

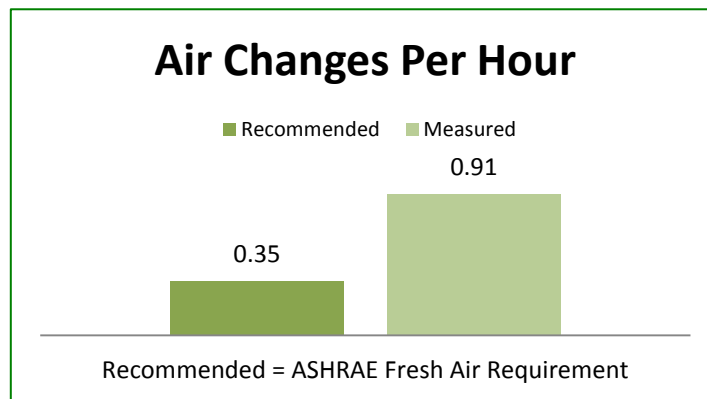
6 ENVELOPE AIR INFILTRATION

Warm air leaking into your home in the summer and out of your home in the winter wastes lots of energy and draws moisture into unwanted areas such as wall cavities. One of the most effective action steps to make your home more energy efficient and healthy is to make your home as air and vapor tight as possible by caulking, sealing and weatherstripping every hole, nook and cranny that is accessible. Surprisingly since the following is typically one of the first do-it-yourself projects, weatherstripping your windows and doors is not nearly as effective as sealing your ceiling to the attic or your floor to the crawl space. You should never insulate any area of your home without first air sealing the surfaces that will be surrounding the insulation. Warm or cold air allowed to enter an insulated area diminishes the effectiveness of the insulation.

	Data	Status
CFM50	7200	Needs Attention
ACH50	15.65	
ACHn	0.91	
N Factor	17.2	
# Top Flr Rec Lights		15
Stairs Over Uncond		Needs Attention

	Data	Status
Location Blower	Front Dr	
Ring Used	A	
Recommend ACHn	0.35	
Style Rec Lights	Non IC	Needs Attention
Stairs to Attic/Bsmt		Not Applicable

Chart Description: CFM50=Cubic feet per minute or air infiltration with blower door running; ACH50=Auditor Data; ACHn=The number of air changes per hour with home at natural state. The recommended air changes is .35 which equals one full air change in a home every three hours; IC=Insulation Contact style recessed lights. If non-insulation style, insulation can not touch light which creates a void of insulation. Stairs Over Uncond=Stairs over unconditioned areas such as a garage - concern is area under stairs may not be airsealed/insulated.



6.0 Blower Door Testing - General Comments

The air infiltration test identified you have high leakage. The recommended infiltration equals a complete air change of air in the home once every three hours. Your home air change (ACHn) is once every hour. Highly recommend a complete air sealing package to reduce infiltration along with its effects of moisture intrusion, drafts and higher energy bills.

6.1 Garage Zonal Testing - Connection

Diagnostic testing indicates that the garage is very connected to the main body of your home. This means that air from your garage, including carbon monoxide from your cars, may easily enter your home. Recommend focused air sealing at this junction.

6.4 Attic Stair Cover

Homeowner indicated an interest in installing drop down stairs in place of the existing attic hatch. Recommend installing an Attic Stair Cover if the stairs are installed.

6.8 Recessed Can Lights -Attic Covers

Recommend installing "tents" over any recessed can lights penetrating the ceiling.



6.11 Thermal Bypass General

Noted there are several bypasses where hot or cold attic air may enter conditioned area. One example is the space beside the metal flue - this area needs to be sealed with metal flashing and high temperature caulk. Also noted large bypasses surrounding the fireplace chimney. These and other areas will need to be sealed with a complete air sealing package.



6.14 Bonus Room Floor Joist Blocking

Investigation found that there is currently no blocking underneath the sole plate of the bonus room kneewall which will allow hot or cold attic air in the side attic area to flow freely into the floor of the bonus room. Recommend sealing these areas. However, the longest wall is resting on top of a joist so it appears there will only be a few bays which need sealing.



6.16 House to House Stairs

Noted that the airspace inside the home when walking from the downstairs into the stairwell to the bonus room appeared colder than the rest of the home. I felt the cold even though the outside temperature was not particularly cold. Further investigation uncovered that the area underneath the stairs is insulated but not airsealed and covered with appropriate backing material. You can see this area by looking into a hole I made in the wall in the garage against the stairwell wall. Thermal imaging confirmed this by showing many cooler areas (blue/pink) on the stairs. Recommend removing a section of drywall in the garage to access the area and air seal and back up the wall and under the stairs with Thermoply.

