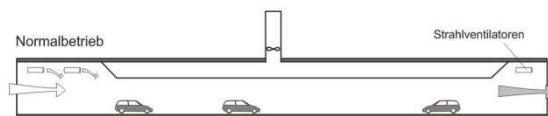
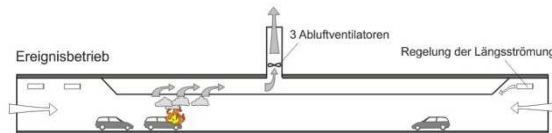




Glarus



Normal operation: longitudinal ventilation



Emergency ventilation: local smoke extraction

Description

The Tunnel Glarus forms part of the bypass road concept of Canton Glarus in Switzerland. The 2'375 m long single-tube tunnel will be used for by-directional traffic. Traffic volume is expected to be 14'100 vehicles per day. The tunnel will include a cable duct underneath the road surface, which will also be used as emergency passage.

Normal tunnel ventilation will be of longitudinal type incorporating jet fans. Nine jet fans with a nominal diameter of 710 mm will be installed. The jet fans will be automatically controlled in order to support the natural flow along the tunnel for additional fresh air supply.

In case of emergency, the system reaction is fully automatic. If a stationary fire is detected, three smoke dampers in the false ceiling are opened. The smoke is extracted through the overhead exhaust duct. Jet fans are used in order to control the longitudinal flow in the tunnel.

The ventilation system includes an exhaust station located in the middle of the tunnel. It is equipped with three axial fans of total capacity 250 m³/s. Advantages of the ventilation station in the middle of the tunnel are a reduction of the effective length of the exhaust duct and the protection of the sensitive natural landscape in the vicinity of the northern end of the tunnel.

Services

- Assessment and sizing of the ventilation system for all tunnel alternatives considered in the initial design phase
- Tunnel ventilation concept design for normal and emergency ventilation
- Escape tunnel ventilation: concept design for normal and emergency operation
- Concept design documentation