

# Paper Trail

**In Cape Town, a successful sustainable business initiative accepts old newspapers from recyclers and converts them via a low-energy milling process into dry fibres, resembling cottonwool. Once treated with an environmentally-friendly fire retardant, the material can be safely pumped into the roof above the ceiling.**



Jaco Prinsloo of Zema Builders in Mossel Bay with Glenn Mennie, Eco-insulation sub contractor at Hartenbos

**I**n the roof it mats together and provides a thick layer of stable insulation 75 – 140 mm deep. This acts as a barrier to the entry of heat in summer and to the exit of heat from the building in winter. The product is fire-rated and carries SABS approvals, as well as manufacturing compliance with ISO9001-2000.

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## Waste paper

Operating over the past two years, Eco-Insulation, has consumed in excess of 650 tonnes of used paper waste. According to the City of Cape Town, each ton of paper waste recycled means three square metres of landfill space saved.

The collection of waste paper is often an income source for the unemployed since vendors are paid for the waste paper bought by Eco-Insulation.

Founder Cecil Homan is excited about his enterprise, which already earned him a Western Cape Productivity Award in 2006. Cecil says the average temperature inside a building during the peak of summer can be reduced by as much as 10 to 12°C using Eco-Insulation.

He explains that recycling paper waste into insulating material provides a lower embedded energy solution than recycling it into writing material, which benefits the environment.

## Cellulose insulation

As a pumped-in cellulose fibre ceiling insulation, Eco-Insulation complies with a number of internationally-accepted benchmarks of performance and quality. Cellulose insulation is popular in the UK and the USA.

When cellulose is blown dry into the walls and ceilings using a specially designed pump, it assumes a fluid consistency that facilitates the flow literally into every nook and cranny. This is an extremely important characteristic of the product, says Cecil.

He adds that installers of other bulk-fill insulation types, including glass and plastic fibres can fail to achieve 100% coverage due to inaccessible areas inside the roof space, protrusion of rafter and other objects. "This leads to hot spots in summer and cold spots in winter in the ceiling or cavity wall," he explains.

## Meeting R-values

Cecil adds, "Eco-Insulation also has a very low thermal conductivity, meaning that a much thinner layer is pumped in to provide the same R-value in the roof as many of the other products. The manufacturing process ensures that the product is resilient and immediately settles to the final installed thickness."

In South Africa, with its differing climatic regions, this is particularly important. The guidelines issued by the industry association, and also by leading academic institutions, specify different R-values



Roof interior - Eco-insulation is easy to install

for each of six climatic zones. R-values too high in a hot moist climate (such as KZN) lead to inadequate heat exchange from buildings at night, producing elevated temperatures.

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In cold, dry winter climates, such as on the Reef, R-values that are too low are inadequate to prevent the escape of heat from the building. This is often the case when DIY or budget grades of insulation of low R-values are inappropriately fitted. "This is further aggravated by the hot or cold spots mentioned before," adds Cecil.

### Facilitates the flow literally into every nook and cranny

#### Eco-friendly benefits

According to Cecil the choice is simple: "Eco-Insulation offers natural climate comfort at an affordable price. Our product is fully fire-rated, so there is no spread of flame. Household, developers, architects or quantity surveyors can install a product made 100% from locally-sourced recycled newsprint.

"During manufacture, this recycled material is milled and treated with an environmentally-friendly fire retardant. In addition, the product does not contain toxic additives, plasticisers or processing oils, making it one of the most environmentally-friendly options available on the market.

Yesterday's reams of newsprint with all the dramas, exposes, the latest bribery and corruption scandals is put to good use by being recycled to provide insulation material.

*Cecil Homan, Eco-Insulation, Tel: (021) 555-3766, Email:*