

COLUMN FOR SEPTEMBER 10, 2005.  
HEADLINE; INSULATION FOR AN OLDER HOME

*Q; We realize we must improve our energy costs but my home is over 75 years old. What is the most cost efficient kind of insulation that a homeowner can do in an older home?*

A: There are three main types of insulation on the market today. Fibreglas insulation, which has been the standby for many years, now has two major competitors. Urethane foam is available in both rigid board and spray form. A professional insulation company should install urethane foam. The rigid foam board can be homeowner installed and has the advantage of not being effected by dampness. This material is often used below grade on foundations. The other competitor is Loose Fill Cellulose, which can be purchased in bags or commercially sprayed. Some rental companies do offer the sprayers for homeowner installation of cellulose. While there are advantages to both, cellulose is usually similar in cost to fibreglass and not as expensive as urethane.

Cellulose has risen in popularity over the past few years for a number of reasons. Cellulose is a “green” product. Depending upon the manufacturer it can be produced using upwards to 80% recycled newspaper. It usually contains borate, which is designed for resist fire, insects and mould. Cellulose is safe, while it is paper the treatments done during manufacturing provide a fire resistance and I am not aware of any insurance issues. I am also not aware of any building code issues either; I often see this used in new homes. In an older home cellulose has the advantage that it creates an air barrier, all be it not as efficient as a plastic wrap as is used in new homes, it is more effective than fibreglass. Fibreglas relies on creating a dead air space where as cellulose will compact and help reduce the amount of air leakage in an older home.

Once installed this insulation has an R-value of about 3.5 per inch. In an older home attic a layer of 8-9 inches will be close to an R-32 factor, ample for this age. Cellulose will compact around wires, plumbing and any other openings. I suggest our reader rent a blowing machine for this job. Establish what the coverage you will need and then calculate the number of bags you will have to buy; your building supply store should be able help here. This job requires two people, one to load the hopper and one person on the end of the hose. It is a dusty job, a proper mask is essential and I would wear gloves and goggles too. Most machines have the capacity to adjust the air balance, try to get this where the material comes out of the hose cleanly, but not fluffy as it will settle and reduce your insulation factor. This is also the time to look at your attic ventilation. Installation of baffles at your eave areas is a good idea. Opening up your soffits to allow a clear air flow thru your attic and out your roof vents will also help relive some ice dam conditions that are common in older homes. If your walls need to be insulated, this is where I would call in the pros if you decide to use cellulose. They are usually equipped to carefully remove siding or drill holes to blow in this material. Understanding building sciences and framework is important here.

Our reader’s home is resting upon an older block foundation and installing the rigid foam is the best alternative. It is a known fact that in most homes where the basement is not insulated, this can allow up to 25% of the heat loss thru the basement walls. There are adhesives that allow foam board to be glued directly to the blocks. If the older walls are not even you may find using a concrete screw called a tapcon will be needed. They do not require a metal anchor. I suggest you purchase some large washers along with the tapcon’s. They come with the required drill bit in most packages. Check the washers to make sure the hole is not too large for the screw head. You will need a good drill for this job too. Use a “W” pattern for the tapcons, space them out, they are not hold a lot of weight. Once you have the foam board installed, seal all of the joints with a good grade of urethane sealant. This is available in cartridges. Take your time to fit the foam board snug; large gaps will reduce its effective insulation value. One final note, cellulose will soak up and retain water; keeping your roof free of leakage is important.

Now the answer to last week's question. The answer was A) a tailpiece is a short rafter or joist supported on one end by a header. Now this week's question. What is a temperature rod? Is it A) a testing tool used water analysis. B) Small steel rods embedded in concrete to reduce cracking. C) Hollow metal tubes driven into the ground to evaluate soil temperatures. The answer in next week's column.