Coffee Break Training - Fire Protection Series

Commercial Cooking: Commercial Kitchen Suppression System Link and Bulb Maintenance

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Learning Objective: *The student shall be able to identify the required frequency of replacement or cleaning of fixed temperature sensing elements for commercial kitchens.*

The most common method for automatic actuation of a wet chemical fire protection system for a commercial cooking operation is to use heat detectors. Frequently, fixed temperature sensing elements of the fusible metal alloy type or liquid bulb type are employed.

These fusible links likely are due for replacement since they are heavily coated in grease. Photo courtesy Jim Tidwell, Fire Equipment Manufacturer's Association.

These devices are installed in the cooking equipment hoods and ducts subjecting them to contaminant-loading of grease that could adversely affect their proper operation unless periodic maintenance or replacement is performed. Following the industry standards provides reasonable assurance that they will work when they are needed in the event of a fire.

National Fire Protection Association (NFPA) 17A, *Standard for Wet Chemical Extinguishing Systems*, requires fixed temperature-sensing elements of the fusible metal alloy type be replaced at least semiannually from the date of installation. Additionally, NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, mandates that these fusible links be replaced at least every 6 months.

NFPA 17A allows fixed temperature-sensing elements other than the fusible metal alloy type (bulb type) to remain continuously in service, provided they are inspected and cleaned every 12 months. Replacement is only necessary if they are damaged or suspect (visibly deteriorated). NFPA 96 does not specifically address this requirement so the requirements of NFPA 17A should be followed.

It is common practice in the industry for the date of manufacture to be marked on the fusible metal alloy links. The manufacture date does not relate to the replacement date as the links have unlimited shelf life. The year of manufacture on the link and the date of installation are used for enforcement as these dates are required to be marked on the system inspection tag.

Special thanks to Jim Tidwell, Fire Equipment Manufacturer's Association, for this Coffee Break Training tip.