

Why All Brochures are Counterproductive in Choosing the Optimal Stove and Catalytic Downsides

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Brochures of all wood stove brands provide data, and wording describing that data. This data and wording comes from the UL listing testing agency. The data itself is true, but very misleading, due to poor wording to define this data. This is a major hindrance to choosing the correct 'flash combustion' stove or insert.

Seven Brochure Flaws stemming from the independent testing agency... applies to all brands

Brochure Flaw 1: (Heating Capacity)

Poor brochure wording accidentally feeds the outdated concern a large stove will overheat. Here's how: A typical large capacity stove, the 'GrandView 300' model for example, has a brochure stated 'Heating Capacity' of '2000-3000' square ft. Now, anyone with a small 1100 sq ft home would reject '2000-3000' for a smaller stove. However, the 'GrandView 300' stove or insert is ideally sized for 1100 sq ft! How can this be?

The fault lies in a careless word choice to define: '2000-3000', as the 'Heating Capacity'. I see this gov't 'lay person', defining the specs without a clue as to how this spec could be misinterpreted. '2000-3000' is the 'Max Heating Range', something totally different than the false label: 'Heating Capacity'. The 'Max Heating Range' means that the highest heat setting could heat just 2000 sq ft, or as much as 3000. The heat range on the low setting is needed to properly select the size stove /insert you get. Furthermore, the max sq ft any stove heats depends on 4 wildly swinging external variables: 1. Outdoor temps, 2. Home insulation factor, 3. Wood moisture content, and chimneys that can vary 6 fold in their draft producing power to blow air on the fire.

The low end of the max range is not to be interpreted as area the stove heats on low!

The most important spec, if given just one spec. to pick the optimal stove, is: "**Minimum Heating Range**".

Sadly, the minimum heat range spec is never provided on any brochure of any brand of stove or insert!

If only the brochure stated the range of square footage on the low setting, then and only then could a shopper select a larger capacity firebox, thus gaining long burn durations that provide stable temps in remote rooms. , increased efficiencies by avoiding operating on the high setting, and ease of use finding it still lit mornings. However, nowhere on any brochure does it state what a stove or insert's minimum heating range is .

Our demo burn model stove is a 2000-3000' square ft, XL rated stove. It happens to heat only 700-1100 sq feet when on low! Therefore, it is an ideal stove for 1100+ sq/ft areas. Sadly, it is sometimes rejected because 2000 is the low number in the max range. Understanding this brochure flaw helps you to come closer to overnight burns, and without re-starting each morning. In summary, the brochure accidentally directs shoppers to small stoves that do not provide overnight burns.

Brochure Flaw 2: (Max Burn Times)

Because flaw #2 made you wrongly fear overheating of the XL stove, eyes drift to the smaller model, such as the 'Striker', with a 'heating capacity' of 700-1300 sq /ft. 1300 sq ft matches half the homes out there. Nearly everyone falls victim to this trap. It indeed heats 1300 sq ft, but the corresponding burn time is a very short 2-3 hours. This is far from the brochure stated 6-8 hour burn time! Therefore, the smaller stove is a terrible choice, in that it is off most of the time! Who would want it off, when a flash combustion stove is half the wood and work of yesterday's air-tights, with a free fuel option! (pine that is often free)

Brochure Fix: The MAX burn time of a stove on the highest heat setting is 1/3 the time range stated, not the low number in the max burn time range given.

Brochure Flaw 3: (Fireplace insert photos don't represent the look folks choose 99% of the time)

Fireplace insert brochure pictures show a totally different appearance than what most folks opt for. Most choose to omit the optional metal surrounds, unique to models Fireside carries. In doing so, they saved \$150, increased heat output, and omit the hearth extension, preserving much of the look and feel of the fireplace.

Brochure Fix: Check out the photos on the pricing page, or request I email pictures.

Brochure Flaw 4: Why are efficiency ratings not trustworthy in stove selection?

Fireside distribute highest efficiency stoves. As an engineer of 30 years, I often wondered why the testing entity that determines brochure data, doesn't supply a graph showing efficiency differences of each stove model as a function of the selected heat setting, ...for low, medium, or high. The brochure is a poor guide when it neglects to warn you that the max efficiencies are not realized when on or near the highest heat setting. With heat exchangers unique to our Grandview and Montlake models, high efficiencies are present in a wider heating range.

Brochure Fix: It doesn't matter what the tested efficiencies are, as they don't take into consideration external variables, poor construction that soon loses injection of secondary combustion air, and if missing heat exchangers that widen the high efficiency range.

A stove with higher efficiency, ends up less efficient overall, if designed without heat exchangers to extract emissions heat before exiting the chimney, and without a second heat exchanger to heat circulating room air.

