

STAYING SAFE

CHIMNEY SAFETY AND RELINING GUIDE

**PREMIUM
FOREVER FLEX**

FOREVER FLEX
Stainless Steel Chimney Lining System

HYBRID
CHIMNEY LINER SYSTEM

ARMOR FLEX
HEAVY DUTY FLEXIBLE LINER

DEALER INFO

THE PROBLEM: DANGEROUS CHIMNEYS



This chimney may look fine on the outside, but what about the inside?

Home Safety

Your chimney has a big responsibility. It carries toxic gas out of your home, and while doing its job, it must withstand constant attack by acid, creosote and extreme temperatures for years on end.

These conditions cause chimney damage and deterioration, and when that happens, your family's safety is in question.

With the real risks of carbon monoxide poisoning and chimney fires becoming house fires, venting is a serious responsibility.

Outside vs. Inside

Look at the picture on the left. Most people would not see anything wrong with this chimney.

But there is more to the story. On the inside, the chimney could be seriously damaged, and not be up to safety regulations.

Old vs. New

Old-fashioned chimneys were not designed to vent modern heating appliances.

Besides, no chimney lasts forever.

Read more to find out about what is going on in your chimney.



FURNACE FLUE



FIREPLACE FLUE

Because of the hostile environment, the inside of both flues of this chimney have deteriorated. Notice the cracked flue tiles (left) and the deteriorated joints and/or misaligned flues (right). According to code, both flues should be relined.

HOME SAFETY ANALYSIS

What's Happening in Your Home?



Disintegrating chimney



Cracked flue tile



Unlined Chimney

FURNACE FLUE PROBLEMS

(gas or oil)

The Furnace's Flue

High-efficiency furnaces do not waste energy by sending heat up a chimney. As a result, temperatures in the flue drop low enough to produce condensation. This water combines with acids in the flue to create acidic moisture. Clay liners are particularly vulnerable to this acidic moisture assault.

- Flaking plaster and/or peeling wallpaper
- Staining on wall surfaces due to moisture
- Excessive moisture in gas or oil flues
- Excessive soot in oil furnace flues
- Chimney structure deteriorating
- Eroded or missing clay liner
- Carbon monoxide leaking into home
- Joint between flue tiles not sealed

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas. Sometimes an early warning is flu-like symptoms, but CO can cause brain damage and death with no warning. A damaged furnace flue poses a real threat of carbon monoxide poisoning, because this gas can escape through the smallest crack. Also, a partial or complete collapse of the clay flue liner can block the flue, and quickly fill the house with deadly gas. Sadly this tragedy occurs in homes across the country every year.



According to the Centers for Disease Control and Prevention (CDC), over 400 Americans die every year from accidental carbon monoxide poisoning that is not fire related. Accidental carbon monoxide poisoning also accounts for more than 20,000 emergency room visits, and over 4,000 hospitalizations. (Source CDC, March 2018)

(For demonstration purposes, illustrations show most possible symptoms of a damaged chimney. Your chimney may not have every symptom, and still need attention.)



CONDENSATION LEAKAGE

The condensation has migrated through the chimney causing staining damage to home interior and chimney exterior



CHIMNEY STRUCTURE DISINTEGRATING

This has been caused by acidic moisture in the flue



IMPROPER CHIMNEY DRAFT

Caused by flues which are not properly sized for the heating appliance.



IMPROPER CLEARANCE

There is not enough clearance to the framing of the house

FIREPLACE AND STOVE FLUE PROBLEMS

(wood, pellet, etc)

The Fireplace's Flue

This flue is servicing a fireplace, wood stove, pellet stove or other solid fuel appliance. It may have undergone a chimney fire, or have been connected to an improperly vented appliance, misused wood stove, or exposed to excessive moisture. A damaged flue brings the dangers of fire and carbon monoxide poisoning.

- **Cracked or missing tiles**
- **Eroded brick and mortar**
- **Excessive or glazed creosote**
- **Joint between flue tiles not sealed**
- **Flue tiles not aligned properly**
- **Improper chimney draft**

Chimney Fires

Chimney fires happen when creosote builds up in the flue and ignites. These fires can rage at temperatures up to 2000 degrees and roar just inches away from your home. The intense heat alone can bring surrounding materials to the flash point, and ignite your home. Also, sparks from the fire can find their way through small cracks in the liner and quickly turn a chimney fire into a house fire.



