Fire suppression

|  |  |  |  |
| --- | --- | --- | --- |
| **Fire Class** | **Type of Fire** | **Elements** | **Suppression Method** |
| A | Common Combustible | Wood, paper | Water, Foam |
| B | Liquid | Oil and coolants | Gas, CO2, Foam, Dry Powder |
| C | Electrical | Wires, Electrical equipment's | Gas, CO2, Dry Powder |
| D | Metals | Magnesium, sodium, potassium | Dry powder |

|  |  |  |
| --- | --- | --- |
| **Wet-pipe** | **It is always full of water, usually discharged by temperature control sensors**  **Also called closed head systems** | **Water may freeze in colder temperatures**  **A damage in nozzle or pipe can result in leak** |
| Dry Pipe | Water is not stored in pipe, instead contains compressed air. Opening the water valve cause water to fill the pipes and discharge | Best suited for colder climates |
| Preaction | Combination of wet and dry pipe; water is not held in pipes until fire is detected; it is released only after the sprinkler head activation triggers are melted by sufficient heat; | Used in data processing equipment's |
| Deluge | Another form of dry pipe system that uses larger pipes and can deliver significantly larger volume of water | Inappropriate for environments that contain electronic equipments |

Effective replacement for Halon are

FM200

NAF-S-III

Argon

Inergen

Motion detecters

|  |  |
| --- | --- |
| **Infrared** | **Monitors for significant changes in the IR lighting pattern of a monitored area** |
| Heat-based | Monitors for significant change in **the heat levels** in a monitored area |
| Wave pattern | Transmits a consistent **low ultrasonic or high micros-wave frequency signal** into a monitored area and monitors for significant changes in the **reflected pattern** |
| Capacitance | Senses changes in the **EM signals or magnetic fields** surrounding a monitored object |
| Photoelectric | Senses changes in the **visible light levels** for the monitored area. Usually deployed in internal rooms that have **no windows and are kept dark** |
| Passive Audio | Listens for **abnormal sounds** in the monitored area |

**Emanation Security -**Preventing unauthorized intercept of EMI or RF signals from the devices. TEMPEST is used to protect against emanation leaks. TEMPEST countermeasures include Farady cage, white noise, control zones.