Brochure Flaw 5: (Bait and Switch)

Firesides demo doesn't end by concluding flash combustion wood stoves are 3-4 times improved. This is the starting point of why it is so important to come in for the demo. You're now able to understand the magnitude of the loss, as most FC stoves soon fail, and revert to 1/3 of promised. Showing why most models fail with no repair or warranty recourse, is the second part of the in-store demo. Ironically, it's more expensive brands, not just extreme low-end brands, that are soon reduced to scrap metal. The third part of the demo is seeing a uniquely engineered stove design that will never fail. What evidence is there that air tight stoves leaked as a rule? Look at the reason why stove pipe dampers were always installed with new airtight stoves. It was to bank down a 'soon to be' leaky stove. However, with flash combustion stoves, a second problem occurs worse than overheating. The **unintended air breaching the stove, drops fire box vacuum, and as a result, cuts efficiency in half, along with losing many other niceties such as long burn times, half the wood handling, free pine fuel, and stay clean chimneys.** Because most stoves are carelessly engineered, they soon revert to half the brochure stated efficiency when over fired. Does it then matter what efficiency the brochure promised?

The independent testing agency is negligent, in that they do not test the stove in red hot mode, to confirm it survives. What good is a stove that permanently reverts to 1/3 of what it should be? Let Fireside show you a leak proof stove that costs considerably less than a comparably sized leak prone cast iron stove.

Brochure Fix: Ignore brochure specs. Focus on stoves you can confirm by inspection are engineered with thick steel unibody, with laser cut door openings, all stainless baffle supports and tubes, high density bricks, with door and glass gasket adjusters that make gasket replacement rare.

Brochure Flaw 6:

Why are emissions ratings not trustworthy in stove selection?

Fireside carries one of the cleanest burning wood stoves, at 1.6 grams /hour. However, impressive emissions numbers shouldn't carry much weight in deciding on a stove. Here's why. An independent testing authority states emissions at the rate of 7.5 grams per hour produces non-visible emissions at operating temperature. Therefore, since 7.5 grams/hour is virtually zero emissions, then would you rule out a stove because of claims of under 7.5 grams? Of course not. If 7.5 grams is virtually zero, all numbers under 7.5 are the same...zero. **Therefore, don't choose a stove on the basis of being cleaner burning than another.** They're all EPA certified to be virtually zero emissions.

Brochure Fix: Don't let an emissions rating influence your choice of a stove.

Brochure Flaw 7:

BTU ratings are wildly arbitrary. It is common to read the BTUs of a small stove nearly the same as an extra-large stove with twice the rated heating capacity. To date, no one has provided a good reason for this discrepancy. Any stove's max heat output is more dependent on wood dryness level, and air intake rate, than the stove size. A stove air intake is dependent on the chimneys air pulling power. It could vary 4-fold by being tall with a metal liner, verses short with no liner. Add in wood moisture content variations. External factors have much more to do with BTU output than the size or model of the stove.

Brochure Fix: Don't let a BTU rating influence your choice of a stove.

The many problems and lies pertaining to catalytic stoves and inserts

Most folks assume catalytic stoves are high tech. That's not so. Catalytic equipped units have long been obsolete. It's 80's technology, but few still exist, as a cheap way of making its brochure more appealing.

Catalytic's should be avoided for numerous reasons. Today's best stoves, oddly labeled 'non-catalytic', imply they are 'non-high tech', when instead they are far superior. This far superior, 'non-catalytic' technology is firebox flash combustion.

Here are the facts. Catalytic and non-cat stoves are 'tested' as having similar high efficiencies, due to the combustion of smoke before it exits the stove. With new technology non-cat stoves, smoke burning (secondary combustion), produce view-able flames seen via 'stay clean' glass. These added flames account for the near doubling of efficiency.

With catalytic stoves, the smoke burning is not seen. Worse than that, the catalytic, and resulting smoke ignition flames, originate near the exit of the stove, heating the stove collar area, not the firebox, resulting in 30% of exit the 80% efficiency, lost up the chimney! EPA brochure efficiencies include heat from flames lost. Heat lost up the chimney, and thus not transferred to living space. Brochures they only state combustion efficiency, not home heat transfer efficiency. This is the fault of the EPA testing agency. In conclusion, not only do non-cat stoves net higher efficiencies, non-cat stoves don't have to follow a tedious list of catalytic do's and don'ts.

Catalytics are fragile, and expensive to periodically service and replace (\$400 to \$550), with a long list of do's and don'ts in starting, loading and operation. Also, forget about burning a nearly free fuel, scrap wood and pine, such as many enjoy, issue free, in clean burning non-cat stoves. These 'free' fuels will quickly plug up and damage a catalyst, and catalyst & chimney cleaning procedures are a chore. Even colored newspaper ink can damage a \$500 catalytic.