



by **John Michel**  
Vice President - Service/Remodel  
**Haller Enterprises, Inc.**

# indoor air quality

*for the health of it*

**T**he EPA has noted that people are now spending more than 90 percent of their time indoors. Advanced construction and renovation techniques create tighter, more efficient houses. Better housing brings many benefits, but tighter houses tend to trap airborne allergens and debris, creating indoor air that may be more polluted than the air outside.

## Indoor Air Pollutants

There are many types of possible pollutants that can affect the indoor air quality in the home, and some that may not be obvious.

- environmental tobacco smoke—also known as second-hand smoke
- stoves, heaters, fireplaces and chimneys
- biological contaminants—airborne infectious illnesses, mold and mildew
- household products such as paints, cosmetics, cleaning and hobby products can release organic compounds during use
- building products

## Effects of Indoor Air Pollutants

Many of the immediate health effects of air pollution are related to the respiratory system and vary greatly based on an individual's sensitivity and amount of exposure. Symptoms can range from irritation of the eyes, nose and throat to dizziness, fatigue and asthma. Since many of the symptoms can be similar to colds and other viral diseases, it may be helpful to pay attention to the time and place that symptoms occur. If symptoms fade or disappear when away from home, only to begin again upon returning to the home, air pollution may be a potential source. Symptoms may be further aggravated by an inadequate supply of outdoor air or from the heating, cooling or humidity conditions in the home.

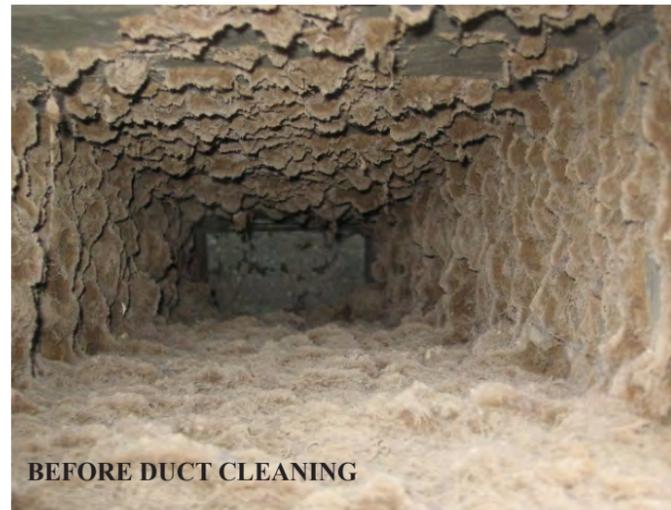
## Take Control of your Indoor Air Quality

One of the first suggestions to reducing indoor air pollutants is to reduce or eliminate the sources of pollution. This can include steps such as smoking outdoors instead of inside, cleaning the house regularly, ensuring exhaust fans vent to the outdoors, having your fireplaces, heating system and

any fuel burning appliances checked annually and following household chemical label instructions carefully.

Another important factor to consider is ventilation. While we all want to make sure our houses are not drafty and appreciate the energy savings of an air-tight home, there must be a balance of indoor and outdoor air to create a healthy environment. Humidity concerns go hand in hand with air flow. If air circulation is poor in conjunction with out of balance humidity, this can create a breeding ground for biological contaminants such as bacteria, mold, mildew, viruses and dust mites. Humidity is also about balance, as microorganisms such as bacteria and viruses thrive at both extreme dry and moist levels. Humidity is often a concern in homes with forced air heating systems. As the heated air is distributed throughout the home via ductwork, the indoor air tends to dry out in the winter. A whole home humidifier is one way to maintain the proper humidity level in the home. It is installed at the furnace or heat pump and humidifies the air as it enters the duct system, bringing the home's humidity to the appropriate level. A side advantage to proper humidity levels is temperature control. When a home is too dry it feels colder and the thermostat will need to be set higher to feel as warm as a home with regulated humidity levels. This, in turn, can reduce your energy costs.

Once a home is set up with the proper balances and air flow, it's time to talk air cleaning. One way to do a thorough cleaning is to look into a duct cleaning service. Duct cleaning is



not a service that needs to be performed every year except in the most extreme of circumstances, but may be a good idea if a family member is noticing aggravated allergy or other respiratory symptoms that may be attributed to indoor air pollutants or if you are replacing your furnace or heat pump.



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Duct cleaning during system replacement may also increase the life of your new system by reducing the dust and dirt that will be circulating through it.

The other very important piece to air cleaning is your system's filter. Most systems come with a standard 1" filter



# DUCT CLEANING

## What's Circulating in Your Air Ducts?

90% of homes have shown indoor air quality issues\*, and the EPA ranks indoor air pollution as one of the top 5 environmental health risks. In addition, there are 55 million allergy and asthma sufferers in the U.S.† With growing concerns about the air we breathe indoors, more and more homeowners and building managers are making improvements by having air duct cleaning service performed.

- Dust
- Mites
- Pollen
- Dust
- Pet Dander
- Dirt Debris

## Top 10 Reasons to Have Air Ducts Cleaned

1. Installation of a new high efficiency heating and cooling system—you don't want to blow dirt and debris through a new coil
2. Aggravated allergy or asthma symptoms
3. Pet dander accumulation
4. Reduction of interior dust
5. Ducts and furnace have been inactive for two or more years
6. Rodent or other pest infiltration
7. Microbial growth inside
8. Odors from ducts or furnace
9. A video inspection shows dirt and debris in ducts
10. Routine maintenance to improve indoor air quality

\*Air Advice State of Our Indoor Air Report 2007.  
†CDC Fast Stats from Summary Health Statistics for U.S. National Health Interview Survey, 2004.®

that should be changed monthly. Many homeowners opt to upgrade to a 5" media filter which should be changed about twice a year, sometimes longer. The media air filters capture a much wider range of indoor pollutants and will also do a better job of protecting your heating and cooling system. It is important that all filters are changed when



5" Media Air Cleaner

needed. When the filter is full it doesn't perform as it should and it restricts airflow, making your system work harder than it should. This can have a direct impact on system life and energy costs.

### Not All Pollutants Are Created Equal

Some indoor air pollutants require special attention. Asbestos, for example, should always be handled only by a professional when removing from a home or disturbing in any way. Lead is in the news quite often and breathing in disturbed lead can affect the central nervous system and is particularly harmful to children. Carbon Monoxide is another threat that can be in the air. Carbon monoxide (CO) is a colorless, odorless gas that can be a byproduct of fuel burning appliances such as heating systems, fireplaces, water heaters, wood stoves and space heaters. There are three things to know about CO.

- Know what to look for—symptoms can be as mild as headaches that disappear when you are away from home to nausea and dizziness. Unrecognized or at high levels, CO can cause mental confusion, loss of consciousness and ultimately death.
- Have your systems checked by a heating professional every year to ensure they are safe and working properly.

- Install a carbon monoxide monitor. A low-level monitor is the best, ask your heating professional for more information. CO has no odor or color, so a monitor is the only warning other than the symptoms themselves.



Low Level CO Monitor

Indoor air quality covers a wide range of issues which are specific to each situation, home and individual. There are several products on the market that can help reduce indoor pollutants and your heating contractor can help you determine what will be best for your family and home.

R&A

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