

I. CEILING:

- A. Ceiling Tiles:
 - 1) A rigid tile is more functional. It will not bend or bow during discharge. Do not use vinyl or foil-faced tiles with insulated backing..
 - 2) Ceiling tiles should be clipped for a 10 foot radius around all Discharge Nozzles
- B. Lighting Fixtures:
 - 1) Fixtures which are part of a protected envelope should not have return air slots.
 - 2) If lighting fixtures are existing, return air slot covers can be added

II. WALL SURFACE:

- A. Penetrations:
 - 1) All holes, cracks, penetrations from HVAC ducts, electrical conduit or piping must be sealed. The lower to the floor the opening is, the more impact it has on maintaining room integrity.
 - 2) All penetrations in the protected hazard area and above lay-in ceilings and beneath raised floors must be sealed, even though Clean Agent might not be discharge in these areas.
 - 3) Per NFPA 75, demising walls for all rooms housing Data Processing equipment must be built from structural floor slab to structural deck and must carry a minimum 1 hour fire resistance rating
- B. Finishes:
 - 1) If walls are constructed of brick, block or other porous materials, they must be sealed with high quality paint or water-proofing material
- C. Un-sealable Openings:
 - 1) Rooms containing rollup doors or pass-throughs such as mail slots are virtually impossible to seal and require custom closures that are costly to fabricate. Avoid, if possible!

III. FLOOR SURFACE:

- A. The sealing of floor penetrations is of utmost importance because Clean Agents are heavier than air and will migrate through any floor opening
- B. Any floor drains in the protected area must have traps, and the traps must have water in them. Periodic inspection of these traps is very important

IV. DOORS:

- A. Door closers must be installed on all doors serving the protected area
- B. If a door is to remain open for convenience, it must be equipped with an electric door release mechanism that is interconnected to the Clean Agent Releasing Panel so that activation of the Clean Agent System will close the door
- C. Doors must be fitted with:
 - 1) Door sweeps with rubber edges that contact the floor
 - 2) Gaskets around the door frame
 - 3) Thresholds, if the door is cut high off the floor or if the floor surface is uneven

V. HVAC:

- A. All Forced Air Ventilating Systems must be interconnected to the Clean Agent Releasing Panel so that they are shut down prior to discharge of the Clean Agent System.

NOTE: Air Handlers that re-circulate air within the protected area and do not introduce any outside air may continue to run; however, additional Clean Agent will be required to compensate for the effect of mechanical mixing of the air/Clean Agent. The quantity of additional Clean Agent required must be determined by conducting a Room Pressurization Test of the protected area

- B. All supply and return vents from Forced Air Ventilating Systems serving other areas of the facility in addition to the Clean Agent protected area must be fitted with motorized smoke dampers that are be interconnected to the Clean Agent Releasing Panel so that they close prior to discharge of the Clean Agent System. Dampers should be of the "powered-open, fail closed" type

VI. EQUIPMENT SHUTDOWN:

- A. Most Local Authorities require that power to equipment in Data Centers be shut down in the event of a fire. There is, however, no consensus that this shut down must be accomplished automatically by interconnection of an installed Emergency Power Off (EPO) Switch to the Clean Agent Releasing Panel. Local Authorities and/or Insurance Carriers should be consulted
- B. If an EPO Switch is interconnected to the Clean Agent Panel to provide for automatic equipment shutdown upon discharge, the Clean Agent System must be fitted with an EPO Bypass Switch to facilitate required periodic System inspections.

VII. POWER TO CLEAN AGENT RELEASING PANEL:

120vac Phase, Neutral, Ground from a dedicated circuit must be provided A 20-amp Breaker is recommended.

VIII. PURGE SYSTEM: (Optional)

If installed, the Purge System must be interconnected to the Clean Agent Releasing Panel such that the purge fan is not allowed to operate for a period of ten (10) minutes following system discharge.