Tunnel
Neumarkt
Stationary Fire Protection
Case Study
Every second counts in an emergency.

Tunnel extinguishing systems from Rosenbauer.

Making tunnels safer.

The catastrophic 1999 fires in the Mont Blanc tunnel (France - Italy) and the Tauern tunnel (Austria) forced the European Parliament and the Council of the European Union to act, resulting in the establishment of the EU Tunnel Directive 2004/54/EC. This directive sets forth minimum safety standards and requirements for the equipment in and the operation of tunnels belonging to the Trans-European Road Network.

The Linz to Prague route has become one of the most important transportation arteries since the fall of the Iron Curtain and passes through the Neumarkt tunnel. This tunnel was completely upgraded with Rosenbauer tunnel extinguishing systems, including those at its emergency stations and pull-off bays. According to the latest estimates, traffic volume on this route will reach 28,000 vehicles per day by 2025 and require major improvements to the S10 Mühlviertel Highway.
The first minutes are critical.

A fire inside a tunnel is an extremely dangerous event. Flames can spread instantly and produce extreme temperatures. Because the tunnel’s chimney effect continuously feeds the flames, one spark is all it takes to trigger an inferno. Temperatures at the tunnel ceiling can reach 1,200 °C in only a few minutes. Hot fire gases cannot escape and thick, toxic smoke rapidly accumulates. Breathable air becomes scarce, visibility deteriorates and you can quickly lose your orientation and die from smoke inhalation.

Only quick and decisive action can prevent a tunnel fire from turning into a disaster. Unfortunately, there is not much time to safely fight the fire. Once the temperature in the tunnel has reached 1,000 °C it is usually too late for even emergency response teams to intervene. This is why the European Union recommends: Only attempt to put out the fire yourself at its earliest stage. If this is not possible, then immediately move away from the fire and leave the tunnel through one of the emergency exits.

Benefits you can only find with stationary tunnel extinguishing systems from Rosenbauer:

- Can be used immediately
- Intuitive and simple to operate
- Sure and easy extinguishing
- Ideal for emergency firefighting
- Easy to install, low maintenance
- Also available as CAFS
- Fully complies with strict Austrian road construction regulations (RVS 09.02.22)
- Optimal fire protection with systems throughout the tunnel (type TLA 120/19 at firefighting stations, type TLA 80/19 in pull-off bays)
Life-saving tunnel extinguishing systems from Rosenbauer.

Rosenbauer works closely with tunnel operators and has developed and improved specialized extinguishing systems that can be used immediately after a fire breaks out in a tunnel. Designed for space-saving installation (a 60-centimeter recess is all they need) these systems are located at pull-off bays and in emergency and firefighting stations along the entire length of the tunnel. Best of all, they are as easy to use as a standard portable fire extinguisher. Just pull out the handline nozzle and turn one lever and the system is ready to go.

The extremely lightweight special textile hose is built to keep its shape and can be easily rolled out to its full length of 120 meters. Properly used, this system means that anyone will be able to extinguish a fire quickly and efficiently at any point in the tunnel. Now motorists can bring vehicle fires under control within the first minute of an emergency.

The extinguishing agent is a water / foam compound mix that includes aqueous film-forming foam (AFFF) to completely coat the surface of the fuel thereby ensuring the best possible fire extinguishing performance and burn-back resistance. The water comes from fixed water lines in the tunnel, so that there will always be an adequate means of extinguishing the fire. The extinguishing agent is delivered through an O-stream nozzle with a throw range of up to 15 meters – keeping users a safe distance from the fire.

More than 300 tunnel extinguishing systems have been installed in European tunnels, including ones in Luxemburg (Markusbierg and Gousselerbierg), Slovenia (Trojane and Sentvid), and in Austria (Tauern, Katschberg, Hiefler, Ofenauer, Roppener, Achrain, Pfänder, Grünburg, Traunkirchen, Ottsdorf, Semmering and Hallstatt). Two of these, the Ottsdorf and Markusbierg tunnels, have been rated among the safest tunnels in Europe. The Neumarkt tunnel on Austria’s S10 Mühlviertel Highway is yet another tunnel that Rosenbauer is proud to have made safer with its remarkable extinguishing systems.
Rosenbauer means fire protection – and has for over 140 years. Today Rosenbauer of Austria is one of the world’s largest manufacturers of municipal fire trucks, aerial rescue equipment, specialized airport and industrial vehicles, and both stationary and semi-stationary extinguishing systems. Professional and volunteer fire brigades, industrial and airport fire brigades, along with planning and engineering offices across the globe put their trust in Rosenbauer’s cutting-edge technologies, systems and solutions.

Rosenbauer invests heavily in research and development for preventive fire protection, and dedicates its vast knowledge and lessons learned from over a century of active firefighting experience to keeping people and property safe. Rosenbauer itself develops and manufactures the key components used in the technologies of firefighting and extinguishing-agent delivery, thus guaranteeing best-of-class quality and reliability in every detail.
Statements.

“The unique risks and problems involved in responding to fires in road tunnels demand special hazard-prevention methods. And so it is essential that fire departments have suitable first response firefighting systems and rapidly accessible extinguishing agents on hand in the tunnel itself. These systems must be easy to deploy and use by motorists and fire departments alike. The Rosenbauer tunnel extinguishing system more than meets all these requirements and is - in my opinion - the ideal and economical solution that delivers significant and tangible benefits.”

Roland Laabmayr, engineer and tunnel safety project manager, IL-Laabmayr & Partner ZT GmbH

“The speed of the response will decide within the first few minutes just how effectively you’ll be able to extinguish a fire that breaks out in a tunnel. Fire departments the world over recognize Rosenbauer tunnel extinguishing systems as being both highly efficient and ready to be used in case of emergency. Their unsurpassed fire extinguishing performance is what guarantees a successful incident response.”

Alois Affenzeller, engineer and inspector, Upper Austria State Fire Department