

9

ALTERNATIVE AUTOMATIC FIRE EXTINGUISHING SYSTEMS

9.01 *Standards Established*

Ref.: IFC 904

- 9.01-1. Automatic fire-extinguishing systems, other than automatic sprinkler systems, shall be designed, installed, inspected, tested and maintained in accordance with the provisions of the International Fire Code, this section, and the applicable referenced standards:

NFPA 12 – Carbon Dioxide Systems
NFPA 12A – Halon Systems
NFPA 2001 – Clean Agent Systems
NFPA 72 – Fire Alarm Systems
NFPA 17A – Wet Chemical Systems
NFPA 17 – Dry Chemical Systems
NFPA 11 – Foam Systems
NFPA 11A – Foam Systems
NFPA 16 – Foam Systems

9.02. *Submission of Plans*

Ref.: IFC 105.2

- 9.02-1. All special extinguishing systems shall be submitted for approval at the time of permit application. The submittal shall include the information indicated in Appendix Table IV as a minimum, which is expected to be used as a Checklist. The intent of this submittal is to provide the City of Bellevue's plans examiner with enough information to allow a qualitative review of the adequacy of the proposed system to protect the indicated equipment. It shall include "flagged" or otherwise marked details from the Manufacturer's Installation Guide, so as to provide a complete reference for both plan review and for field inspection. It shall include a tabulation of flows from respective nozzles and a summary which substantiates the volumes of extinguishing agent provided. This is in addition to the normal flow calculations that determine orifice sizing.

- 9.02-2. Special extinguishing systems that incorporate an electric based detection system must have a permit issued for that phase of the work in addition to the mechanical portion. This will require two separate permit applications. Such detection systems shall satisfy NFPA-72 as appropriate.

- 9.02-3. Submit an acceptance test procedure upon request by the Fire Department. This will be a comprehensive procedure including the detection, actuation, and operation of related equipment aspects of the system. All signs required by the Authority Having Jurisdiction or the applicable national standard are to be furnished and installed at the time of acceptance testing. All piping systems shall be subjected to some level of pressure testing as approved by the Fire Department.
- 9.02-4. Reserve supplies of extinguishing agents shall satisfy the requirements of the referenced national standards.

9.03 *Commercial Cooking Systems*

Ref.: IFC 904.11

- 9.03-1. All systems intended for kitchen hood protection shall include additional agent and nozzles to protect grills and deep fat fryers and shall be tested in accordance with UL 300. These systems shall also be configured to maintain the hood exhaust fan in operation. Other types of automatic fire-extinguishing systems may be utilized if they are listed and labeled for specific use as protection for commercial cooking operation.

9.05 *Clean Agent Systems*

Ref.: IFC 904.10

- 9.05-1. Clean agent system submittals must include manufacturer's documentation that the concentration proposed is adequate for the occupancy to be protected. The calculations must account for losses through openings that are not closed upon actuation.
- 9.05-2. Clean agent detection systems frequently serve to also actuate preaction type fire sprinkler systems. In this case, the first smoke detector must release the solenoid on the preaction valve. If the sprinkler system is a double interlocked preaction type, then a second smoke detector may not be used for the second alarm to open the sprinkler preaction valve.

9.06 *Carbon Dioxide Systems*

Ref.: IFC 904.8

- 9.06-1. Total flooding type Carbon Dioxide systems inherently require pre-discharge warning to the occupants of an enclosed space or room, closing of openings, and shutdown of ventilation equipment. The provisions for these features must be clearly shown on the submitted documents and the performance matrix.
- 9.06-2. Pre-discharge evacuation warning signs must be mounted in a conspicuous location approved by the Fire Department.