

# Restaurants: Extinguishers for Solid Fuel Cooking

By Mark Conroy

Gas and electrical appliances are common in restaurants, but for some restaurants the cooking is done with solid-fuel appliances. Those restaurants safely use charcoal, mesquite, or other hardwoods to produce heat and flavor when cooking. Here's what you need to know about the fire extinguishers that are used for the protection of solid-fuel cooking.

## EXTINGUISHERS FOR SMALL FIREBOXES

A solid-fuel cooking appliance with a small firebox (5 ft<sup>3</sup> or less) is required to have at least one portable fire extinguisher. NFPA 10, *Standard for Portable Fire Extinguishers* requires the extinguisher to be either a 2 1/2 gallon water extinguisher or a Class K extinguisher [10: 6.6.3]. The maximum travel distance, required by NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, from a solid-fuel cooking appliance to an extinguisher is not permitted to exceed 20 ft [96: 14.7.8].

## EXTINGUISHERS FOR LARGE FIREBOXES

Where the firebox of a solid-fuel cooking appliance exceeds 5 ft<sup>3</sup>, a fixed hose is required [96: 14.7.9]. The required flow rate is a minimum of 5 gpm at 40 psi and the hose nozzle must produce a spray or mist (never straight stream). In addition to the required hose protection, a 2 1/2 gallon water extinguisher or Class K extinguisher is often provided as supplemental protection. That is because an extinguisher can often be deployed much quicker than the hose. These extinguishers should be provided in addition to the listed wet chemical extinguishing system that is required for solid-fuel appliances producing grease-laden vapors. The travel distance from the hazard (appliance) to an extinguisher should not exceed 20 ft.

## EXTINGUISHERS FOR FUEL STORAGE PILES

Not all restaurants are required to have automatic sprinkler systems. In lieu of a fire sprinkler system, NFPA 96 allows portable fire extinguishers to be installed for the protection of solid-fuel storage areas [96: 14.9.2.8.2]. Extinguishers for fuel piles can be either 2 1/2 gallon water mist extinguishers or Class K extinguishers. The maximum travel distance from a fuel storage pile to an extinguisher is not permitted to exceed 20 ft.

## EXTINGUISHERS FOR BUILDING PROTECTION AND OTHER HAZARDS

Fire extinguishers provided throughout restaurants for building protection are allowed to provide protection for the fireboxes and solid-fuel storage. But if the extinguishers for building protection are of the dry chemical type, additional 2 1/2 gallon water or Class K extinguishers need to be installed. A sufficient number of these water-based extinguishers need to be provided to satisfy the maximum 20 ft travel distance to each of these hazards (fireboxes and fuel piles).

History has shown that restaurants can safely cook with solid fuels. But fire protection is needed for all restaurants to mitigate the inherent risk. By understanding and applying the unique requirements for solid-fuel cooking, you can select and install the most appropriate fire extinguishers for your customers. In turn, they will appreciate your knowledge of the code requirements and providing the most reasonable and affordable protection for their establishments, employees, and patrons.

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