Insulate and celebrate
By Rob Paddock

The good news in South Africa is that 95% of the time, when we build walls, we build "cavity" brick walls consisting of two "skins" separated by a hollow space. This serves two purposes, firstly, it prevents moisture from penetrating from the exposed outer wall to the inner wall, and secondly, the cavity itself helps in insulating the building by acting as a thermal break between the two skins. It is possible and even advisable for individuals that really want to "go green" to further insulate existing cavity walls, but in South Africa, we have the insulation of our walls reasonably sorted already.

Hold on, don't pop the champagne just yet, what about the roof?

After all, the roof takes the brunt of the exposure to sunlight and elements. With the ever-rising costs of electricity, insulation is becoming increasingly important for home owners' in South Africa. The numbers vary, but it is generally accepted that insulating your roof efficiently will make it up to 10°C cooler in summer and 5°C warmer in winter.

Heat will always flow from a warm area to a cold one. The colder it is outside, the faster heat from your home will escape into the surrounding air. Insulation makes it much more difficult for heat to pass up through your roof by providing a layer of material which has lots of air pockets in it. In summer, without insulation your roof will act like a heater warming up your entire home. The installation of insulation will prevent the warm air from getting into the home through the roof as well as keep the cool air inside. In winter, the insulation will prevent the majority of the warm air from rising up through the roof.

Very often older homes and cheaply-built modern homes will not have any insulation in the roof. If you have access your roof attic, pop up the ladder and see if you have any form of material on top of the ceiling boards. If not, then your roof is not insulated, and you are spending far more on heating in winter and cooling in summer than you should be.

If there is some form of insulation in your roof, it is advisable to hire a professional contractor to inspect the quality and efficiency of the existing insulation. Unfortunately in many cases, the roof will be insulated, but not correctly.

If there is not any insulation in your roof, there are four primary forms of roof insulation materials to choose from. Namely; fiberglass, cellulose fibre, spray foam and aluminium foil sheets.

Fiberglass is probably the most widely used insulation material in South Africa. It is easily recognisable as it is generally pink in colour and looks like a big roll of carpet. Always check that the fibreglass has not been compressed in hard-to-fit areas, between pipes and narrow woodwork, as the insulating abilities of the fibreglass is greatly reduced once it has been compressed.

Cellulose fibre insulation is made predominantly from recycled paper that has been treated with chemicals to prevent it from burning and to repel insects and rodents. It does not rot and if it gets wet, it will be just as effective once it has dried out.

Spray foam roof insulation is applied directly to the interior of the roof and it expands to fill the gaps between tiles and trusses to prevent the ingress of water and insects. It does not absorb moisture, so it's thermal properties do not deteriorate if it is exposed to moisture.

Reflective roof insulation systems are comprised of aluminium foil sheets. These are applied directly to the underside of the roof tiles or metal sheeting. In summer it reflects external heat

back into the atmosphere thus helping to keep the building cool and reducing air conditioning costs.

With the savings on your monthly energy bill in your back pocket, it is time to celebrate, so invite your fellow sectional title scheme owners (even the one you had words with at the last AGM), pop that champagne and have a party!

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