

## Indoor Air Quality

When buying a car, most people will test the heater or air conditioner to see how the quality of air will be in the vehicle. Yet most people don't consider indoor air quality when building a home. The EPA has rated indoor air pollution as one of the five most urgent environmental issues, accounting for over \$1 billion annually directed to health care costs. According to the American Lung Association, most Americans spend an average of 90% of their time indoors. Indoor air pollution exists in all homes to varying degrees. Sources of indoor air pollutants are gasses from: cooking, smoking, cleaning products, vacuuming, construction materials, and other volatile organic compounds. Pollutants from the outside can also contribute to poor air quality.

Radon from the soil can migrate into the home. Fumes from gas and diesel engines, and outdoor smoke can also migrate inside. People generally do not relate to the quality of their indoor air as much as they relate it to the outdoor air. *Indoor air is five to ten times more polluted than outdoor air.* A home is the largest investment most people make. There is no simple test for indoor air pollution. Problems are generally noticed when someone has an allergy problem, a reaction, or becomes ill. Meeting the minimum building code will address these items to a certain degree. However building codes, which are written as if every house was the same, require the very lowest of amount of air exchanges or home tightness as predetermined by the government as being acceptable. Building codes are the very least of construction standards. There is a lot of room for improvement beyond building to minimum code requirements. It is of little satisfaction to the home owner if their new home, which was built to minimum building code standards is not comfortable or healthy. To feel healthy and comfortable, people need clean air. There are two ways to get fresh air into a house. The first is by uncontrolled drafts and leaks in the house. The second is by controlled ventilation. With uncontrolled ventilation, comfort, moisture control, mold issues and energy savings are compromised. In addition, very little of the air entering a house from uncontrolled leaks actually reaches the occupants in the volume needed, and what does is often sporadic. With a tightly sealed home, ventilation can be controlled. A tight home is more comfortable. Moisture that is associated with air leakage is reduced, making the possibility of mold growth less likely. With controlled ventilation, indoor air pollutants are diluted and removed from the house. The reduction from pollution from power generation will also mean cleaner outdoor air.

Often the response to building a tight and efficient house with an air exchange system is that the house is already too expensive. What does it cost? Everything costs: carpet, appliances, windows, dishes. The savings from building a tight, energy efficient house with a controlled ventilation system begins the day you move into it. Having clean air to breath and good health is more important than the other things we put into a house. Many homeowners spend much more time selecting the colors of paints than they

do on selecting ventilation and insulation choices. Controlled ventilation is fundamental in modern construction techniques.

By investing in high-quality, properly installed insulation and ventilation, we can control the air entering and leaving our homes; we can live in a healthy environment; and improve the health and comfort of our family members.