



Ventilation scheme



Escape tunnel fan



Exhaust shaft during smoke test in tunnel

Description

The 5 km long Branisko Tunnel is situated in Slovakia between the towns of Levoča and Prešov on one of Europe's most important West-East highway connections, the E50 highway. The inauguration of the tunnel was in June 2003.

The ventilation system is a semi-transversal ventilation with central point extraction for normal operation and an adaptable point extraction for fire ventilation. The tunnel ventilation equipment consists of one fresh air fan at each portal and two parallel exhaust fans on top of a shaft near the middle of the tunnel. 90 dampers in the tunnel ceiling are used for the fresh air supply in normal operation as well as for the smoke extraction in case of fire.

A parallel escape tunnel is ventilated separately by fresh air fans at each portal. This guarantees that under all circumstances, the escape tunnel is kept free of smoke, even when the escape doors are open.

Services

Based on the previous ventilation project, HBI Haerter Consulting Engineers has worked out the detailed design and control algorithms. HBI supported the on-site supervision and commissioning of ventilation and control equipment. A CFD study was used for the design check of the fire ventilation.

Prior to the opening of the Branisko Tunnel, a smoke test has been carried out, which proved the efficiency of the fire ventilation system and the safety of the tunnel in case of fire.

The tunnel was commissioned on schedule.