



November 2007: Fall Fire Prevention by Fire Chief Shane Warner

Many of us, who have been raised around woodstoves and fireplaces, take it for granted that everyone knows how to prevent catastrophic damage such as a structure fire. In my last article I wrote about fire prevention in general terms. In this article I would like to be more specific because fall is upon us. I would like to talk about chimney, or a better term would be flue fires, wood burning appliances, and what to look for when you purchase wood to heat your home.

I would like to explore the physics behind the creosote build up in most chimneys or flues. Heated wood releases hydrocarbon gases. When these gases get hot enough, approx. 1100 degrees F, they mix with air and catch fire. When woodstove or fireplace fires smolder, unburned gases condense and deposit on the stovepipes and the flue as runny acids and liquid tars then harden into creosote. Both a cool flue and steam from green or wet wood encourage this condensation. Pressed logs are not a good option because of creosote and heat issues. They produce much more residue, sooty deposits, in the flue than wood fires. Creosote can appear as any of the following: a sooty powder, a gummy mess, a hard glaze, or a deposit that looks like burnt marshmallows.

I recommend that everyone have their woodstove and flue inspected by a certified chimney sweep professional at least once a year. This will reduce the chance of a flue fire and also let you know, as a homeowner, that your woodstove, piping, flue cap, and screen are in good working order and that bricks and mortar are in good repair.

If you have a flue fire you can try to prevent the fire from growing, as well as extending into the attic or roof, by throwing a glass of water directly on the fire which will flash into steam, rise up into the flue, inhibit oxygen and snuff out the fire. This should be done in conjunction with turning down the air damper on the front of the stove and closing the doors. This will help keep the fire in the flue and in most cases put the fire out. Get everyone out of the house and keep them a safe distance away. Call 9-1-1 so the local fire department will respond to check for any extension of the fire in the attic and on the roof.

Once the fire has been put out the chimney or flue should be serviced by a professional to clean and inspect the flue and assess the damage. Your chimney or flue may need to be repaired and relined to make it safe. Do not light another fire in the woodstove or fireplace until you have had the flue or chimney professionally inspected and repaired. To prevent a flue fire a homeowner should burn smaller, hotter fires using seasoned firewood with a good draft and never air-starve the fire. The heat will quickly warm up the flue and increase the draft, while volatile gases burn up in the stove.

An open flue is an invitation to trouble, and sometimes disaster. A flue cap will keep out leaves, critters and birds and protect your flue from the effects of the weather. Rain coming down an open flue mixes with soot or creosote causing unpleasant odors and deterioration of flue walls. It can run down into the stovepipe, stove, fireplace insert or propane stove, where it causes rust damage. It can also rust out the damper. A flue cap can also prevent flaming balls of creosote from spewing out onto your roof if there is a flue fire. Without a flue cap there is a greater potential of a roof fire depending on the roofing material and how well the homeowner has performed yard maintenance by cleaning gutters, pine needles and leaves from the roof.

Another cause of structure fires is careless handling of wood ashes from the fireplace or wood stove. Wood ashes are amazing in their ability to hold heat for several days after a fire has been extinguished. Use a small metal shovel to transfer ashes to a metal bucket with a bail handle. Take it outside and place on bricks, concrete or in a cleared area away from brush, bushes or trees for a couple of days. Never dispose of ashes in a cardboard box or use a vacuum to clean out the fireplace or woodstove. Even minuscule embers can ignite from the draft generated by a vacuum.

I would like to leave you with a few helpful hints when purchasing firewood this season. Firewood should only be purchased by the cord and not by the truckload or by the half or quarter cord. A cord of wood is 4 feet high, 4 feet wide, and 8 feet long, or 128 cubic feet. The most common wood length for woodstoves is 18 inches and fireplaces will usually accept 24 inch lengths. Wood for burning in a woodstove or fireplace should be dry to burn with maximum efficiency. Dry means the wood is aged. When a tree is cut down the wood is green. Depending of the specie, it can take six months to a year of normal storage for wood to season. Hardwoods and softwoods are chemically similar. The difference is density. Hardwoods, being denser produce a longer lasting fire. Softwoods make good kindling. A telltale sign that wood is seasoned are loosened bark, and darkened, dried out and cracked log ends. Well seasoned logs will be lighter in weight than green or partially seasoned logs. Expect to pay more for well seasoned wood.