



COLD CLIMATE HOUSING RESEARCH CENTER

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ENERGY FOCUS

Chimney Safety

By Ilya Benesch, Building Educator at CCHRC

With winter on the horizon, the wood burning season is starting to gain momentum and all indications are that it will be the busiest in recent history. This brings up the topic of chimney safety. Since people in Fairbanks primarily use factory built insulated metal chimneys, the focus of this article will be on this particular type.

Now is the best time to inspect your chimney. Once winter hits, attics and roofs will be a lot less accessible. A thorough visual inspection can be done by anyone. This involves examining the chimney wherever it is accessible, especially inside the roof. On the outside of the pipe, look for dents, missing screws or bands, rusted metal, discolorations, separations between sections, and any other abnormalities. Perform the same inspection inside the pipe, with a powerful flashlight and a mirror if necessary. The pipe should be clean and smooth, with no defects or build up.

Insulated metal chimneys usually fall under one of two or three common brands and should have an ID label and a rating. Call or visit your local building supply stores to find who carries specifications for your brand of pipe. Product information is available on line too. Pay close attention to the required clearances from the pipe to any combustible surfaces, especially inside the roof. Improper clearancing is where many fires get their start. There should be no insulation touching the pipe, even if it is rated as noncombustible, unless specifically approved by the manufacturer. Insulation that is installed closer than the minimum air space allows is a serious fire hazard. Attic insulation shields separating the chimney pipe the proper distance from combustible materials inside the roof, are a standard off-the-shelf item. They can also be manufactured by local sheet metal shops for special applications.

There is another reason to maintain proper pipe clearance. If the chimney is less than the required distance from the framing, pyrolysis can occur. Through constant exposure to temperatures as low as 250 F, the chemical composition of wood can change, dropping the ignition point several hundred degrees. Every time the chimney passes through a floor or ceiling it must be surrounded by a fire stop to limit air flow from one level to the next. Typically this is done with factory supplied metal plates or trim rings that maintain proper clearances to the framing and other combustibles in between the levels.

On the roof, the chimney cap should be in place to control sparks and prevent water from entering the pipe. There are some general rules for chimney heights. The pipe should extend at least

three feet above the point it exits the roof, and at least two feet above any wall, ridge, roof, or adjacent building within 10 feet. If it is more than ten feet from the peak, you should be able to measure down two feet from the top of the chimney and ten feet horizontally in any direction without contacting the roof. This is considered a minimum -- greater heights may be necessary for draft and safety reasons. Check with the manufacturer for specifics relating to your application.

Make sure the chimney is protected from sliding snow, particularly on a metal roof. Snow stops, bracing, or crickets may need to be placed anywhere impact damage can occur. If you are installing a new chimney, be sure to inform your insurance company as their policies may require notification and inspection.

On a final note, if you are unsure of your chimney's history, age, or condition, err to the side of caution. Chimney sweeps and wood heat installation specialists can be good resources for questions and inspections. If you plan to burn a lot of wood this winter in an old untested chimney, a professional inspection and some new pipe may bring you a lot of peace of mind – instead of an emergency visit from the fire department.

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