



CATALYTIC WOOD STOVE vs. NON CATALYTIC WOOD STOVE

The term catalytic and non-catalytic are types of combustion used by stove and fireplace manufacturers.

Catalytic Wood Stoves and Fireplaces

A catalytic stove typically offers higher efficiencies and longer burn times. The exhaust (smoke) is drawn from the fire and sent through a honeycomb shaped converter (catalyst) built into the appliance. The ceramic coating causes a chemical reaction that allows the smoke to burn when the stove's surface is only 500°F. The smoke gases and particles when re-heated and allowed to burn, result in a cleaner fire, longer burn times and more even heat. Catalytic appliances, because of this exhaust "recycling" emits less pollutants and increases overall use of the fire's energy producing a higher efficiency (73% or more) appliance. Catalytic appliances cost a little more than non-catalytic appliances and require a little more maintenance. The catalyst must be cleaned regularly, and garbage or dirty wood burned in a catalyst appliance will result in faster degradation of the internal parts. With proper care, catalytic stoves or fireplaces can last for many years.

Non-Catalytic Wood Stoves and Fireplaces

Far more common and less expensive, non-catalyst appliances are typically a little less efficient but simpler to maintain. A non-catalytic appliance will have a large baffle system that results in a very hot flow of gas which brings the smoke up to 1200°F to burn off the pollutants. Unlike a catalytic appliance, the smoke is not cleaned by a combustor, resulting in slightly higher pollutants and less even heat. Burn times are typically 10% less than a catalyst appliance resulting in a little more fuel being burned.

Choosing the Right Stove or Fireplace

If you're not sure whether to choose a catalytic or non-catalytic appliance, consider the amount you're willing to spend and how much maintenance you're willing to do versus the type of fire efficiency you want. Those who are interested in maintaining their stove or fireplace and like the idea of efficient fires with little waste and less pollutants will want to invest in a catalytic appliance. Those who appreciate the roar of a good fire but don't want to spend as much should lean towards a non-catalytic appliance. Either way, make sure that the stove or fireplace you choose is of good quality and is designed to meet all emission standards. The Environmental Protection Agency (EPA) has established emission standards to ensure pollutants are not emitted into the environment resulting in cleaner air for all to breathe. The EPA along with the American Lung Association is currently promoting action to strengthen these emission standards which may result in manufacturers providing only catalyst appliances to be sold in the future.