



## Not all air filters are created equal

Forced air heating, ventilating and air conditioning (HVAC) systems require effective air filtration for optimum energy efficiency, maintaining clean(ish) ductwork and good indoor air quality. Air filters should be changed regularly. How often they need changing depends upon a number of factors including, but not limited to:

- Presence of pets that shed
- Amount of carpeted versus hardwood floors
- Use of wood-burning supplemental heat sources
- Presence of cigarette smoke

The air inside our homes is full of particles originating from inside and outside sources. As the name “forced air” implies, conditioned air is blown into the house through ductwork. In order to operate efficiently, the air supplied is returned to the system for reconditioning, taking with it all the particles in the air and the occasional “tumbleweed” of pet hair that many of us are familiar with.

This junk-laden air flows through a filter before encountering the HVAC equipment. For cooling, there is usually an A-frame arrangement of what looks like car radiators. For heating, it is generally a combustion chamber. Without a filter, the cooling coils would get clogged and the heating side would burn off whatever was in the air. Air filters trap a lot of debris that otherwise would end up back in the house, stuck in ductwork, clogging HVAC equipment – or in our lungs.

There are many options available when looking for filters. Fortunately, they can be broken down into two nicely defined categories, making the selection process manageable. The two are:

- Permanent or disposable
- Flat or pleated media (with a handy MERV rating)

Disposable are the most prevalent. Some in the flat media group look like they will stop only particles larger than a golf ball. They have flimsy cardboard frames and a thin, flat mesh you can easily see through. While they are cheap, don’t waste your money. Your HVAC system and lungs deserve better.

Pleated filters perform better using media you cannot see through. While they look impervious, air can move through under pressure leaving its airborne cargo trapped.

MERV is the rating system that tells you how effective a filter is at trapping particles. Standing for Minimum Efficiency Reporting Value, it’s a measure of efficiency. The scale runs from one to sixteen (higher is better) and is based on trapping particles 3-10 microns in diameter. Research shows that residential filters with a MERV rating between seven and thirteen are likely to be as effective as true HEPA (high-efficiency particulate arrestance) filters. This class of filter is used in clean room manufacturing and at the extreme end can trap particles much smaller than the diameter of a human hair, as small as 1 micron.

So, should you jump in and grab a supply of high MERV filters? Not without some research. All



## *Manager's Message*

*By: Mark A. Suggs*

### Electric Bills Affected By Weather Patterns

Electric bills vary with the seasons, driven by weather and consumer use patterns. Weather matters. When it's cool outdoors, family members generally want the house warm. When it's warm outside, air conditioners make living areas pleasant.

How much weather affects your electric bill depends on many factors, including your home's original construction materials, insulation, and air leaks. Personal comfort plays a role too, as does the difference between the thermostat setting inside and temperatures outdoors.

When a house stays at 68 degrees Fahrenheit, but the outdoor temperature varies from being in the 30s in winter to more than 100 degrees on a muggy summer's day, demand for heating and cooling can be significant. Cooled air leaving a home essentially wastes the money spent to cool it. The same is true for air a homeowner has paid to warm.

R-value offers a way of measuring insulation's effectiveness (a higher R-value indicates more effective insulation). For example, on a 28-degree day, heat loss from a residence set at 68 degrees could hit 2,464 BTU per hour even through an 8 ft. x 10 ft. exterior wall packed with R-13 insulation. Reverse the situation on a scorching day - 100 degrees outside-and heat gain indoors will still reach 2,464 BTU per hour.

To save money, set your thermostat five degrees closer (higher in summer, lower in winter) to the outdoor temperature, this simple change could result in a savings of 90 watts per hour of electricity, about 197 kilowatt-hours (kWh) in three months.

Keep blinds and drapes on the sunny side of your home closed in summer and open in winter. Find mysteriously "hot" or "cold" spots in the house and solve them by installing gasket seals around outlets and weather stripping along doors and windows, replacing old windows, and upgrading insulation. When practical, adjust landscaping to provide shade for your property in summer and sunlight in winter.

