

Solid Fuel Cooking – Risks and Safety Measures

TECHNICAL BULLETIN

What is solid fuel cooking?

Solid fuel cooking is a popular method of cooking that burns solid material, such as wood or charcoal, to cook and enhance the flavor of food. Although this is an effective cooking method for restaurants, it poses safety risks that may be detrimental if not addressed properly.

Risks with solid fuel cooking

Using solid fuel can pose some unnecessary risks if not planned properly. The main problem is an increased **fire risk** because the aspects needed for a substantial fire are already present. An excessive or misplaced amount of fuel can lead to an uncontrollable or unintentional flame that leads to severe damage. The buildup of substances that are products of cooking, such as ash, grease, or highly flammable creosote, can also pose a fire risk if not disposed of properly. Creosote builds up in the air ducts as a result of burning wood, and it can turn a spark into a raging fire extremely quickly.

Aside from the fire risk, there's also a large **health risk** associated with solid fuel cooking. The fire used to burn the fuel uses the air inside the kitchen to feed itself, so the gases/carbon monoxide of that fire would be released into the kitchen if there was inadequate ventilation. Breathing in the chemicals released by this burning is a serious health risk that can lead to short-term problems, such as serious nausea, but also long-term problems that may be associated with cancer.



National Fire Protection Agency (NFPA) standards for solid fuel cooking

When installing and inspecting your cooking appliances, make sure your equipment adheres to these guidelines:

Appliances for solid fuel cooking should:

- ✓ Not be installed in places where other combustible substances are present
- ✓ Have a proper hood and exhaust system separate from other exhaust hoods or other appliances
- ✓ Solid fuel exhaust is not vented through the wall
- ✓ Contain a fire suppression system
- ✓ Only contain one day's supply of fuel
- ✓ Be cleaned of ash, grease, and other byproducts of daily cooking, while ducts or chimneys should be sufficiently cleaned and inspected weekly
- ✓ Include spark arrestors to prevent airborne sparks and embers from going into ducts or plenums
- ✓ Include use of a metal can with a lid for ash removal
- ✓ Be proximate to a water hose and fire extinguisher



If employees are familiar with safety measures, it will significantly decrease the fire risk since many fires are preventable. Safety practices should be a standard in your business.

When training employees in how to start the cooking fire, it should be clear that **fuel should be ignited with a match, approved built-in gas flame, or another approved source by the NFPA**. The substance used to light the fire should NOT be a combustible or flammable liquid.

Maintenance of appliances is crucial to keeping a safe environment. Ash should be removed from the firebox at least daily after being sprayed down with water. Grease should be removed using a steel, stainless steel, or other approved tool for removal. This should also be removed daily.



The combustion chamber should be cleaned once a week. This means scraping off the byproducts of the burning so the environment appears to look as if it's back in its original state.

Employees should know how to fully operate both the water hose and fire extinguisher that are proximate to the appliance. This will help stop the spread of the fire if it gets out of control.

Solid fuel cooking provides a special flavor and allows for a unique taste in food, but it's vital to ensure that proper methods and equipment are used to prevent any type of danger to all parties involved with this process.

