

# SUPPRESSING ELECTRICAL FIRES

Reacton has successfully secured approval for its electrical protection systems; the firm explains the significance of the LPS 1666 standard

**R**eacton has secured the LPCB LPS 1666 approval for its electrical panel protection systems. The approval comes as the latest step in its ongoing global product certification initiative, adding to Reacton's ever-growing list of internationally recognised certifications. Gaining LPCB LPS 1666 guarantees the firm's commitment to delivering a safe, tested, and high-quality product.

Reacton has secured the approval for its range of direct clean agent protection systems which include 3M Novec 1230 and Chemours FM-200 Fire Protection Fluid. These clean agents are extremely reliable with zero clean-up to ensure a business can resume operations quickly, paired with the LPCB LPS 1666 approval, the supply of these clean agents adds to the firm's commitment to delivering a high-quality product.

Electrical fires are incredibly challenging to predict and once started, if left to burn undetected, their effects can destroy equipment beyond repair and spread quickly to nearby equipment or structures. Outdated infrastructure, faulty wires, poor maintenance, and overloaded circuits are all risk factors for fire. If fire strikes, it can bring a business

crashing down, with operations coming to a standstill and a loss of sales being very real scenarios. Where downtime extends into days or even weeks, the interruption can prove seriously costly and can have a major impact on a businesses' bottom line. The damage to a businesses' brand can be so severe, that it simply never recovers.

Reacton Fire Suppression's electrical equipment systems are designed for use in small enclosures to protect people, assets, and critical infrastructure from the devastating impact of fire. Approved to LPCB standard LPS 1666, the systems are engineered and tested to safeguard enclosures that have air vents and/or forced ventilation, which are both significant factors and commonplace in energised enclosures.

## What is Direct Fire Suppression?

The critical concept is to detect and suppressing a fire right where it originates. Due to the nature of the contents being valuable and dangerous, most of the energised equipment is exceptionally well enclosed. This means that traditional fire detection and protection systems are mounted externally to the cabinet, delaying the detection of the fire, and impeding the

extinguishing medium from reaching the heart of the fire quickly. It's here that a direct fire suppression system will offer exceptional protection.

Not only will the system offer protection directly to where the fire originates, it is also compact and sized for the electrical enclosure or cabinet it is protecting. This will result in a significantly reduced cost of ownership as only a few kilograms of clean agent is being used and therefore needs replacing in any fire conditions. Compared to that of a large-scale total flood solution where the system sizes are much higher, so every discharge will come with a

bigger price tag to replace or refill, not to mention the logistics and downtime. Direct systems comprise two key areas: the Direct cylinder assembly, which contains the clean agent extinguishing medium, and the pneumatic heat detection tube (Reacton Detection Tube) which provides the detection and delivery of the system.

The Direct cylinder assembly will contain either 3M Novec 1230 Fire Protection Fluid or FM-200 Fire Suppressant which are effective on Class A, B, C and electrical fires. All cylinder assemblies are superpressurised with dry nitrogen at



## Reacton's Clean Agent

Extinguishing mediums all have the following approvals:

- Underwriters Laboratories (UL)
- Underwriters Laboratories of Canada (ULC)
- Factory Mutual (FM)
- Significant New Alternatives Policy (SNAP) listed through the United States Environment Protection Agency (U.S. EPA)

All products are recognised and listed in standards such as ISO 14520 & NFPA 2001.

These Clean Agents are the leading choice for fire suppression when rapid protection and zero clean-up is essential for sensitive electrical equipment. All systems are stored as a liquid and discharged as a gaseous vapour. They work at a molecular level by removing the thermal energy of a fire to an extent where the combustion reaction cannot sustain itself.

Reacton's Clean Agents are electrically nonconductive, noncorrosive and leave no residue, meaning that the most delicate and sensitive equipment can be protected safely and effectively. The Reacton system can be scaled for use with a wide range of applications ranging from a single electrical panel right through to wind turbines.

Reacton's research and development team lead the way with state-of-the-art in-house testing and simulation. Whilst this provides vital product knowledge and confidence in its system and components, the firm recognised the importance to have all innovation, performance and exceptional quality verified. The best way to do this is by third party approval and certification, such as LPCB approval to LPS 1666, where Reacton's products meet or exceed international standards, ensuring that its products perform at the

highest level in these controlled environments. Ultimately, it gives users the same confidence that's shared by Reacton's engineers and teams.

Reacton also work with some of the fire industries most active and influential bodies. This provides us with a platform to raise the level of safety within the industry by allowing experts to formulate best practises and clear guidance that genuinely helps to improve the safety of people and assets across the world.

## What is LPCB?

Reacton Fire Suppression has recently received a certification for the LPCB LPS 1666 approval at the Intersec Dubai exhibition in January 2022. The LPS 1666 standard developed by LPCB / BRE in the UK is the world's first third-party fire test standard for small enclosure fire suppression systems and provides a much more appropriate performance assessment for such applications.

The Building Research Establishment (BRE) has a certification arm called BRE Global. This is an independent, third-party certification body responsible for certification schemes, the Loss Prevention Certification Board (LPCB) certification is specifically for fire and security products and services. The standards within this scheme are called Loss Prevention Standards (LPS); this is where Reacton find the LPS 1666 which sets out the requirements and test procedures for the LPCB approval of the direct low pressure (DLP) application fixed fire suppression systems.

The LPCB approval process involves assessment and testing of the products through fire test scenarios and component examinations. Full factory production control, training assessment and site audits ensure that not only the product performs, but the manufacturer can consistently produce quality items that are installed correctly.