



Space heating with wood

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There are basically four different types of wood burning appliances available that are considered “space heaters.”

These are units that produce direct convective and/or radiant heat that can be used to heat a room, a house or other “space” and include woodstoves, pellet stoves, fireplace inserts and masonry heaters. Many people ask which ones are approved.

Masonry heaters currently do not require certification by the EPA as do the other three appliances listed above. The EPA recognizes the clean-burning nature of masonry heaters which use a small, hot fire over a short period of time to heat a large masonry mass which then radiates heat slowly over a long period of time. Since 1992, no woodstoves, pellet stoves or fireplace inserts can be legally manufactured or sold in the U.S. unless they are tested and meet the emissions standards of the EPA Phase II emissions program. So if you buy any of these appliances from a reputable dealer, you are pretty much assured that they are, in fact, EPA approved.

Additionally, the complete EPA List of Certified Woodstoves is available online at: <http://www.epa.gov/Compliance/resources/publications/monitoring/caa/woodstoves/certifiedwood.pdf>.

This document is 113 pages long and contains over 900 different models. It’s a long list but it contains good factual information that a consumer can use to help decide when making a purchase. As a caution, some brands on the list aren’t being made anymore but if you know a few brands that are being sold locally, you can jump directly to those brands to compare the specifications.

The list shows the manufacturer, the stove model name or number, the particulate emissions in grams per hour, an average assigned efficiency, and the heat output in Btu per hour. It is important to note that the efficiency number listed is assigned by the EPA by stove type and is not tested for any particular model so you can’t use the stated efficiency for comparison within stove types.

The stove types listed are non-catalytic, catalytic and pellet. The emissions limits are 7.5 grams per hour for non-catalytic and 4.1 grams per hour for catalytic stoves. It was decided that a lower limit be established for the catalytic stoves because the catalytic elements tend to become less effective over their 3 to 5 year lifespan. So if you have an idea of your home’s heat demand in Btu per hour, you can use the list to find an appropriately sized stove. You can also get an idea of a stove’s actual efficiency by looking at the grams of emissions per hour versus the listed heat output; use the lowest number in the heat output range since the certification testing takes place at a low burn rate.

The lower the emissions per heat output, the more efficient the stove is at utilizing all the available fuel and consequently, the less wood you’ll need to burn. If you purchase firewood the savings can be substantial. In fact, if you have an old non-EPA certified stove and you switched to a new more efficient model the savings can be even greater.

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