

# Lean, Mean And Green From the Catalytic Experts!

Stingy on wood, carbon neutral, destroys emissions, keeps the air clean and saves you **money**.

[www.BlazeKing.com](http://www.BlazeKing.com)

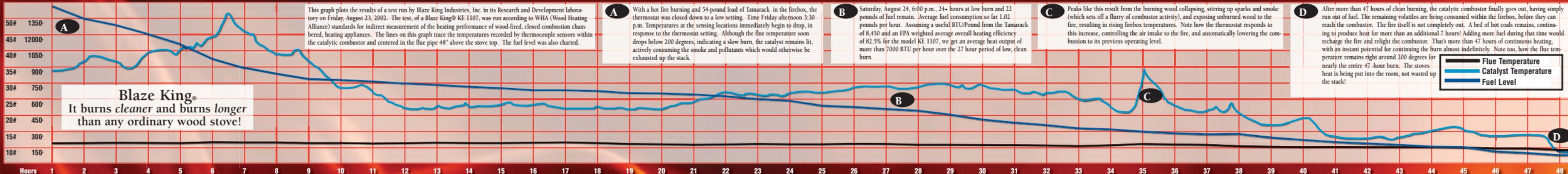
This graph plots the results of a test run by Blaze King Industries, Inc. in its Research and Development laboratory on Friday, August 23, 2002. The test, of a Blaze King® KE 1107, was run according to WHA (Wood Heating Alliance) standards for indirect measurement of the heating performance of wood-fired, closed combustion chambered, heating appliances. The lines on this graph trace the temperatures recorded by thermocouple sensors within the catalytic combustor and centered in the flue pipe 48" above the stove top. The fuel level was also charted.

**A** With a hot fire burning and 54-pound load of Tamarack in the firebox, the thermostat was closed down to a low setting. Time Friday afternoon 3:30 p.m. Temperatures at the sensing locations immediately begin to drop, in response to the thermostat setting. Although the flue temperature soon drops below 200 degrees, indicating a slow burn, the catalyst remains lit, actively consuming the smoke and pollutants which would otherwise be exhausted up the stack.

**B** Saturday, August 24, 6:00 p.m., 24+ hours at low burn and 22 pounds of fuel remain. Average fuel consumption so far 1.02 pounds per hour. Assuming a useful BTU/Pound from the Tamarack of 8,450 and an EPA weighted average overall heating efficiency of 82.3% for the model KE 1107, we get an average heat output of more than 7000 BTU per hour over the 27 hour period of low, clean burn.

**C** Peaks like this result from the burning wood collapsing, stirring up sparks and smoke (which sets off a flurry of combustor activity), and exposing unburned wood to the fire, resulting in rising firebox temperatures. Note how the thermostat responds to this increase, controlling the air intake to the fire, and automatically lowering the combustion to its previous operating level.

**D** After more than 47 hours of clean burning, the catalytic combustor finally goes out, having simply run out of fuel. The remaining volatiles are being consumed within the firebox, before they can reach the combustor. The fire itself is not completely out. A bed of hot coals remains, continuing to produce heat for more than an additional 7 hours! Adding more fuel during that time would recharge the fire and relight the combustor. That's more than 47 hours of continuous heating, with an instant potential for continuing the burn almost indefinitely. Note too, how the flue temperature remains right around 200 degrees for nearly the entire 47-hour burn. The stove's heat is being put into the room, not wasted up the stack!



**Blaze King®**  
It burns *cleaner* and burns *longer*  
than any ordinary wood stove!