



# Alternative Heating Sources

**Consumers will likely turn to alternative heating sources again this winter to heat their homes. Renewed interest in wood pellet stoves, space heaters, fireplaces and other devices can be expected as temperatures drop. With that in mind, the Institute for Business & Home Safety offers the following safety information.**

## USE CAUTION

Before using any heating device, install carbon monoxide detectors in several parts of the house. Never use a kerosene heater indoors.

## STOVE PLACEMENT

Alternate Heating Stoves can vary in construction regarding self-contained insulation and thermal protection. Thus a single layer iron-walled stove can generate enormous heat several feet in all directions. More sophisticated multiple walled insulated forced air stoves can remain safe to the touch when in use. Except where specifically recommended by the manufacturer, only the fuel (e.g., pellets, corn, log wood, coal or gas) for which a stove is designed should be used.

Placement of the stove must take into consideration adequate space for installation, maintenance and replacement, flue or vent pipe routing and most importantly, safe location relative to combustible materials. NFPA recognizes appropriate ANSI and UL standards and testing of the reduction of heat with distance from the unit as well as non-combustible shielding (defined in codes). Properly tested and rated stoves will have an attached safety label and an installation manual which will detail the manufacturer, recommended minimum separations. Some general guidelines are provided for different types of stoves in the following sections for cases when labels are missing.

In most cases, protection of the floor or combustible surface under a stove is required and specified including shielding beneath and extending on all sides in accordance with the code and label requirements. This includes adequate protection in front of the fire box and where ash removal is required.

Standards also exist for locating and routing flue and vent pipes in order to provide separation from combustibles adjacent to and through walls and to existing chimneys.

## PELLET STOVES

These modern devices operate through an automated fuel-delivery process. In some designs, a fan delivers air to the fire and blows exhaust by-products out of a vent pipe that is smaller and typically less expensive than a chimney. Often, a separate fan blows air through heat exchangers in the stove and out into the home.

- Always hire an installer who is licensed and certified.
- Stove placement must allow for access to proper venting and electrical sources and must meet minimum required clearances. Certified installers operate according to these guidelines.
- Outlets must be checked for proper voltage, grounding and polarity.
- According to model building codes, multiple walled insulated forced air stoves within compartments or alcoves should have a minimum of 3 inches of working space clearance

along the sides, back and top with a total width of the enclosing space being at least 12 inches wider than the stove.

- Stoves having a firebox open to the atmosphere should have at least a 6-inch working space along the front combustion chamber side.
- Keep the stove clear of all combustible materials.
- Use PL vent pipes tested to Underwriters Laboratories (UL) 641.
- The following materials should never be used to vent pellet appliances:
- Dryer vent Gas appliance Type B vent PVC pipe Single-wall stove pipe, unless approved by local codes and the installation manual
- Inspect chimney before installation. Relining may be required.
- Altitudes higher than 2,500 feet may require special venting options.
- An outside air source may be required for houses with tight construction or strong kitchen, bath or other exhaust fans.
- Manufacturer instructions must be closely followed regarding sealing joints and seams, particularly of pressurized mechanical exhaust vents.
- Regular maintenance is critical to ensure safe operation.
- Frequency of cleaning will depend on the fuel type, grade and content.
- Components should be inspected daily.

## WOOD STOVES

These traditional heat sources remain popular, but have been linked to an increase in house and chimney fires.

- Choose a stove that has been tested by Underwriters Laboratories (UL).
- Second-hand stoves should be free of broken parts or cracks.
- Maintain at least a 36-inch clearance between the stove and combustible materials or use fire-resistant materials to protect woodwork and other areas. Follow manufacturer guidelines.
- Keep the stove clear of combustible materials.
- Noncombustible floor covering should be used under and around the stove. The material should extend 18 inches on all sides.
- Prior to using the stove, place a layer of sand or firebrick in the bottom of the firebox.
- Vent pipes or chimneys must be inspected prior to use.

If a stove pipe is used:

- Use 22or 24-gauge metal with a total length of less than 10 feet.
- Maintain at least 18 inches between the top of the stove pipe and the ceiling or other combustible material.
- Ensure that the stove pipe enters the chimney at a spot higher than the outlet of the stove firebox and that it does not extend into the chimney flue lining.
- The inside thimble diameter should be the same size as the stove pipe for a proper seal.
- The stove pipe should not pass through a floor, closet, concealed space or enter the chimney in the attic.

Whether masonry or metal, the chimney should extend:

- At least 3 feet above the highest point where it passes through the roof and at least 2 feet above any portion of the building within 10 horizontal feet of the chimney.

The chimney flue lining should not be blocked.

- Keep the chimney flue and stove pipe clean and free of obstructions.

## SPACE HEATERS

These appliances can be an affordable option for heating a small space, but they also are the leading source of house fires during winter months.

- Look for products that have been tested by UL.
- Buy a model with an automatic shutoff feature and heat element guards.
- Maintain a 36-inch clearance between the heater and combustible materials, such as bedding, furniture, wall coverings or other flammable items.
- Do not leave a heater unattended.

Electric heaters should be inspected prior to use.

- Check the cord for fraying, cracking and look for broken wires or signs of overheating in the device itself.
- Use only heavy-duty extension cords marked with a No. 14gauge or larger wire.
- If the heater plug has a grounding prong, use only a grounding (three-wire) extension cord.
- Never run the heater cord (or any cord) under rugs or carpeting.

Liquid-fueled heaters must be operated using only the fuel recommended by the manufacturer.

- Never use gasoline or any other substitute fuel.
- Allow the heater to cool down prior to refueling.
- For additional information, visit [www.oilheatamerica.com](http://www.oilheatamerica.com).

## FIREPLACE

- This popular heat source is found in homes throughout the United States, but requires proper maintenance and caution to ensure safe operation.
- Annual inspections are required by a professional chimney sweep.
- Regular cleaning will keep the fireplace free of obstructions and creosote.
- Have a removable cap installed at the top of the chimney to keep out debris and animals.
- Install a spark arrestor that has 1/4 inch mesh.
- Maintain proper clearance around the fireplace and keep it clear of combustible materials such as books, newspapers and furniture.
- Always close the screen when in use.
- Keep glass doors open during the fire.
- Use a fireplace grate.
- Approved fireplace tools are recommended.
- Never burn garbage, rolled newspapers, charcoal or plastic in the fireplace.
- Avoid using gasoline or any liquid accelerant.
- Clean out ashes from previous fires and store them in a noncombustible container with a tight-fitting lid. Keep the container outside and away from the house.
- Never leave a fire unattended.
- Make sure the fire is completely out before closing the damper.

Gas fireplaces require specific maintenance:

- Adjust the milli-volt output.
- Keep the glowing embers and logs clean.
- Inspect and clean the air circulation passages and fan.
- Clean the glass as needed. Avoid obstructing the vents.