Weather doesn't have to play havoc with electricity bills. There are a variety of tools, appliances, and resources available to solve all sorts of energy challenges. Improvements such as new windows or a roof, require significant financing. But there are a lot of options that are inexpensive and simple enough to do yourself. Find more ways to save at [www.TogetherWeSave.com](http://www.TogetherWeSave.com).



## *Holiday Cooking Safety Tips*

The kitchen is the heart of the home. Sadly, it's also where two out of every five home fires start. Many home fires occur during what's supposed to be the happiest time of the year - the holidays. Thanksgiving, Christmas and Christmas Eve hold a tradition of cooking, and safety should always be considered in the kitchen. As we embark on the holiday season, Pitt & Greene EMC and the Electrical Safety Foundation International (ESFI) urge you to use these simple safety tips to identify and correct potential kitchen hazards:

- \* Never leave cooking equipment unattended, and always remember to turn off burners if you have to leave the room.
- \* Supervise the little ones closely in the kitchen. Make sure children stay at least three feet away from all cooking appliances.
- \* Prevent potential fires by making sure your stove top and oven are clean and free of grease, dust and spilled food.
- \* Remember to clean the exhaust hood and duct over your stove on a regular basis.
- \* Keep cooking area around the stove and oven clear of combustibles, such as towels, napkins and potholders.
- \* Always wear short or close-fitting sleeves when cooking. Loose clothing can catch fire.
- \* To protect from spills and burns, use the back burners and turn the pot handles in, away from reaching hands.
- \* Locate all appliances away from the sink.
- \* Plug countertop appliances into ground fault circuit interrupter (GFCI) - protected outlets.
- \* Keep appliance cords away from hot surface like the range or toaster.
- \* Unplug the toaster and other countertop appliances when not in use.
- \* Be sure to turn off all appliances when cooking is completed.

For more important safety tips to keep you and your family safe this holiday season and through-out the year, visit [www.esfi.org](http://www.esfi.org).



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filters increase resistance to air flow. HVAC systems are designed to operate at a particular pressure and should support MERV ratings of one to four. A higher MERV value increases resistance, making the system work harder. It loses efficiency and increases wear on operating components.

So, how do you decide which level of filter to use? If you have your system's operating manual or can grab it online, check for recommendations. Otherwise, go with a decent (MERV three to five) pleated filter and check it once a month to see how it is performing. Also check to see if the dust inside abates.

Spend a little more and breathe a lot easier with a regular schedule of air filter replacement. A simple change that pays big dividends.

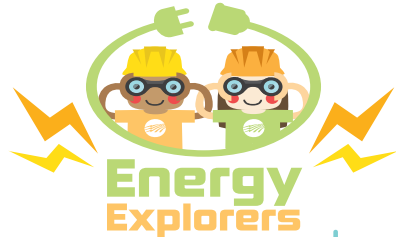
***Pitt & Greene EMC***  
***will be closed Friday, January 1st, for New Years and***  
***Monday, January 18th, for Martin Luther King, Jr. Day.***

**Reminder.....**

*Colder weather has arrived, have you thought about what your heating system is set on? For example, if you have the thermostat set on 73, the system will come on more to keep it that desired temperature than if you have it set on a lower setting. The colder it is outside the more your heating system will run to keep your home warm. Which will make your utility bill higher. So when you receive your utility bill and it is higher than usual, remember the colder weather outside and what your thermostat was set on inside.*

# WINTER WONDERLAND WORD SEARCH

Can you find all the words associated with winter in the puzzle below?  
Use the word bank to check your work.



## WINTER ENERGY EFFICIENCY TIP:

Instead of turning up the heat in your home, wear an extra layer of clothing or get cozy under your favorite blanket!

## WORD BANK:

- snowflake
- mittens
- scarf
- snowball
- chilly
- icicles
- cocoa
- earmuffs
- fireplace
- blanket

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