

Halon-alternative fire protection systems

Fireline Corp., the United States, is offering Inergen fire suppression systems as an alternative to halon-based fire protection systems. Inergen is environmentally friendly, has no global warming potential, does not deplete ozone and has zero atmospheric lifetime. This high pressure agent is stored in cylinders similar to CO₂. The new agent comprises three naturally occurring gases – nitrogen, argon and CO₂. Inergen is an ideal halon-1301 replacement and especially useful where it is important to have a non-residue producing, electrically non-conductive fire protection system. It can be used in normally occupied/unoccupied areas with sensitive electronic equipment. A few typical installations often protected against fire by Inergen include:

- Computer rooms;
- Data centres;
- Telecommunication facilities;
- Telephone switching systems;
- Tape storage systems;
- Switch-gear systems;
- Vaults; and
- Process equipments.

Fireline Corp. specializes in engineered fire suppression systems utilizing clean agents such as CO₂, FM-200, Inergen, FE-13 and water mist. Clean agent CO₂ systems are still the preferred agent in many applications. FM-200 is a new halon alternative, which is safe to use in normally occupied areas. FE-13 (trifluoromethane) is the newest clean agent. It is the safest of the three most commonly used clean agents (FE-13, FM-200 and Inergen). Systems are typically designed at 16-21 per cent concentrations, but FE-13 has no exposure restrictions until concentrations reach 30 per cent or higher. Two other characteristics make this a unique agent. First, nozzles can be located at heights of up to 25 feet compared with only 12 feet for FM-200 systems. Secondly, it has a low boiling point facilitating its use in temperatures as low as 4°-5°C. As with other clean agents, FE-13 can be used in any area with high valued electronics such as computer facilities, battery rooms and telecommunications facilities. It also has many industrial applications including in unheated storage areas.

Fine water mist systems extinguish fires primarily by removing heat from the materials involved in the combustion process. Water is applied to the fire as very fine droplets, which appears as a dense fog. The ratio of droplet surface area to water volume is large and conversion to steam occurs very efficiently. The latent heat of vaporization, which is a physical phenomena associated with the change of state of water to a gas, removes many BTUs of heat from the fire and the steam produced also helps smother the fire by displacing oxygen in the vicinity of the fire.

Fireline Corp. is also offering industrial systems. Industrial systems are commonly installed for the protection of paint spray booths, dip tanks, pumps and other industrial equipment. Most systems of this type feature either Purple-K dry chemical, ABC dry chemical or regular dry chemical. Industrial systems are often combined with different kinds of fire detection – heat detectors, optical flame detectors or smoke detectors. *Contact: Fireline Corporation, the United States. Tel: +1 (410) 2471 422; Fax: +1 (410) 2474 676; E-mail: sbw@fireline.com.* (Website: <http://www.fireline.com>)