

Rodwell House in St James, Cape Town, where Eco-Insulation was installed to stabilise demand for heating and cooling
(Photograph Gareth Griffiths Imaging)

Demystifying the specifying of insulation

Significant electricity price increases are a reality in South Africa whilst at the same time the country grapples with the issues of supply-side shortages and demand-side management to meet the country's green agenda.

Much has been said about the need to reduce energy consumption in buildings. Trade associations, such as TIASA – the Thermal Insulation Association of South Africa, exist to promote just one passive measure alone – the insulation of buildings. Forecasts predict an enormous potential in the building market for the retrofitting of insulating products and in new building projects, boosted by the launch of SANS 204.

This means the fitting of insulation products into existing walls, roofs and even floors of buildings and is big business for insulation suppliers. Yet there is still a large degree of uncertainty among the specifying community.

- Which products to specify for optimal cost/performance?
- How to specify products that are deemed sustainable?
- Assurance that installation procedures are correctly followed and not overridden during the construction phase – leading to underperformance.
- Is the material safe for occupant, installer and environment?

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The product is made from recycled material and is biodegradable

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An interesting recent case history provides a valuable insight for specifiers and designers: Rodwell House in St James, Cape Town is the type of five star guesthouse frequented by serious and well-heeled international and local tourists.

Being close to the sea and east-facing, the building receives an early morning dose of the sun, but goes into the shade early afternoon when the sun slips behind the Kalk Bay mountain that forms part of the Silvermine section of Table Mountain National Park. It therefore experiences movement of heat both into and from the building, depending on the time of day.

Heating and cooling has hence always been a concern for the management of the establishment, since the building has a high-pitched roof with more than 400m² of ceiling above the main first floor section of the complex alone. Air conditioning had been installed in early years and this was proving expensive to operate.

Following the energy-efficiency push by both local government and electricity utility, it was decided that insulation placed in the most appropriate place under the roof would be the best solution to cool the escalating energy costs.

Although the installation was set to be done during a planned major refit, management wished to minimise disruption of the roof and ceiling areas owing to delicate refurbishments taking place in the rooms below, and the rapid onset of the Cape winter.

Professional insulation contractor, Richard Ellis responded to the call and evaluated the situation. According to Ellis, he recommended recycled cellulose fibre thermal insulation without hesitation.

Among other things, he is a trained and approved Eco-Insulation agent/installer, and is one of a professional group of subcontractors for the brand nationwide who are available on call.

Ellis is adamant that Eco-Insulation was the natural choice to meet the needs and concerns of the sustainable building designer or professional. He is responding to an increasing number of calls to install the product due primarily to the following reasons:

- Eco-Insulation supports very strongly the cradle-to-cradle approach. The material is made from totally

recycled material, newsprint, which may be continuously recycled as insulation, or even returned to the earth, where it is biodegradable.

- Eco-Insulation gives excellent cost-performance benefits – the best thermal resistance values in its material class versus total installation costs.
- The HSE/safety performance of Eco-Insulation is outstanding. It contains no noxious adhesive, binders or other chemical that can silently emit from the substrate, compared with many commonly used composite and fibrous materials – plastic and glass. This means a safe environment for both installer and occupant. The product is treated with an inert and environmentally friendly fire retardant. It is rated by approved test laboratories B/B1/2, meaning no spread of flame. Test methods are in line with SANS 10177 parts 5 and 10.
- Installation is extremely simple and effective. The company offers a turnkey service, outsourcing the entire problem of sourcing and installing with maximum efficiency. Due to the nature of the process, Eco-Insulation achieves 100% coverage of the area being treated. The loose bulk nature of the cellulose fibre means that the product assumes a fluid-like flow while being pumped, spreading to virtually every nook and cranny above the ceiling. Following this it quickly mats together and stays in place.
- Quality of the installation falls under a warranty issued by the approved installer. The manufacturer and marketer of Eco-Insulation has a rigorous training and induction process for approved installers and the process is SABS approved.

Special care goes into the training and equipping of Eco-Insulation's agents, given the high profile of the company as recipient of the Southern Africa Energy Efficiency Association's "Company of the Year Excellence Award 2008". Company founder and chief executive, Cecil Homan, prides himself on the rapid growth of this excellent enterprise which readily complies with major national quality and building standards.

"The company has been prepared for SANS 204 since its inception," he tells us. "SANS 204 refers to Energy Efficiency in Buildings and its implementation will ensure that building projects of the future will complement the nation's green energy goals," says Homan. ■