

#5 Chimneys

The chimney is probably the most important part of your woodburning system, more important than your appliance! Even the most carefully designed and properly installed appliance will not work properly or be safe if it is connected to an unsuitable chimney.

THE ENGINE OF THE SYSTEM

The chimney is what drives your wood heating system. Hot gases from the fire rise up the chimney, creating draft. Draft is what draws air through the appliance and keeps the fire burning well.

A GOOD CHIMNEY

A good chimney produces draft immediately. It doesn't have to be coaxed. An appliance connected to a good chimney lights and heats up quickly. It doesn't spill out smoke when the door is opened. A good chimney has few creosote deposits, and is less susceptible to chimney fires. Condensation shouldn't form in a good chimney.

WHY A GOOD CHIMNEY WORKS

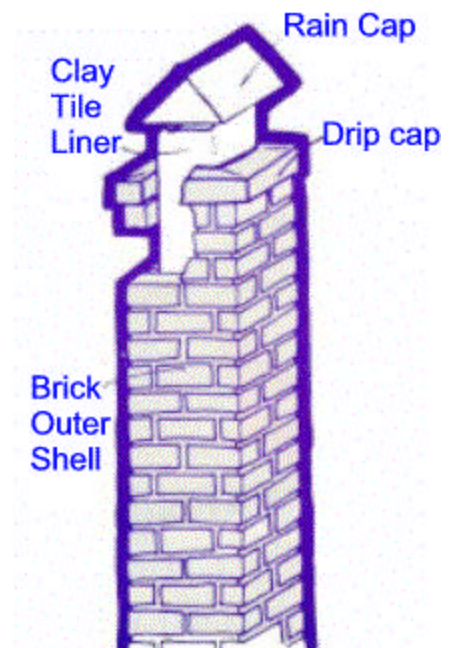
- It's similar in size to the appliance flue collar, so gases from the appliance flow quickly.
- It's insulated, so the gases stay hot and don't condense and form creosote.
- It's located inside the house to keep it warm, reduce condensation and creosote, and prevent draft reversal.

Many people think an outside chimney is safer in the event of a chimney fire. This is not true. Inside is better! In fact, there is much less chance of having a chimney fire if the chimney is located inside the house. If you must install an exterior chimney, consider having a "chase" built around it to protect it from wind and cold.

TYPES

Conventional Masonry Chimneys

Brick chimneys have been popular for many years. Most masonry chimneys built since the 1950's are lined with flue liners of clay or other materials, which improve the durability and performance of the chimney. If you have an older unlined masonry chimney and want to use it to vent a woodburning appliance, it must be lined, to ensure that the chimney is similar in size to the appliance flue collar.



Type “A” Chimneys

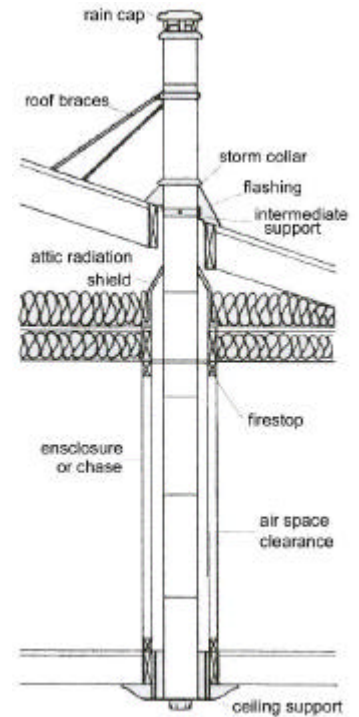
Type A metal chimneys became popular in the 1950's. They were designed primarily for use with oil furnaces, but ended up being used for woodburning appliances as well.

Type A chimneys cannot withstand severe chimney fires without damage. They are not suitable chimneys for woodburning appliances. Since 1983, chimneys specifically designed for use with wood-fired appliances have been required.

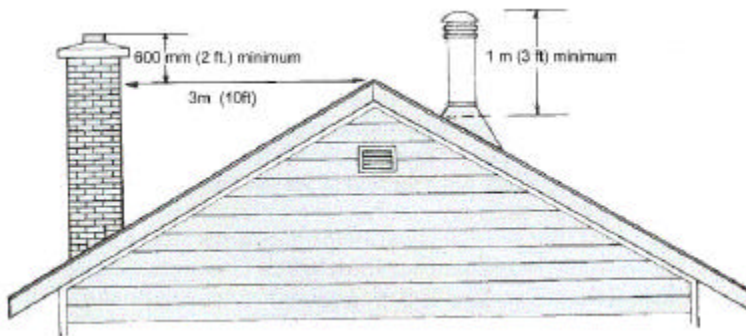
650°C Metal Chimneys

In 1981, a new standard for factory-built chimneys was published. This standard requires factory built chimneys to be tested at a continuous flue gas temperature of 650°C (1200°F). By 1983, this standard had been incorporated into most building codes. A modified version of the 650°C standard is used to test chimneys for factory-built fireplaces.

