

### **Safe tips and tricks that can help you stay warm when your furnace can't keep up**

People will be cold and tragedies will occur when extreme cold grips area homes. The safety of people you care about may depend on understanding what is happening in the home and having the solutions to the problems caused by record lows.

The first issue is that a furnace that is properly sized by today's mandated energy standards for your area can't keep up in extreme cold weather.

The second problem is that there will be people who cope with that fact by doing at the very least unhealthy things and more probably unsafe things to make at least one room in their home safe. The freezing weather will cause carbon monoxide poisonings, house fires and other tragic and avoidable stories that will be in the news.

#### **Why your furnace is destined for failure in extreme cold weather**

Furnace sizing efficiency calculations are based on local weather, the house design and construction materials. Imagine you are picking out which coat you will wear. If it is 40 degrees out, we need a jacket that will keep us warm at that temperature. If we wear that same light weight jacket in minus 20 degree weather, we can't stay warm. Your furnace is sized for the expected weather conditions, not record lows

The energy people want the furnace to be sized so that it will run most of the time at a steady rate. When furnaces that turn on and off to quickly, they allow too much heat to escape out the chimney between cycles.

#### **Safely create a single warm room in your home**

The horror stories that make the news are usually because of unsafe attempts to create a single warm room. Using a stove or space heaters with inadequate or unsafe wiring are common hazards. Fires caused by spills from kerosene heaters are another example. All of these things are known to be unsafe, but people desperate to get warm will do them. There are some better solutions.

***Select the room that will be your "warm room", the place you hunker down. Take a two tract approach by protecting that room from heat loss and shifting heat from the rest of house to the "warm room".***

#### **Use a nifty trick to move more heat to your "warm room"**

When your furnace is not keeping up, it is not that your furnace isn't making any heat. It is that there is not enough heat to heat all of the home. Think of it like you were trying to get a 2 man hot air balloon off the ground with a hair dryer. That simply will not happen. Change the goal to getting a small toy balloon off the ground with a hair dryer and you will succeed. The point here is to concentrate the furnace heat in a smaller area.

Clean or change your furnace filter. Dirty filters can dramatically reduce the heat production ability of a furnace. You need that furnace to "be all it can be."

One possible solution is to cover 10-25% of the surface of each register or radiator in all of the rooms outside of the "warm room". Understand that these tricks should not be a long term

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solution because this can cause a new set of furnace maintenance problems. Do not make the mistake of closing too much or too many registers. If air flow is too restricted in a furnace, it can become overheated and safety controls will shut the furnace down.

If you have hot water heat, put blankets over some of the registers in those other rooms. When you “insulate” radiators outside of the “warm room” the boiler water stays warmer and can better heat the “warm room”.

A safe space heater could also help. Do not place space heaters near flammables, or use any extension cords. Do not use worn or damaged units or worn cords. Do not fill kerosene heaters in room. Oil filled heaters tend to be the safest units. Heaters with exposed glowing wires are generally the least expensive, but least safe.

**The other side of the warmth equation is to cut down the heat loss in your “warm room”.** Close your window blinds if you have them.

Place blankets over the windows using the curtain rods. Blankets greatly reduce window heat loss.

Drape blankets or plastic in the room openings such as doors and doorways.

If you can cover windows in areas outside of your warm room, do so. When you reduce heat loss for anywhere in the entire home, you help your warm room.

Figure a path to the outside that does not require opening an exterior door in or near the “warm room”. As an example, if you pick the living room, your way out of the house should be the basement.

#### **Needed prevention in the rest of the home**

When you have cut down heat to the rest of the home, you need to have concerns about freeze protection in the lower heat areas. For detailed information about protecting your home from freezing, go to <http://www.pittsburghmoldtesting.com/FrozenPipesArticle>

If you need to leave the home, turn off the main water valve to the house. If your pipes freeze, turning off that valve could avoid costly, unpleasant and inconvenient water damage and mold remediation.

Bring your CO detector into the room you're trying to heat.

#### **A Final Word**

If you know a senior or other person who has difficulty keeping their home warm, look in on them and lend a hand.

Go to [www.Enviroinspect.info/FurnaceNotKeepUp](http://www.Enviroinspect.info/FurnaceNotKeepUp) for more information and links to important references and information sources

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