



SAFE-HOMES

ENVIRONMENTAL CONSULTANTS SINCE 1991

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Attic Air Leakage With Recessed Lighting Fixtures©

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Recessed Lighting Fixtures were designed to add aesthetic appeal to your home. They come with a variety of trim to make them appealing to the eye. The only problem lies in the fact that



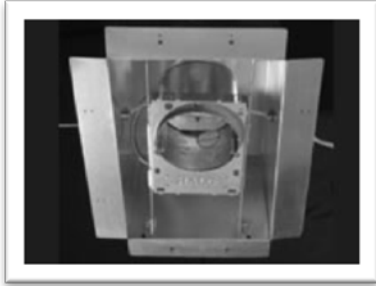
the old style in homes can cause a serious problem in Indoor Air Quality. We have tested hundreds of existing recessed housing fixtures and found that they all have a tendency to allow hot and humid air from the attic to intrude into the home. If you look at the housing you will understand why this takes place. See Photo on Left. Looking at the fixture and you will see slits in the side. On this particular fixture, you see the holes on the side. If you look at the Photo on the right, you will see additional holes in the electrical connection box. If you add up all the available holes in the fixture, you will get an approximate figure of 2 to 3 inches of

air leakage in each fixture. Once you add up the total number of recessed lighting fixtures in a house, you can tell the client the size of the hole in the ceiling.

It is common to find a minimum of 20 to 50 of these fixtures in a home. The hole in the ceiling surface can amount to 40 inches on the low side to 100 inches on the high side. If you want to test yours, get a hygrometer, turn it on, remove the light bulb and stick it inside the fixture (make sure the light is off) while the Air Conditioning unit is cycled on. Upsetting isn't it; to discover you have been wasting all that money to Air Condition part of your attic's air.

From an Energy Savings point of view, you are wasting a lot of money because of this air intrusion of hot and humid air. These lights are a serious source of higher





energy bills, drafts and higher humidity inside your home. This situation is quite common and it identifies a definite weak link on a chain when it comes to conserving energy.

I had one client who could not figure out what was causing her allergies in her home. They installed special air filtering equipment over a period of two years and nothing helped.

After we tested the recessed lighting fixtures in her home, she changed them out, her allergies in the home ceased. By the way, this is a 5000 square foot house with 95 fixtures in the ceiling. If you add it up, she basically had a 190 inch hole in the ceiling. Remember; look up when you are diagnosing Indoor Air Quality problems for individuals with Allergies or Asthma.

The solution to this problem is installing the new sealed, fire rate recessed lighting fixture on the right. This fixture is available from Thomas Lighting Inc. Website:

<http://www.thomaslighting.com>. The other option is to install some of the aftermarket products. A good example is from EzBarrier Inc. Website: <http://www.ezbarrier.net>

which is the picture on the left. There are after-market units available in your local Home Depot, Lowe's or local electrical supply also. These units upgrade to Led Lighting that make them sealed surface mounted units.



My personal choice will always be the safest for the occupants in the house from an Indoor Air Quality perspective. Remove the recessed light and install ceiling mounted lighting. They come in many different styles but all have one thing in common. No hole in the ceiling to worry about concerning Indoor Air Quality or spreading fire in your home thru the holes. If you decide to solve your problem, always hire a qualified Electrical Contractor to do the work that is licensed in your area and that does the work under a Permit.

In conclusion, fixing this problem is important especially from an Indoor Air Quality point of view. Saving money on you Energy Bill will be a secondary benefit. I always look at things from a heath benefit view. Whatever you decide to do: Do It Now! If you have any questions, feel free to call us at (954) 531-6476