The so-called 650°C chimneys are much safer than the old Type “A” chimneys. They use more durable stainless steel liners than Type “A” chimneys, and are better insulated. Consequently, they can safely contain the temperatures common in a chimney fire. Ironically, since 650°C chimneys are better insulated, creosote tends not to build up as readily, so chimney fires are much less likely.



Chimney termination



The top of a chimney must be at least 900 mm (3 ft.) above the point where it contacts the roof. It must also be 600 mm (2 ft.) above any roof surface or structure within a horizontal distance of 3 m (10 ft.). Metal chimneys need a cap to keep water out of the space between the inner liner and the outer shell.

Warning SIGNS OF CHIMNEY PROBLEMS

- Rapid creosote build-up
- Dripping from the base of the chimney
- Staining of the outer chimney shell
- Sluggish draft
- Smoke spill-out when the appliance door is opened
- Corrosion of the outer shell of a factory built chimney

- Deterioration of the brickwork of a masonry chimney
- Cold air flowing down the chimney when the appliance isn't in use.

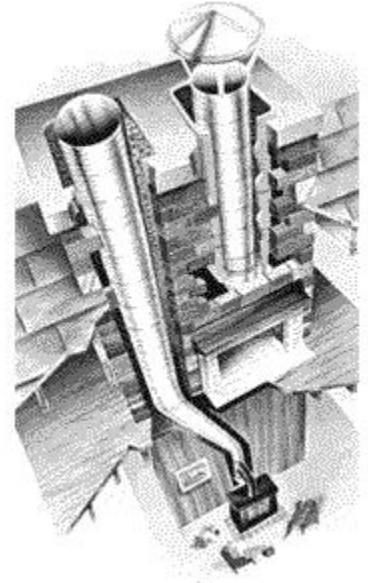
If your chimney shows any of these symptoms, consult a WETT certified professional. And check WISE fact sheet #8, Maintaining Your Heating System, for helpful hints on chimney and flue pipe cleaning and maintenance.

RELINING A MASONRY CHIMNEY

If you have an unlined masonry chimney, check with a WETT certified professional to find out if it should be lined. If it's already lined, check the condition of the liner. If it's cracked or broken, or if it's the wrong size for your woodburning appliance, it will need to be replaced by a suitable liner.

WHAT'S YOUR BEST DEFENSE AGAINST A CHIMNEY FIRE?

- An appropriate chimney, insulated and inside the house.
- Proper chimney installation.
- Proper appliance operation using seasoned wood.
- Proper chimney maintenance.



This fact sheet is intended only to provide an introduction to the topic of "chimneys" not a "how to" manual! Be sure to consult a WETT certified professional for more detailed information and explanations.

The WISE Fact sheet Series

1. Is Your Wood Heat Installation Safe?
2. Space Heating With Wood
3. Appliance and Flue Pipe Clearances
4. Reducing Clearances With Heat Shields
5. Chimneys
6. Flue Pipes
7. Operating Your Appliance ...Safely
8. Maintaining Your Heating System
9. Fireplaces
10. Fireplace Inserts
11. Purchasing, Processing and Seasoning Wood
12. Central Heating With Wood

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Wood Energy Technical Training (WETT)

The Wood Energy Technical Training Inc, is a non-profit, educational institution established in 1988. Provincial affiliates of WETT Inc are dedicated to chimney and venting system safety, and to the elimination of residential chimney fires, carbon monoxide intrusion and other chimney related hazards that result in the loss of lives and property. WETT devotes its resources to educating the public, chimney service professionals, and other fire prevention specialists about the prevention and correction of chimney and venting system hazards.

WETT has developed a training and certification program for wood heat appliance installers, inspectors, chimney sweeps and other professionals called the "Wood Energy Technical Training" (WETT) program. Be sure that any wood heat professional you consult is WETT certified. Look for the WETT logo, it's your best guarantee of reliable advice. For additional information, contact:

Wood Energy Technical Training Inc at 1-888-358-9388 or fax at 1-416-968-6818 or email at info@wettinc.ca

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