During the period of 2011 – 2015 there were an estimated annual average of 16,810 home structure fires involving fireplaces, chimneys, and chimney connectors, resulting in an estimated 30 deaths, 90 civilian injuries, and \$262 million in direct property damage per year. Failure to clean was a factor contributing to the ignition of 71% of home structure fires involving fireplaces, chimneys, or chimney connectors. (Source NFPA, December 2017)

CLEARANCE
enough
the wood
e home.

■ **CRACKED OR MISSING FLUE TILES**
This can lead to carbon monoxide leakage and a higher risk of a home chimney fire.

■ **UNLINED OR DAMAGED CHIMNEY STRUCTURE**
This can lead to carbon monoxide leakage and a higher risk to the home from a chimney fire.

■ **DOWN-DRAFTING OR SMOKING CHIMNEY**
Caused by the unsteady draft of an improperly lined flue.



THE SOLUTION: OLYMPIA CHIMNEY LINERS

All Olympia chimney liners feature the Industry Exclusive **Forever Warranty™** that is transferrable to the next homeowner!

All Olympia chimney liners are tested and listed with Underwriters Laboratories Inc to (UL1777).

All Olympia chimney liners exceed the standard for chimney safety and can withstand a 2100° chimney fire and still maintain structural integrity.



**PREMIUM
FOREVER FLEX™**

Manufactured from certified 0.005" thick 316ti Stainless Steel with Titanium.

Features a 7-ply seam, which is air and water-tight.

Available as pre-insulated which increases performance by producing a better draft and reducing condensation.

Ideal for chimneys with offsets.



FOREVER FLEX™
Stainless Steel Chimney Lining System

Manufactured from certified 0.005" or 0.006" thick 316ti Stainless Steel with Titanium.

Features a 7-ply seam, which is air and water-tight.

Available in AL29-4C Alloy for use with high-efficiency gas and oil applications.



HYBRID
CHIMNEY LINER SYSTEM

Manufactured from certified 0.010" thick 316L Stainless Steel.

Features a smooth interior for less turbulence.

Available as pre-insulated which increases performance by producing a better draft and reducing condensation.



ARMOR FLEX
HEAVY DUTY FLEXIBLE LINER

Manufactured from certified 0.015" thick 316L Stainless Steel.

Features a smooth interior for less turbulence.

