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**Now it's Burger King that opts for Light Steel Frame Building**

Many well-known fast-food franchisors have seen the light in terms of building with the light steel frame building (LSFB) method. The latest is the Burger King chain, which has used the method for its restaurant in Norwood in the northern suburbs of Johannesburg.

The restaurant was designed in-house by Burger King with the construction and civils given to the Silverline Group (SG).

"This was a turnkey project for us," says Charl van Zyl, CEO of Silverline Group. "We did the civil work, building construction and all finishes and even fenced the building".

Van Zyl adds that the fast-food chains are using LSFB because they support sustainable building methods as far as design, energy efficiency and the optimal use of natural light is concerned and because, by using LSFB, material wastage can be reduced by up to 30%, transport costs by 80% and the carbon footprint significantly reduced. "On top of this, the construction period required is significantly less than with traditional building methods, allowing the franchise to be trading that much quicker," Van Zyl says.

John Barnard, Southern African Light Steel Frame Building Association (SASFA) director, says LSFB is definitely much more energy efficient than more traditional construction methods – both with regard to "embodied energy" of the materials and components, as well as "operational energy" relating to heating and cooling of the building over its design life.

"A recent research project carried out by the CSIR indicated that a LSF building will require less than half of the energy needed to heat and cool a masonry residential building to comfortable internal temperatures," Barnard says.

Speed of construction is especially important to Burger King as they are new players in the fast food market in South Africa and they are currently planning to expand their South African footprint. In the case of the Norwood building the entire turnkey project took an incredibly short 12 weeks to complete.

The Burger King Norwood has total floor area of 300m<sup>2</sup> and both the internal and external walls were built using LSF. For external cladding, SG used OSB board, protected by a vapour permeable

membrane, with mesh and stucco plaster providing the durable external finish. Glasswool insulation is installed in the wall cavities, with fire-rated gypsum board used on the inside to achieve a perfect finish. "Insulation achieved on external walls on this building was R = 3.69, compared with 0.28 for brick and mortar," explains Gerrit Burger, Silverline Franchisee.

He adds that the building was plastered to achieve the required Burger King external "look", as specified in the USA. "One of our challenges was to get the right type of brick appearance for the bottom part of the building. These are not real bricks although they look like the real thing. Our solution was to customise the brick cladding and to clad it directly onto our plastered walls," he says.

A MITEK Ultra Span roof was designed by SG Engineering to enable a reduction in heavy steel columns and baseplates due to its longer span capability and the additional strength of the MITEK Light steel frame trusses. "The extension of the facades would have been very difficult and expensive to do in masonry or concrete, and LSF was the obvious choice in these circumstances," he says.

Burger says that there were very few hitches on this project: "Burger King's designs are perfect for LSF."

Is Burger King happy with the result? Well, the proof of the pudding is in the fact that SG is already on site in Brackenfell building the next Burger King outlet using LSF!

Watch this space!

Pics: FullSizerender (3) and IMG\_4229\_JHB\_05

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