



Coffee Break Training - Fire Protection Series

Commercial Cooking: Fire Suppression Equipment Release Devices

No. FP-2012-14 April 3, 2012

Learning Objective: The student shall be able to describe the requirements for manual release devices connected to commercial cooking fire suppression systems.

Commercial cooking systems that produce smoke or grease-laden vapors are required by the model codes to have an automatic fire suppression system in the hood and duct system that takes the flammable air:vapor mixture from the building. Most of these fire suppression systems also require some means to manually operate the equipment.

Fire suppression agents can be dry chemical, wet chemical, foam-water, automatic sprinkler, or carbon dioxide. The agent selected must be appropriate for the type of cooking operation that is present. Preengineered wet- and dry-chemical systems (designed within a prescribed performance range and installed according to the manufacturer's specifications) must satisfy the requirements of Underwriters Laboratories (UL) 300, *Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Areas*.

All of the automatic suppression systems, except automatic sprinklers, require the installation of a manual release. Typically, the release connects directly to the suppression system control head and overrides any automatic function.

At least one manual actuator must be provided for each system. Actuators generally are installed in a path of egress between 10 and 20 ft (3 and 6 m) from the cooking equipment. All operating devices must be designed, located, installed, or protected so that they are not subject to mechanical, environmental, or other conditions that could cause them to fail.

The manual actuation device should be installed no more than 48 inches (1,200 mm) and no less than 42 inches (1,067 mm) above the floor and shall clearly identify the hazard protected. All remote manual actuators must be identified as to the hazard they protect. Manual actuators should not require an operating force of more than 40 lbs (178 N) and a movement of more than 14 inches (356 mm) to release the system.

When a listed releasing mechanism is used employing a single line for mechanical detection and remote manual control, the remote manual control must be installed in-line, prior to all detection devices, so that malfunction of one does not impede operation of the other.

All remote manual operating devices must identify the hazard they protect. All manual actuators shall be provided with operating instructions (with pictographs permitted) and these instructions must have lettering at least 1/4 inches (6.35 mm) in height.

For additional information, refer to National Fire Protection Association (NFPA) 17, *Standard for Dry Chemical Extinguishing Systems*; NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*; *International Fire Code*, Chapter 9; or NFPA 1, *Uniform Fire Code*, Chapter 50.



This manual actuator has been operated, revealing the stainless steel cable that connects it to the fire suppression system releasing mechanism.



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