



SIGNALINE

Applications: Road Tunnels and Access Tunnels

Introduction

A vehicle fire is always serious, within a road tunnel it is potentially catastrophic. On 24th March 1999, 39 people died when a truck caught fire in the Mont Blanc tunnel in central Europe.

Due to the confined space of a tunnel a relatively small fire can intensify very quickly heating the roof of the tunnel rapidly, therefore the detection of heat as soon as possible is essential.

Signaline Heat Sensing Cable provides effective heat detection above each carriageway along the entire length of the tunnel. This is not practical with the majority of other systems such as traditional point heat detectors.



Where to install Signaline Heat sensing cable

Signaline Heat Sensing Cable should be installed centrally above each carriage way. The maximum distance between parallel runs of Signaline FT Heat Sensing Cable across the roof of a tunnel must not be greater than 10.6m/35feet to comply with UL listing regulations or 9.0m/30feet to comply with FM Approval regulations when using Signaline FT68 and FT88 cable. In addition Signaline Heat Sensing Cable can be used in associated traffic control signal & power cable trays, control consoles and similar difficult to monitor tunnel infrastructure equipment.

Which Signaline Heat sensing cable is suitable?

For main carriageway protection, Signaline FT Heat Sensing Cable, when used with the Signaline Alarm Point Distance Locator will provide pinpoint location of an incident up 3000m away from the start of the cable. As the temperature inside road tunnels is relatively stable, not subject to solar heating, Signaline FT68 will initiate an alarm at 68°C making it a suitable choice for most tunnels.

Signaline HD cable recognises a **rise** in temperature. When the cable is heated there is a corresponding change in the electrical characteristics of the cable. These characteristics are monitored by the controller. When sufficient change takes place an alarm is triggered. Due to the risk of mechanical damage to the sensor cable, Signaline HD-S stainless steel braided cable provides superb mechanical protection for tunnel infrastructure equipment as well as rapid detection of developing fires. The loop powered VdS approved Signaline SKM-95 addressable controller will provide an Apollo XP95 compatible fire control panel with the location of any overheating cable in the racking. Other than setting the location address code no other settings or adjustments to the controller are required. It's simply 'plug and play'. Approved controllers for conventional fire control panels with simple 'plug and play' set ups are also available.

It should be noted that Signaline HD is suitable only where ambient temperatures are not likely to exceed 40°C. In areas where high ambient temperatures are anticipated, Signaline FT cable should be used. Signaline FT cable is available with a choice of alarm temperatures of 68°C, 88°C and 105°C.

Please refer to our data sheets for further information

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