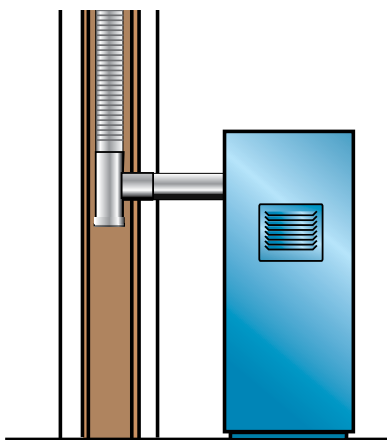


**PREMIUM FOREVER FLEX
AND HYBRID AVAILABLE
AS PRE-INSULATED**

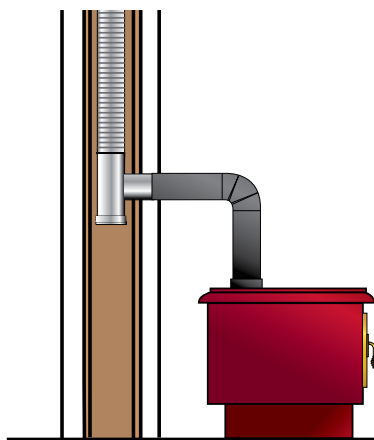


OLYMPIA RELINING SYSTEM

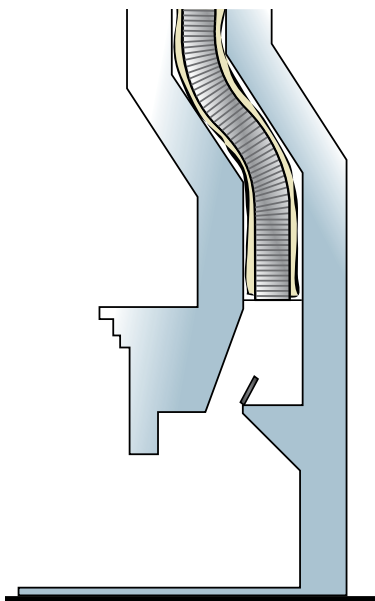
the solution for every chimney



**FURNACES AND
WATER HEATERS**

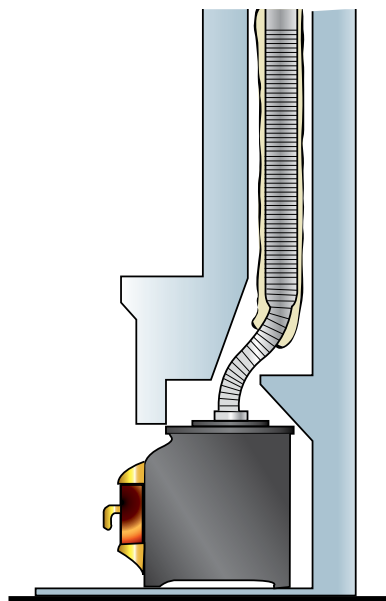


**WOOD STOVES AND
PELLET STOVES**



FIREPLACES

Our highly flexible liners can fit around the twists and turns of masonry chimneys



FIREPLACE INSERTS

Liners can be custom shaped to fit through tight damper spaces that exist in fireplace inserts. Wood and coal installations require insulation.

FAQ FREQUENTLY ASKED QUESTIONS

Why is my chimney breaking down?

The primary culprit in chimney breakdown is the acidic moisture that comes from condensed flue gases. This acidic moisture attacks the chimney from the inside.

That is why a chimney may look good on the outside, but the inside can be a totally different story! Years of normal use with hot and cold cycles and seasonal weather conditions all take their toll on a chimney.



Damaged flue: Notice the moisture and the missing piece of flue tile.

Where does the moisture come from?

Did you know that for every cubic foot of gas burned, two cubic feet of water vapor is created? That is a lot of water! How can this water vapor affect your chimney?

Water vapor always travels up your chimney - it is only when flue gases drop to 120°F that condensation begins. When water vapor condenses, rain clouds form and it literally rains in your chimney! Countless drops of acidic moisture soak the flue.

This is more of a problem now than it was in the past due to modern, high-efficiency furnaces. High-efficiency furnaces, as their name indicates, extract more heat from a given amount of fuel than conventional furnaces, and less heat is lost up the chimney.

However, since less heat is sent up the chimney, the temperature in the flue is often below 120°F. The acidic "rain" happens frequently, and the flue seldom has a chance to dry out. Herein lies the side effect of high-efficiency furnaces: excessive acidic moisture in the flue. In turn, this acidic moisture wreaks havoc on terra-cotta flues and masonry.



This crack may be small, but it could open as wide as 1/4 inch when the flue is overheated.



What is the big deal with a few cracked flues?

It happens thousands of times each year. Damaged chimneys equal disaster. Carbon monoxide quietly leaks unobserved through cracks in the flue lining and into the home. Even small amounts can make you and your family sick. The risk of a chimney fire turning into a house fire is another serious risk. There are two ways that a chimney fire can ignite your home:

- 1) A chimney fire is like a huge torch, and the flames can escape through cracks in the flue tile and then through cracked mortar in the surrounding brick, and directly set your house on fire.
- 2) Chimney fires can rage at temperatures upwards of 2000 degrees. This extreme heat can bring structural materials surrounding the chimney to a flash point, and just by heat alone, can ignite materials in your house.

A few cracked flue tiles is serious business!



A crack like this can allow deadly gases to leak into the home, and can open the way for a chimney fire to turn into a house fire

Olympia Chimney Supply Inc. Making America's homes safer with high-quality chimney and venting solutions since 1999.



Olympia's commitment to manufacturing high-quality products begins with choosing the finest raw materials. We use only prime stainless steel from the best steel mills. These raw materials are then transformed to finished chimney pipe and liner in our state-of-the-art 225,000 square foot manufacturing facility in Scranton, PA where we produce over a million feet of chimney liner annually.



Olympia continues the commitment to quality by working with the world-class testing and listing agency, Underwriters Laboratories (UL). UL not only tests our products to its high safety standards; their factory inspections ensure that each system produced continues to measure up to their high standards, post production.

Olympia works closely with national safety institutions such as the Chimney Safety Institute of America (CSIA). In addition, our affiliations with industry organizations such as the National Chimney Sweep Guild (NCSG) and the Hearth, Patio and Barbeque Association (HPBA) keep us at the forefront of understanding and meeting the venting challenges of modern heating appliances.

Many things have changed over the past 20 years but our mission stays the same, to make America's homes safer with high-quality chimney and venting products.



Manufactured by

LYMPIA
CHIMNEY SUPPLY Inc.

The information contained herein is correct at the time of publication;
we reserve the right to alter specifications without prior notice.

LIT_FFBR0_6-18