

# Pellet Stove Safety

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THE USE OF PELLET STOVES to heat homes and businesses has increased markedly in recent years. One reason is the cost savings they represent versus other heat sources. The Environmental Protection Agency (EPA) estimated that 88,000 pellet stoves would be sold in 2015. However, there can be hazards. Educating clients to the potential problems is a value-added service of the professional insurance agent.

Pellet stoves look a lot like traditional woodstoves, however the operation and fuel differs. Pellet stoves burn pellets composed of wood and other biomass materials. The compressed pellets, similar in size and shape to rabbit food, burn more efficiently than wood, giving off more heat, and very little ash residue. There is less creosote buildup, which reduces chimney fires. The U.S. Department of Energy (energy.gov) states that pellet fuel appliances are the cleanest solid fuel residential heating appliance and that EPA certified stoves are likely to be in the 70 to 83% efficiency range.

Wood pellet stoves are usually cool to the touch, as their operation temperature is lower than that of traditional wood stoves. Pellet fuel appliances are available as free standing stoves or fireplace inserts. Pellet fuel replacement furnaces and boilers, which can supplement or replace existing systems, are also available.

Pellets are loaded into a hopper where they are fed into the stove. This system means the pellet stove can burn for longer periods of time without being refilled. Most hoppers can hold at least a day's supply of pellets. Some systems have more complex feeder devices with a thermostat and computer to regulate the delivery rate. Pellet stoves require electricity to feed the pellets from the hopper into the stove, so they are not a practical op-

tion during a power failure unless there is a backup power supply. Manual feeding of the fuel is one option. Another is the installation of a solar panel with battery backup. The electricity requirement is minimal, so a large panel is not necessary. Care must be taken in the installation to prevent voltage surges that could damage the stove.

The manufacturer's specifications for installation, cleaning and maintenance should be followed carefully since pellet fuel appliances are more complex than traditional wood stoves. Prior to providing coverage, insurance companies may require an inspection to verify that the appliance was installed correctly. Unused fuel should be removed at the end of the heating season.

Proper storage of the pellets is also important. Pellets are generally sold by the ton, with an average family using 2-3 tons per season. Increased moisture in the pellets reduces the stove's efficiency and increases the weight of the bag. To reduce moisture buildup, bags should be stored under a roof and raised so they are not directly on the ground or floor.

The Cold Climate Housing Research Center (CCHRC) (makinghouseswork.cchrc.org) recommends that the storage area be ventilated with a carbon monoxide detector near the door. Pellets give off carbon monoxide, which is lethal when inhaled, even in properly vented areas. There have been at least nine deaths in Europe since 2002 from wood pellet storage. (www.ncbi.nlm.nih.gov) Although not all pellets release measurable amounts



of carbon monoxide, precautions to provide adequate ventilation and a detection device should be taken.

The EPA's New Source Performance Standards (NSPS), issued in 1988, exempted most pellet stoves from emissions limits. However, as of 2015, new pellet stoves must comply with the same regulations as other wood burning stoves, and must have a permanent label certifying that they meet the 2015 EPA standards (www.epa.gov).

Pellet stoves can be a cost-saving heat source, but there are safety concerns. Helping clients understand the potential drawbacks and hazards is another sign of the true insurance professional.

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