COLUMN FOR JUNE 11, 2005.
HEADLINE; INSULATION; BATTS VS BLOWN

Q; We were told by our heating company that adding insulation would lower our heating bill. We live in an older home, what are our alternatives here?

A: I contacted our reader who lives outside of Ottawa. I wanted to know the age of the home and they told me it was built in the '30s. This means it could be either a balloon frame home or any early platform frame. The reader did go into the attic and found there was a very thin layer of mineral wool. There is a reasonable chance that they have the same thing in the walls. By 1937 this was produced in a paper bag format and in my former life I did see this in walls from homes of this era. I advised the reader to contact the local EnerGuide Evaluator and make an appointment for their home. This is an excellent Federal Government program for older homes and newer ones too for that matter. The evaluator does an energy analysis on the home; there is some financial support from the government available to help with any recommended upgrades. It is not a large sum but every dollar helps provided you follow the evaluator's recommendations.

There are two main kinds of insulation used in walls and ceilings of most Canadian Homes. They are Cellulose and Fibreglass. Cellulose is produced from recycled paper and borates. Borates are fire retardant and comprised of two chemicals, borax and boric acid. These are very common chemicals, often found in soap and cosmetics. Fibreglass on the other hand is made of sand, boron, and recycled glass materials. At one point fibreglass contained formaldehyde but most manufacturers have stopped using this today. Cellulose is loose fill insulation and comes packaged in bags. It can be hand poured or installed by blowing it into attics and wall cavities. The blown installation is the most common, as it allows for better consistency and more even coverage. Cellulose forms itself to the cavity; this generally eliminates any voids or air pockets if installed correctly.

Fibreglass is available in either loose fill or batt form. The batt form is cheaper than blown and this is often the reason new homebuilders install it in the wall framework. Blown installations have pretty much taken over in attics. The largest issue with batts is they are meant to be installed as a friction fit. If they do not fill the cavity this leaves air gaps resulting in heat loss and in some cases entrapment of moisture. Fibreglass in either loose fill or batts is fire retardant and will not rot or decay. When sprayed in it also does not settle like cellulose. Fibreglass gets it insulation value from the dead air space it traps, whereas cellulose gets its thermal value from the density of the product. This is also why we recommend cellulose in an older home. Blown insulation of either kind does a better job of insulating around wiring and plumbing vents in an attic.

I suggested the reader get three quotes from reputable insulation contractors. Take the time to study the quotes and pay special attention to the number of bags to be installed. They should be able to blow the new insulation right over the existing material. I would however ask the installer to insure the original insulation is fitted tight in the cavity. Unscrupulous installers can install the insulation at a lower density by adding air, this allows water to collect and improper drying can cause a list of problems to the home. I often get asked which insulation has the most insulation value or "R" value as it is known. The commonly accepted rule of thumb is a foot of insulation is around R40. In actual fact a foot of cellulose correctly installed is nearly R45. 12 inches of fibreglass batt material correctly installed is closer to R46. Blown Fibreglass is similar in thermal value.

Spray Urethane foam insulation has been making inroads into the housing industry. This is more expensive to install and requires a skilled installer. I had the opportunity to see this installed in a century home north of Kingston last winter and the installer filled the wall studding and the rafters. They then shaved the excess off before the drywall was installed. This surprised me as I had read this affected the air barrier values. I have since heard of a product called Icynene foam that allows the excess to be trimmed. If you elect to go this route, do your homework here, as this is a new method. I can see urethane foam used in certain applications but the contractor should be very reputable and knowledgeable on his product and installation.

I have a supply of books called "Keeping the Heat In". This is an excellent book on insulation, ventilation and do-it-yourself applications. If any of my readers would like a copy, drop me e-mail to cam@alltechconsultinggroup.com and we will mail one out to you. Now the answer to last weeks question. What

is a ribbon? The answer was A) a narrow board set into studs to support joists. This was one of the methods to support a second floor in a balloon frame home. Now this week's question. What is a cap? Is it A) a type of cover for plumbing drains. B) The upper half of the plate on a frame wall. C) A concrete form used on top of a brick or masonry chimney. The answer in next week's column.

Cam Allen L.I.W. RHI is a former builder/contractor.