

## Wood Stove Safety Guide

As pleasant and cozy as it is to have a wood stove crackling in the corner on a cold winter night, it's important to follow safety guidelines when you burn wood for heat. Following the recommended procedures for using and maintaining a wood furnace should help you heat your home safely and efficiently. It's also important to follow all specific stove manufacturer requirements and local codes to make sure that your home is both warm and safe.

### Safe Installation

Every wood furnace or stove must be installed with a specific amount of space left open around the bottom, top, front, back, and sides of the stove. It's important to ensure that all combustible materials are kept back from the stove; if you don't, heat from the stove could reach them and cause them to catch on fire. It may be possible to reduce installation clearances around a wood stove if you install a heat shield; check the manufacturer's instructions for your appliance.



### Chimney Considerations

The chimney must be factory-built and made of either masonry or UL-listed materials. Never use an unlined, single-brick chimney for a wood stove. These types of chimneys deteriorate quickly, which could lead to fire. Some older homes may have unlined chimneys that are made of double brick. These types of chimneys might be acceptable for wood stove use, but they need to be inspected carefully to make sure that issues with missing bricks or cracked mortar aren't present. It may also be possible to add a metal sleeve chimney liner, as long as the liner is designed for this application.

If other fuels besides wood are used in the home, there are a few other things to consider. Never use a factory-built metal chimney for a coal stove, since coal fires produce corrosive flue gases that can lead to chimney deterioration. And never connect a wood-burning stove to a wood stove flue that vents an oil burner. Dangerous vapors from the oil burner might back up into the stove and then into your room.

If a chimney fire occurs, disassemble the chimney completely to inspect it for damage. If you note discoloration on the exterior of the chimney, this could indicate a potential breakdown of interior insulating material. Always replace any sections that may have damage.

### Ventilation of a Wood-Burning Stove

Venting a wood-burning stove is crucial. Experts estimate that 90 percent of all stove-related fires happen due to improper ventilation. Note that the chimney is not the venting system: The venting system also includes lengths of at least 24-gauge insulated stove pipe that connect the stove and the chimney. Keep the vent as short as possible, containing no more than two right-angle elbows. Assemble the stove pipe with crimped, male ends of the sections face-down toward the wood stove. Fasten the sections with at least three sheet-metal screws or fasteners. Overlap the seams and face them upward on inclined runs.

Never pass stove pipe through an interior wall, ceiling, or floor, since there won't be adequate clearance. Never use the stove pipe as a chimney. Ideally, the stove pipe will connect directly to a lined masonry or UL-listed, factory-built chimney. When you must pass a stove pipe through an exterior wall to connect to a chimney, keep at least 18 inches of clearance around it.

## Operation and Maintenance

Maintain and use wood stoves and wood furnaces carefully to ensure safety.

- **Use Proper Fuel:** *As much as possible, burn hardwoods such as oak, hickory, maple, beech, and ash. Cut and split the wood, then air-dry it for at least a year before burning it. Hardwood that has been adequately seasoned will have cracks in the ends. For the best drying, protect wood from the elements, storing it under a tarp or in a shed.*
- **Clean it Regularly:** *Clean the stove pipe and chimney with a wire brush once a year. It's also helpful to occasionally burn a controlled, high-temperature fire in the wood stove. Avoid using salt-based chemical cleaners. Never use heavy items such as bricks or chains inside the chimney to clean it, as this could result in interior damage.*
- **Avoid Creosote Buildup:** *Creosote is highly combustible and burns at a high temperature. When you burn a slow-burning fire in an airtight stove, flue temperatures usually reach between 100 and 200 degrees Fahrenheit, and these relatively low temperatures don't fully move the combustible gases out into the atmosphere. Instead, the gases stay inside the chimney and stove pipe, where they turn into creosote. Creosote might look like a sticky liquid, a flaky deposit, or a hard glaze on the inside surfaces. To avoid creosote buildup, avoid slow burns; use smaller amounts of fuel to create hotter fires.*

## Do's and Don'ts

- *Do have a mason or other professional inspect your chimney regularly.*
- *Do consider opening a window when burning to ensure adequate ventilation.*
- *Do dispose of ashes in an enclosed metal container outside of your home.*
- *Do keep children and pets away from the wood furnace or stove.*
- *Do have working smoke alarms and carbon monoxide detectors on every level of your home.*
- *Do watch for damage and wear on all components of the stove.*
- *Don't build fires that are larger than the stove can manage. Known as "over-firing," this could lead to flames entering the flue pipe or chimney.*
- *Don't start fires using flammable liquids.*
- *Don't allow ashes to accumulate on the bottom of the fire box.*
- *Don't burn anything other than wood.*
- *Don't leave a fire burning unattended.*

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