HI-FOG®
water mist fire protection

Protecting deep infrastructure

HI-FOG® for cable tunnels



MARIOFF
United Technologies

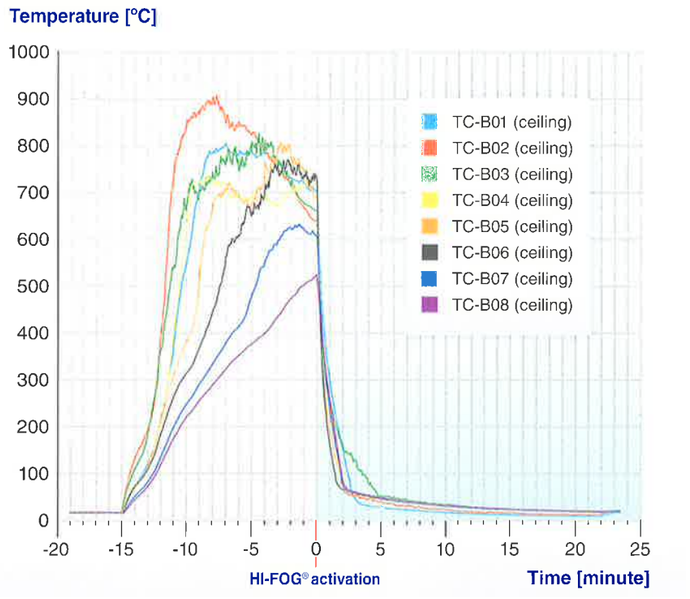
Keeping the arteries of modern society safe

Cable tunnels are one of the hidden, yet key elements of modern infrastructure. They are a crucial part of power distribution and play an increasingly important role in our modern world of digital communication.

Fire protection regulations for these tunnels are being toughened, and HI-FOG® is ready to respond. The HI-FOG® water mist fire protection system is a compact, high performance solution that excels in challenging conditions underground, making it ideal for cable tunnels.



A single, central pump can feed the HI-FOG® tubing network protecting buildings above ground, as well as the network protecting underground infrastructure.



Repeated cable tunnel tests show HI-FOG® has an immediate, dramatic effect on ambient temperature.



HI-FOG® water mist provides an efficient water curtain that blocks radiant heat.

HI-FOG® key benefits:

- Low water consumption, minimizing drainage requirements and water damage
- Excellent cooling effect, allowing quick access to affected areas
- Tested and approved, more than any other water mist system

Securing business continuity
Power plants, substations, communication networks, and data centres worldwide rely on cable tunnels. Fire in these tunnels can quickly lead to significant losses and disrupt downstream businesses.

A random mishap or pesky rodents can quickly turn a cable tunnel into an inferno. In these small tunnels, heat accumulates very rapidly, making it impossible for fire brigade personnel to enter the tunnel.

HI-FOG® is a fast acting solution that immediately cools the area as it penetrates to the seat of the fire. Using considerably less water than alternative water-based technologies, HI-FOG® delivers unrivalled performance. With HI-FOG® fire and water damage are kept to an absolute minimum.

A proven solution
HI-FOG® is an extremely powerful firefighting system used in many different applications and spaces. Countless tests and numerous real case fires have proven its value time and again. For business critical operations, it is satisfying to know you have dependable fire protection.

HI-FOG® is an increasingly popular choice for tunnel protection. With a growing list of installations both above and below ground, HI-FOG® is well suited to deliver total facility protection.

Specialized systems for cable tunnels
Drawing from its broad and deep knowledge of fire protection for many different industries, Marioff has developed both suppression and extinguishing systems for cable tunnels.

Using the VdS (Vertrauen durch Sicherheit) protocol 2498, each configuration has been tested in a simulated industrial-scale cable tunnel.

Case: voelstalpine Stahl Donawitz
Situated in Donawitz, Austria is the steel plant of voelstalpine, maker of high quality steel products. Power is delivered to the plant through a cable tunnel that stretches nearly four kilometers. Marioff's HI-FOG® system for cable tunnels helps ensure the plant's power supply is kept safe from fire.

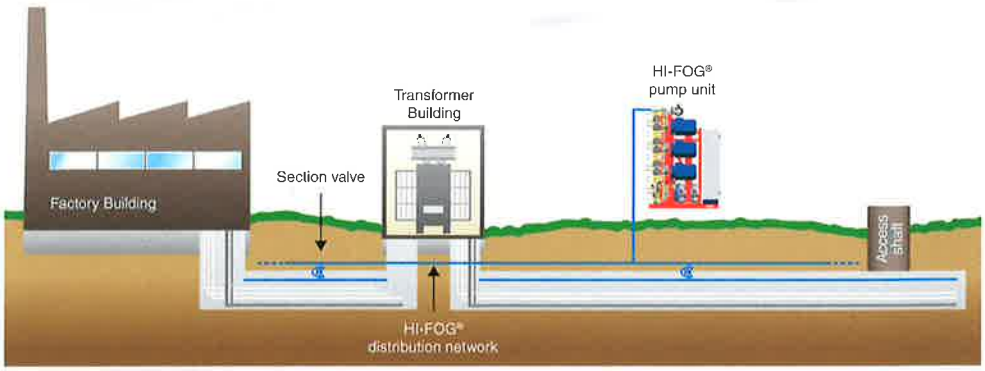
The HI-FOG® tubing network is divided into 116 separate sections throughout the tunnel and has over 1300 spray heads. Two high pressure pump units supply water to the system

HI-FOG® for cable tunnels:

- Deluge system: open spray head system, VdS-approved configuration for extinguishing fires in cable tunnels
- Light deluge system: suppression system using open spray heads; consumes less water than full deluge
- Sprinkler system: suppression system using HI-FOG® sprinkler heads; lowest water consumption



HI-FOG® 1000-series sprinkler



An example of a HI-FOG® system for cable tunnels



HI-FOG® sprayhead



12mm - 60mm stainless steel tubes



Machinery space section valve



HI-FOG® electric pump unit (SPU)



HI-FOG® modular pump unit (MSPU)

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