HPBA
Hearth, Patio & Barbecue Association

FACT SHEET

EPA-Certified Woodburning

Interested in burning wood for heat? Wood offers many benefits, but it's important to look for woodburning solutions that help protect the local environment. One option is to install a wood heater that has been certified by the U.S. Environmental Protection Agency (EPA). These "approved" appliances, whether freestanding stoves, fireplace inserts or actual built-in fireplaces, are the cleanest burning way to enjoy the benefits of a wood fire, while protecting neighborhood air quality.

EPA-Certified Woodburning Benefits

- Soothing, radiant heat
- Substantially less smoke
- Less money and time spent on firewood
- Control home heating bills
- Heat when the power goes out
- Energy independence
- Renewable fuel source

Requirements for Certification

Since 1988, the EPA has implemented regulations that govern the manufacture and sale of wood stoves and woodburning fireplace inserts. Stoves that meet these certification requirements are considered EPA-certified. These appliances reduce smoke emissions by approximately 90 percent and are significantly more efficient when compared to older models. Appliances that have not met these requirements are considered "uncertified," and are not a good solution for burning wood. In the U.S., it is illegal to buy a new wood stove unless it has been EPA-certified.

EPA-certified "fireplaces" are wood heaters that are installed directly into the wall and do not require an existing fireplace.

Local Woodburning Regulations

In some communities throughout the U.S., as well as Canada, air quality regulations influence and restrict how people can burn wood in their homes. Some municipalities restrict woodburning appliances when air quality is poor, while others restrict the installation of woodburning appliances in new construction or require removal (or replacement) of an uncertified stove or fireplace insert at the point of sale. In each of these cases, EPA-certified models are often exempt from the entire regulation or certain parts of the rules. ***That means it's easy to enjoy a wood fire on most nights during the year when you burn with EPA-certified appliances!***

Upgrading an Uncertified Stove

There is currently no technology available that will upgrade an uncertified stove or fireplace insert to achieve EPA-certification. The only solution available is to remove it and replace it with a certified appliance. In an EPA-certified stove or fireplace insert, the combustion chamber

Upgrading an Uncertified Stove *continued on reverse side →*

EPA-Certified Woodburning

is engineered to work as a system to burn wood and wood smoke more efficiently which in turn reduces the amount of emissions introduced into the environment. The appliance is tested and approved by independent laboratories to meet the EPA criteria, hence the label "EPA-certified."

Upgrading an Existing Woodburning Fireplace
To upgrade an open fireplace, install a certified fireplace insert.

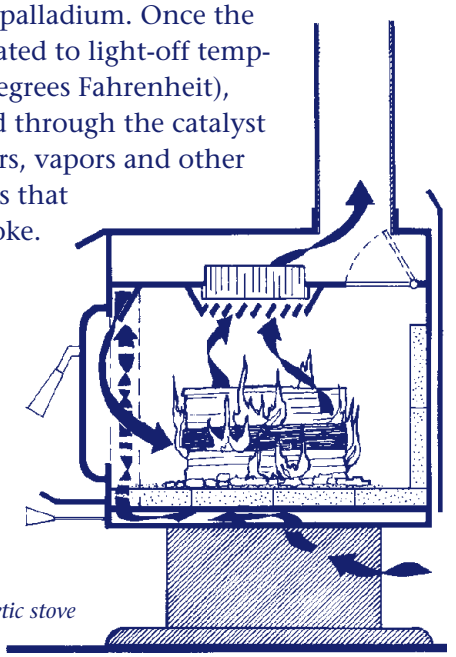
More Complete Combustion

The key to EPA-certified woodburning appliances is more complete combustion. Uncertified stoves starve the fire of oxygen which burns wood incompletely, and creates excessive levels of smoke. In contrast, certified appliances create the right conditions for complete combustion – high temperature, enough oxygen, or air, and sufficient time for the combustion gases to burn before being cooled.

Types of Certified Appliances

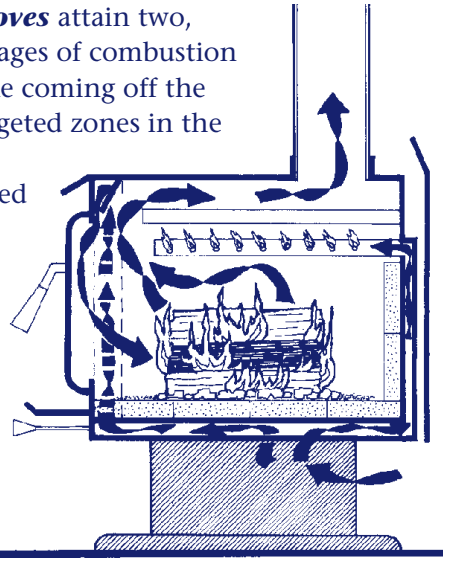
There are two types of certified wood stoves and fireplace inserts – non-catalytic and catalytic. Currently, the most common stoves on the market are non-catalytic, but there are benefits to both.

» ***Catalytic stoves*** employ a catalytic converter which works as an afterburner to reduce wood smoke. The converter is a cast ceramic honeycomb coated with either platinum or palladium. Once the converter is pre-heated to light-off temperature (500–600 degrees Fahrenheit), the smoke is routed through the catalyst which burns the tars, vapors and other organic compounds that make up wood smoke.



Catalytic stove

» ***Non-catalytic stoves*** attain two, three or even four stages of combustion by guiding the smoke coming off the burning wood to targeted zones in the firebox where it is mixed with pre-heated oxygen. With temperatures in excess of 1,000 degrees Fahrenheit, the stove burns the wood smoke.



Non-catalytic stove

Safer and More Economical Fires with Certified Stoves
Certified burning is safer because the fire produces less creosote due to more complete combustion. Certified woodburning appliances also reduce the amount of wood required for an average fire.

Exempt Woodburning Devices

(traditional open fireplaces are not eligible for certification)
Masonry heaters and many pellet stoves are excellent options for burning wood and may be exempt from woodburning regulations in many communities. Pellet stoves look like wood stoves, but are designed to burn pelletized sawdust and other biomass materials, such as corn.

Retiring Uncertified Stoves

Air quality regulators encourage people with conventional, uncertified wood stoves to upgrade to a certified unit. The costs associated with changing out include the wood stove or fireplace insert, chimney, installation, delivery, annual fuel costs and maintenance. But, because certified wood stoves are more efficient and burn less wood, the initial cash outlay of upgrading pays for itself over time.

Resources

For information on woodburning in a particular community, or to learn more about EPA-certified woodburning, contact the Hearth, Patio & Barbecue Association at www.hpba.org or visit an HPBA member retailer.