

## FM-200

### Gas Fire Suppression

FM200 is a colourless, odourless gas which is used as a fire suppressant. It is chemically known as heptafluoropropane. It is considered a clean agent fire suppressant.

In an enclosed space FM-200 acts on fires by physical means by lowering the temperature of the flame and fuel to a point at which combustion reaction cannot be sustained.

FM-200 is effective against fire in almost all combustible materials including class A, B and electrical fires. It is particularly suitable for use in areas where the application of water, foam or powder is unacceptable.

It has excellent retention times within the protected enclosure provided it is correctly built and sealed. It is non corrosive and electrically non conductive.

FM-200 is supplied and stored as a liquid in nitrogen pressurised containers at 25 bar pressure. There are minimal storage requirements when compared to other gaseous fire suppressants.

### Composition

FM-200 is a mixture of carbon, hydrogen and fluorine gases. The gas lacks the ozone depleting presence of bromine atoms.

This gas is highly penetrative and achieves a homogeneous dispersion of the hazard zone and lowers the temperature of the flame and fuel to a point where combustion is extinguished.

While FM-200 has zero ozone depletion potential it has a short atmospheric lifetime of 33 years giving it a Global Warming Potential.

### Applications

- Air traffic management centres
- Telecom centres
- Production control rooms
- Historical collections
- Critical pieces of site & equipment
- Archive store rooms
- Data processing equipment
- Computer rooms
- Internet service providers



### System Design & Operation

FM-200 systems are designed to extinguish fires and most fires are extinguished within 60 seconds. The enclosure must be of adequate integrity to retain the design concentration for a minimum period of 10 minutes. Systems operate at 25 bar pressure. System design concentration is in the region of 9-10.5% depending on the particular application.

Following activation of the gas there is some obscuration which could potentially impair evacuation.

FM-200 systems can consist of one or more gas storage cylinders connected via a common manifold. Storage cylinders are manufactured from high strength alloy steel. These stored gases can be located within the protected zone, adjacent to or near.

It is critical that a still environment is maintained within the protected enclosure after the gaseous suppression system has activated and air conditioning systems should deactivate prior to suppressant discharge.

When suppression systems are designed correctly we can expect fire extinguishment without the intervention of manual fire fighting. This is provided the system is designed correctly and that the protected area is not overly taxed with heavy combustibles and non essential storage.

The correct room gas extinguishing concentrations are normally achieved within 10 seconds of system activation thereby suppressing the fire quickly.

In relation to the design of the room, vents to external spaces must be automatically closed prior to agent release. Suspended ceilings must be clipped and secured in place.

- LPCB - UK
- UL - USA
- UL – Canada
- VDS - Germany

Installations should be undertaken in accordance with an approved standard such as BS ISO 14520:2015 and the requirements of the Authority having jurisdiction must be considered.

**Approvals**

FM-200 has been approved and/or complies with major international authorities and classification bodies including:

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