

Michael Dandurand, P.E.
637 East Willow Street
Gardner, Kansas 66030
www.RoyalInspectionsKC.com



Foundation Certifications
FHA / HUD Certifications
Engineering Consultations
Licensed in Missouri & Kansas

PLEATED AIR FILTERS



The primary purpose of a filter is to keep the furnace and air conditioner clean. We recommend using pleated air filters in your heating and cooling systems. Pleated filters should be changed approximately every 3 months to maintain efficiency in the HVAC unit. Properly changing the air filters on a regular schedule can save you money on blower maintenance or repair, utility costs, cleaning costs and improve the overall health of the air in your home. Dirt bypassing the filter can accumulate on the blower causing it to become unbalanced and potentially wear out bearings. Dirt accumulating on the heat exchanger can cause irregular heating and cooling of the metal, causing cracks in the heat exchanger.

The biggest problem with poor filtration is that dirt can accumulate on the bottom of the evaporator coils in the air conditioner, and restrict air flow through the coils. We do not recommend cheap fiberglass filters; they do not filter efficiently and allow significant amounts of small particles through which can damage HVAC components.



We recommend purchasing four filters at a time and labeling them JAN, APR, JUL and OCT to help you remember when it is time to change them.



We recommend writing the air filter size and air flow direction on the side of the duct near the filter for ease of use. This filter is next the blower motor housing and the arrow should point towards the unit horizontally.



Some filters are installed diagonally and the airflow is down the return ductwork in the vertical direction.



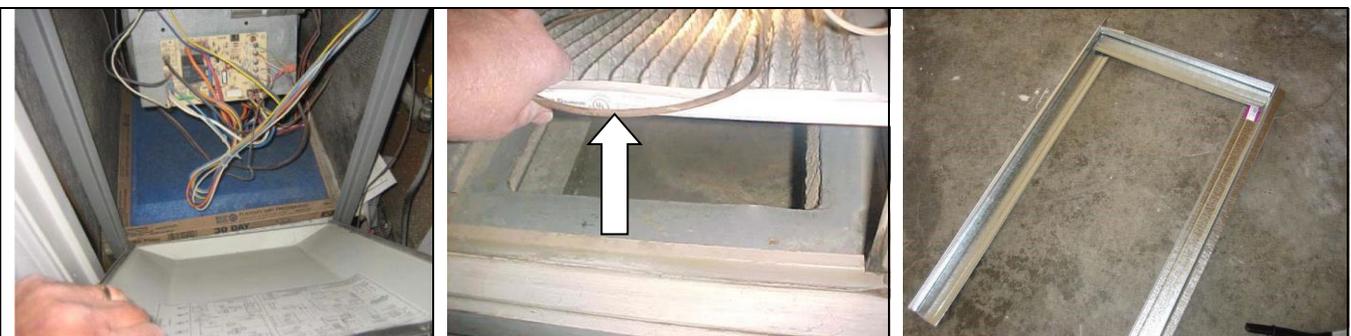
There is a ledge that the filter sits on for the diagonal filters, it is important to set the filter properly on this ledge.



Some filters fit into the duct work without providing an edge to grasp for removal. I recommend using a piece of duct tape on the end which will provide a tab to grasp for easier removal.

Generally, using the middle or lower range pleated filters is recommended unless someone in your home is susceptible to allergies or smaller particles. More expensive HEPA type filters are great for smaller particulate filtration however they restrict air flow through the furnace which can cause excessive wear on the components and increase your utility bill. It may seem simple, but about half of my inspections identify an air filter installed backwards or even so dirty that the pleated section is bowing inward. I have seen them so bad that the blower motor pulled a filter into the furnace.

You might remember from the inspection report that we expect the cooling differential across the coils to be between 15° and 21°. If the temperature difference is more than 21°, it's usually due to restricted air flow. Air passes through the coils slower because they are dirty, therefore the air remains within the coils longer, and the air gets colder.



With an up-flow furnace, the filter can be located in the blower motor cabinet.

It can be difficult to remove and insert the filters due to access and filter brackets.

You can create a filter tray out of bent sheet metal or drip edge flashing.