



FIRETRACE[®]

AUTOMATIC FIRE SUPPRESSION SYSTEMS

Surface and Underground
MINING EQUIPMENT

Fire Protection Solutions



THE PROBLEM

Protecting surface and underground mining equipment against fires can be challenging. Virtually all of the mobile equipment used in mining operations contains large quantities of highly flammable diesel fuel, lubricating oils, and hydraulic fluids. The energized electrical equipment used in mining operations also presents an elevated fire risk.

Most mining equipment is operated around the clock under punishing conditions that stress mechanical and electrical components to the limit. Material or fluids coming in contact with hot exhaust or engine parts or an electrical fault can quickly erupt into a fast-spreading fire that can result in expensive repairs and unscheduled downtime. And most importantly, an unchecked and uncontrolled equipment fire can pose a serious threat of death or injury.

TYPICAL AREAS PROTECTED

⊕ Heavy Equipment

- Earthmovers
- Excavators
- Crawler tractors
- Haul trucks
- Tram systems

⊕ Mobile Equipment

- Roof bolters
- Drill jumbos
- Crushing machines
- Scaling machines
- Diesel tractors

⊕ Electrical Equipment

- Water pumping systems
- Ventilation controls
- Electrical panels
- Transformer banks
- Air systems

THE FIRETRACE SOLUTION

Firetrace offers a unique solution for protecting all types of mining equipment against the risk of fires. The heart of the Firetrace system is the company's unique, pressurized detection tubing, which can be routed in and around the hazard areas of mobile and electrical mining equipment. The heat-sensitive tubing is designed to burst when exposed to a fire's radiant heat, which automatically triggers the release of the fire extinguishing agent. The detection tubing is immune to gas, oil, dirt, vibration and temperature extremes that can cause other fire systems to fail, yet is reliable enough to avoid false discharges. And because the detection tubing is located in the hazard area where fires begin, it can react many times faster than conventional fire detection systems.



The Firetrace Detection Tubing is the "heart" of the system

FIRETRACE ADVANTAGES:

- ✦ Fast, reliable fire detection and suppression
- ✦ Activates automatically – no operator assistance needed
- ✦ Requires no electrical power; operates pneumatically
- ✦ Does not interfere with equipment operation or maintenance
- ✦ Compact systems offer multiple configuration and design options
- ✦ Can be configured to shut down equipment and trigger alarm
- ✦ Optional ruggedized protective coatings increase cylinder durability

Firetrace systems are compatible with most commercially available fire suppression agents, including “clean” extinguishing agents such as Dupont™ FM-200® or 3M™ Novec™ 1230 fire protection fluid, as well as CO2, dry chemical powders, foam, and water.

Firetrace fire detection and suppression systems are available exclusively through a worldwide network of distributors who are factory trained and certified to install, maintain and service Firetrace systems.

HOW IT WORKS

Firetrace offers two types of suppression systems: Direct and Indirect. Both systems are compatible with a variety of high- and low-pressure fire extinguishing agents.



Firetrace Direct System

The Direct System utilizes the red detection tubing as both a fire detection device and the extinguishment delivery system. The tubing is installed in and around the fire risk areas. When a fire occurs, the tubing will burst at the point of highest heat, forming an effective discharge “nozzle”. The agent is then delivered through the tubing at the burst point, suppressing the fire quickly and thoroughly – right at the point of inception.



Firetrace Indirect System

The Indirect System utilizes the tubing as a detection only device. When the tubing ruptures, the extinguishing agent is delivered through a network of braided hose or stainless steel tubing to strategically placed nozzles within the protected enclosure. Indirect systems are available with a manual release option which allows the operator to activate the system at the first sign of trouble.



The red Firetrace cylinder can be seen here, along with the red detection tubing as it is run to the critical areas.



Firetrace offers options such as a manual release option and a warning horn, which is triggered by activation of the system.



A Firetrace system can prevent a small fire from becoming a major event.



FIRETRACE® Surface and Underground Mining Equipment Applications

Firetrace pre-engineered automatic fire detection and suppression systems have been field proven for two decades on vehicles and equipment operating in harsh environments. Firetrace has its origins in the late 1980's in the United Kingdom as a special hazard fire suppression system. Through the 1990's applications expanded to include enclosures such as machines, fume hoods, data centers and electrical cabinets as distribution increased in Europe.

In 2001, the worldwide rights to Firetrace were purchased by Firetrace USA, a group of fire suppression industry veterans who saw the value in creating fire suppression systems for "micro-environments". This concept is simply providing supplemental protection that suppresses fire quickly within the protected space before larger room or building systems would activate. As a result of this supplemental protection, fire damage, both direct and collateral, and costs associated with cleanup and downtime are significantly reduced or eliminated. Available in multiple system sizes (ranging from one pound systems to 50 pound systems) and utilizing a variety of fire suppressing agent options, Firetrace is the fire suppressing system of choice for virtually all electrical and mobile mining equipment.



Firetrace currently has more than 20 international approvals and listings, including: UL, CE, FM, ULC & ISO9001. Approvals and listings vary by system type and agent.