

Novec 1230

Gas Fire Suppression

Novec 1230 is a chemical fire suppressant which is stored as a fire protection fluid and works as a gas.

Novec 1230 vaporises rapidly during discharge. In an enclosed space Novec 1230 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 combined with chemical interference with the flame.

It can be used for both streaming and total flooding applications. It leaves no residue to clean up which means that operations can continue with minimal disruption.

Composition

Novec 1230 is a synthetic fire suppression agent. It is a fluoroketone and consists of carbon, fluorine and oxygen.

It operates by removing the free radicals or heat elements of the fire chain and interrupting the combustion process.

While Novec 1230 has zero ozone depletion potential, it has a very short atmospheric lifetime of 5 days. It also has a Global Warming Potential of 1.

It discharges as a colourless gas and is non corrosive and electrically non conductive.

Applications

- Universities & museums
- Critical pieces of site & equipment
- Archive store rooms
- Computer rooms
- Production control rooms
- Marine applications
- Data processing equipment
- Air traffic management centres
- Telecom centres
- Power generation

System Design & Operation

Novec 1230 is stored as a liquid in steel containers at room temperature and is super pressurised with dry nitrogen to a pressure of 25-42 bar in order to increase its discharge flow characteristics. Storage cylinders are normally located in or close to the area that they are protecting.



The design of the system requires that Novec 1230 is discharged from its container between a minimum of 5 and maximum of 10 seconds. It must be thoroughly mixed throughout the protected enclosure reaching a minimum concentration level of 4.2% but not exceeding 10% in normally occupied areas.

The enclosure must be of adequate integrity to retain the design concentration for a minimum period of 10 minutes.

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

Novec 1230 systems are designed to extinguish fires and most fires can be extinguished within 10 seconds or less thereby suppressing the fire quickly without the intervention of manual fire fighting.

Following activation of the gas there is some obscuration for a brief period which could potentially impair evacuation.

Novec 1230 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.

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.

Approvals

Novec 1230 has been approved and/or complies with major international authorities and classification bodies including:

- LPCB - UK
- UL - USA

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.

Key System Considerations

- There are numerous key system considerations which must be taken into account when designing, installing and maintaining gaseous fire suppression installations. These are substantially covered in the RiskFix Document - Gaseous Fire Suppression Systems.
- Novec 1230 has a very short atmospheric lifetime.
- In line with the provision of any fire protection measure it is critical that the outline specification is submitted to AIG for review and approval in advance of installation.

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