

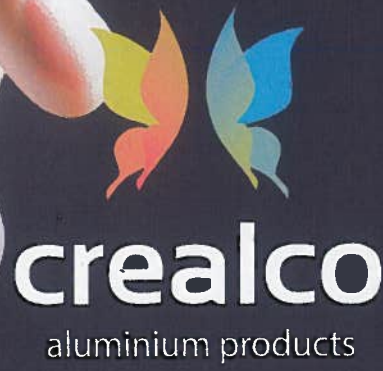
Architect

& SPECIFICATOR



The official magazine of the AAAMSA group

Sept/Oct 2014



EPS rejuvenates city projects
360 degree of Cape Town
Career in veg, cars and construction
Architects lose ground to interior design



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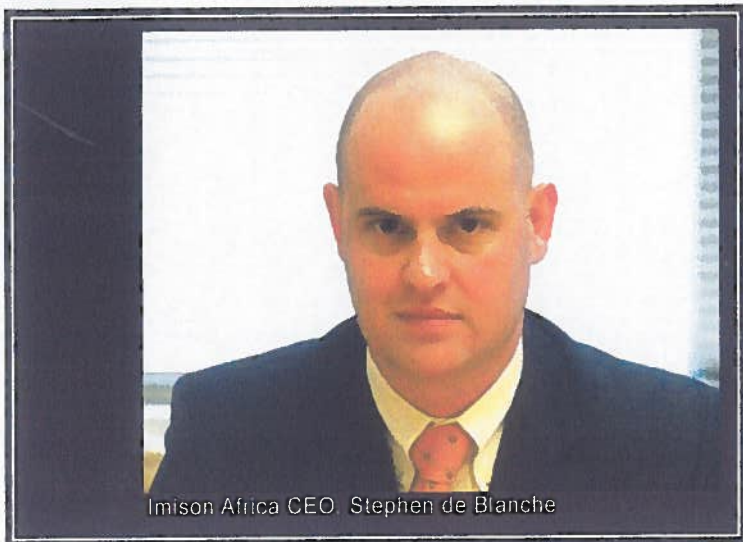
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Rejuvenating Jozi's Inner City

An innovative walling system utilising interlocking, graphite-infused, expanded polystyrene (EPS) panels is being used in exciting new inner city rejuvenation projects to convert old office buildings into modern apartment blocks in central Johannesburg.



Imison Africa CEO, Stephen de Blanche

One of the current developments, called Bosman Place, requires some 20 000m² of completed walling. Due to the speed of construction facilitated by this technology, the project will be completed well ahead of schedule. A similar project, called Dan's Place, was completed some time ago.

"The Imison walling system is comprised primarily of a series of interlocking wall panels, made from Neopor, arguably the best walling insulation technology available to the construction industry today. Imison wall panels are manufactured in licensed manufacturing plants across the globe under strict quality control guidelines, to ensure a consistent standard," explains Imison Africa CEO, Stephen de Blanche.

Neopor is made up of small black beads of polystyrene (EPS) containing particles of graphite and a blowing agent, which makes it expandable. BASF developed and produces this material, which is processed by foam manufacturers into insulating materials for a wide range of different applications. These materials offer greater insulating performance and up to 50 percent lower use of materials than conventional EPS.

"The infusion of graphite lifts the insulation properties of the EPS and gives it a distinctive charcoal grey colour, instead of the usual white, and has been specifically developed for construction," adds Stephen.

Benefits of the walling system

- **Energy Efficiency:** A 140mm wide wall has an R-Value of 3.7. These walls have a very low thermal mass which reduces internal temperature fluctuations. The superior insulation benefits offer up to 80% reduction in energy as independently tested and reported by the CSIR.
- **Speed:** Projects are completed faster as a large part of the system is pre-fabricated, resulting in a dramatically-simplified construction processes.
- **Affordability:** There are many savings over conventional construction systems as elements typically required by other walling systems, are completely eliminated. No specialised equipment is required for assembly, transport costs are lower and there are fewer moving parts.
- **Strength:** The majority of fixtures can be initially mounted or retrofitted without the need for additional blocking inside the walls.
- **Reduction in maintenance cost:** Door knobs, chairs, and guest belongings will not penetrate the walls.
- **Light weight:** Kilogram for kilogram, these walls have unparalleled strength.
- **Additional benefits:** Acoustic performance, fire resistant, dry rot immune, water/moisture, mould and mildew resistant, and termite and pest impervious.

Precision manufacturing

In order to ensure the quality of the finished product, only authorised, licensed manufacturing facilities can produce the panels and only certified installers can purchase and install the proprietary materials and equipment.

Isowall SA and its affiliate Isolite, is South Africa's licensed Imison walling system manufacturer with factories in Pretoria, Cape Town, East London, Port Elizabeth and Tema, Ghana.

The product contains an in-situ light gauge steel or concrete sub-structure wall panel that can be installed onto any type of foundation or floor slab.

Finish

Once erected, the panels are sprayed with a 20mm to 25mm reinforced structural plaster called Fibrecote, to provide a finish that looks and feels like conventional brick and mortar.

Office-to-apartment conversions

When office buildings are converted for other uses, such as apartments, the dry-walling is removed and the developer then has a choice of replacing the walls with bricks, new dry-walling or alternative light-weight EPS technologies.

"One of the advantages of our walling system over bricks is that it is extremely light, so there is usually no need to structurally reinforce the building," explains Stephen. "Typically, our wall weighs around 100kg per square metre plastered, compared with upwards of 280 kg per square metre for bricks and mortar.

"A 140mm wide wall has an R-Value of 3.7. A typical brick wall has an R-Value of below 0.5. Imison walls have a very low thermal mass which reduces internal temperature fluctuations. An added advantage is its security features as this solid wall is difficult to break through unlike dry-walling."

To provide a finish that looks and feels like conventional brick and mortar

Urban regeneration

The Bosman Place project saved the owner money due to the speed of construction, reduced wastage, reduced site clearance costs, reduced energy running costs and a massive weight saving. This is the third large-scale, inner-city walling project that Imison Africa has undertaken using this system, two of which were carried out for City Property, and Stephen believes there is scope for many more such applications as urban regeneration accelerates in Jozi and elsewhere.

The Maboneng district for example, a privately-developed urban neighbourhood on the east side of Johannesburg's CBD, is now a fully-fledged thriving community. The district is home to several independent retail, restaurant and entertainment venues as well as loft apartments, offices, hotel and a museum in a connected urban environment.

Commercialisation

Although the Imison walling system is not new, having been developed approximately 20 years ago, the current owners of the technology saw the opportunity to buy the patents from the inventor in 2008 and proceeded to refine the system for commercial use. "Once this was done, we took it to the market and commercialised the technology. The result is many structures across Africa and we now also have offices in Mexico and the USA," Stephen concludes.

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The interlocking, graphite-infused, expanded polystyrene (EPS) panels used in the project are a distinctive charcoal colour, unlike the snow white colour of standard EPS panels



The space is cleared prior to the installation of the walling system

