

ClayBrick LCA Study Signed. Sealed and Ready for Take Off!

Dear ClayBrick Members,

I am so excited to be the one to tell you, that last Friday 01st February 2013, ClayBrick.org and the University of Pretoria officially made history through the signing of the agreement to pursue the industry **'Life Cycle Assessment for Clay Brick Walling in South Africa'**.

This comes after almost a year of meetings, planning, negotiations and preparation between Nico Mienie, myself, Howard Harris and Professor Karel Bakker, Dean of the Faculty of Architecture at the University of Pretoria, as well as Project Coordinator, Professor Piet Vosloo and Research Assistant, Greg Rice from the same department and what I must tell you is that there were times when getting this project off the ground was far in sight. But today I am a proud man on behalf of all you, our 'baksteenmakers.'

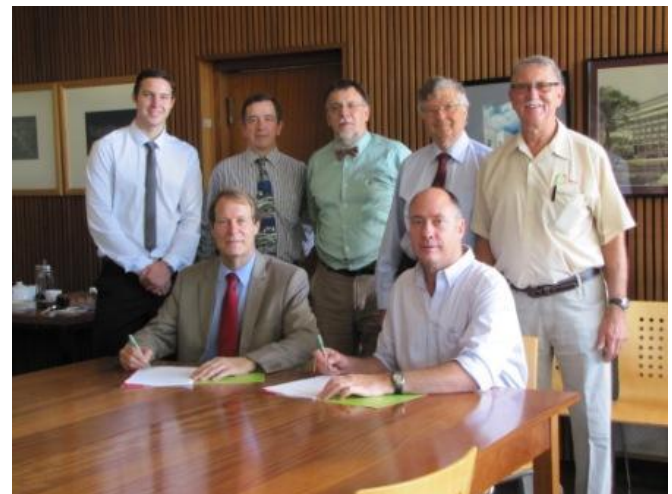
Today we can officially say that in terms of size, cost, duration and magnitude, we as ClayBrick.org along with the University of Pretoria, is set to pursue the first and largest research project of this kind ever in South Africa, which is also scheduled to be published as internationally recognised academic research.

As importantly, we are now set to put our money where our mouth is and benchmark Clay Brick as a 'green' building material in the construction sector. Through this Life Cycle Assessment, we will be able to calculate the overall environmental impacts of a Clay Brick building, from initial production to overall operation, in terms of energy usage, water consumption, resultant greenhouse gas emissions and recyclability, among others. The thermal performance of Clay Brick walling structures will also be compared to those built from other methods, like the LSFBS walling systems.

With the decisions of building material specifiers being more and more influenced by the societal need for long term sustainability, ultimately, the aim is to help you sell more Clay Brick products based on much needed credible research. What this research means to us as the Clay Brick industry is that we will be able to maintain the high ground when we talk about our Clay Brick products, particularly in a green building context, and bypass any potential of being labelled as greenwashing.



Nico Minie (right) checks all documentation with Professor Karel Bakker (left), while At Coetzee, Professor Piet Vosloo and Gregory Rice look on.



Officially signed and sealed by Nico Minie and Professor Karel Bakker with At Coetzee, Professor Dieter Holm (2nd right - back) as well as Professor Piet Vosloo, Howard Harris (2nd left - back) and Gregory Rice looking on.

This research project, which will be modelled against the Energetics Australian LCA study, due to our similar climatic zones and operational conditions, and is intended to be rolled out in two parts, i.e. a detailed Life Cycle Assessment of the Clay Brick Industry in South Africa (in accordance with ISO 14040 and ISO 14044 series of standards), with particular reference to the following Life Cycle stages:

- Clay extraction
- Brick manufacture
- Transport to site
- Construction on site, including the production of mortar
- Operational life of the building, including energy usage and other maintenance considerations
- Demolition and disposal
- Reuse and recycling of Clay Brick products

Whereas the overall aim of the research is to perform a Life Cycle Assessment on Clay Brick walling in South Africa, the specific objective of the first part will be to determine the environmental impacts the Clay Brick industry creates, and this is where we need your help.

Professor Piet Vosloo and his research assistant, Greg Rice, have put together a rather lengthy and comprehensive questionnaire, with emphasis on the production and operations of your respective brick plants. When you receive this document, or someone from the University contacts you, please can I ask you to put the time aside and give this your immediate and urgent attention?

I give my word that all correspondence will be treated with utmost confidence. In exchange for your support, we will reveal the findings of this research with suggestions, particularly with relevance to your company, to you for you to make use of in your marketing and other areas of business - keeping in mind that had you paid for this research independently, the cost to your company would amount to millions. So, I urge you, take advantage of this golden opportunity.

The questionnaire that is to be sent to you is to support the first part of the research that is intended to determine the environmental impacts the Clay Brick industry creates, in terms of :

- Energy use
- Greenhouse gas emissions amongst airborne pollutants
- Water pollutants
- Water use
- Environmental degradation



Ready to set the benchmark for Clay Brick through the LCA study are (front L-R) Professor Dieter Holm, At Coetzee, Professor Karel Bakker, Nico Minie, and Howard Harris. (back L-R) Professor Dieter Holm, Gregory Rice and Professor Piet Vosloo.



Set to change the face of the Clay Brick Industry through the LCA study are (front) At Coetzee shaking hands with Professor Karel Bakker, while Nico Minie, and Howard Harris (front -right), as well as Professor Dieter Holm, Gregory Rice and Professor Piet Vosloo (back -left) look on.



This first phase will also investigate current practices surrounding the reuse and recycling of Clay Bricks, and suggestions will be made regarding the value of reusing and recycling masonry units.

As part of the second phase, a thermal modelling study of Clay Brick will be undertaken, as well as other construction material structures, so as to compare their associated thermal performance. The designs for comparison will comprise of a 40m² house, a 130m² house, as well as a 130m² house and a small office design of ± 2000m². The wall constructions to be compared include:

- Double brick cavity wall (un-insulated)
- Insulated double brick
- Light steel frame
- 140mm hollow concrete block
- Timber frame clad with fibre board

Each of these construction methods will be analysed for each of the three designs, as well as across the six different climatic zones in South Africa, as per SANS 10400XA. Thermal modelling and designs will be based on current SANS 10400XA and SANS 204 building standards.

I am sure you will agree with me, that there are no words to describe the magnitude and dept of this research. Please give us your support, by merely answering the questionnaire and help us benchmark Clay Brick as the most sustainable building material through this significant 'Life Cycle Assessment for Clay Brick Walling in South Africa!'

You are also more than welcome to contact me should you have any questions.

Yours faithfully,

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