tunnel network Nordtangente Basel



Emergency exit on the outside

Description

The Nordtangente Basel is part of the Swiss national highway N2/N3 and comprises two uni-directional tubes. The tunnel is separated by the Dreirosen Bridge. Several ramps including the as tunnel constructed Luzernerring create a complex tunnel network. Part of it carries bi-directional traffic. Each main tube is 3.0 km long; the Luzernerring has a length of 0.6 km. The opening of the road connection was carried out in stages over a course of 3 years. The tubes are connected with 45 cross passages for the egress. They are supplemented by 25 escape routes towards the outside.

Services

HBI Haerter Consulting Engineers developed and implemented the new ventilation concept. The strengthening of the ventilation guidelines during the construction phase, called for the evaluation of solutions for the implementation of the new safety standards under given structural constraints. Existing facilities were partly reconstructed and the corresponding construction measures were taken. Through interim tests the safety of the road users was ensured at every point of the by stages construction. A large part of tests and reconstruction was carried out during night hours.

HBI provided the following services:

- Preliminary design including approval planning
- Specifications of the ventilation control during normal operation and in case of fire
- Call for tenders and awarding of contract
- Implementation project
- Project execution including site supervision
- Commissioning (FAT and SAT) in stages
- Fire test
- Project documentation for the new operator ASTRA

The following tunnel equipment parts were evaluated during the planning stages and final tests:

- 82 jet fans AE 630 – 1000 mm
- 36 escape doors
- 2 removable, 45 m long partition walls
- 1 entrance gate, 7.0 x 4.4 m
- 19 positive pressure emergency exits
- 77 turbidity measuring devices
- 33 air flow measuring devices
- 5 CO-measuring devices