

PRESS RELEASE

CLAY BRICK SUSTAINABLY ENERGY EFFICIENT

ClayBrick 1 of 2

Providing safe, solid and reliable homes to South Africa's indigent remains one of the country's toughest challenges. While ClayBrick.org (ClayBrick Association) lauds the commitment of the Minister of Human Settlements, Tokyo Sexwale 'to provide better housing for all', the industry body is becoming increasingly concerned at the plethora of inappropriate building systems and construction methods being employed in mass housing projects under the guise of building 'sustainable homes' for South Africa's poor.

Sustainability refers to the design and construction of buildings in a way that meets the economic, environmental and societal needs of today and in the future.

"Today, not only does the choice of building material need to meet high performance specifications, it is essential that their impact on occupancy comfort, energy efficiencies and the overall environment, now and in the long term, forms part of the key determining criteria," says At Coetzee, Executive Director of ClayBrick.org.

For almost ten years, ClayBrick.org has petitioned for quality housing to be supplied to this country's disadvantaged communities, particularly in the Western Cape, after a flood of news headlines highlighted the failure of thousands of low cost homes, amid a huge housing backlog.

"It was quite evident that most of these faults were due to poor foundations, ill-fitting sub-standard components, and the use inferior building materials and sub-standard construction methods," says Coetzee.

"We launched an immediate appeal to the then Minister of Housing to urgently reassess the manner in which housing was being realised. We suggested the use of correct building materials and competent construction as the solution, as opposed to cutting corners with inferior products that would cost more in years to come," notes Coetzee.

"While government and the financial fraternity has made huge inroads in facilitating access to housing in the lower income sector, there are still concerns around the quality of construction and the drive forward in building long-term sustainable solutions," says Coetzee noting that South Africans tend to attach greater value to homes built with brick and mortar, as opposed to those constructed of other materials.

"ClayBrick.org does not necessarily reject the use of alternate construction methods in low cost housing developments, as long as they can be scientifically proven to sustain themselves and perform as well as a solid Clay Brick house built with double-skin walling systems," says Coetzee.

A double-skin walling system sees two separate walls with an insulation gap in between, to ensure that no moisture from the exterior is able to penetrate the interior of the home, and also provides superior energy efficiency by providing the correct combination of thermal capacity and thermal resistance. These walling system properties lead to interior conditions that are more stable and reduce the need for additional, and expensive, artificial heating and cooling energy.

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Research conducted on behalf of ClayBrick.org, has demonstrated double-skin Clay Face Brick walling to be the most economical and environmentally sound building material for low cost housing over the life of the building.

Coetzee says, "The Minister of Human Settlements has clearly stated that low cost housing must function to 'restore dignity to the people of South Africa'. This can only be achieved with a house that meets the basic needs of shelter, safety and security, at minimal cost, and one that people can attach a sense of personal wealth to – not just in the short term, but in the long term as well."

The study, undertaken by WSP Green by Design, was based on sophisticated computer modelling of a 40m² low cost house in six climate zones. It evaluated which building material and methodology provided a best fit for South African low cost housing and compared double skin Clay Face Brick walls versus "through the wall" concrete block walling systems and Light Steel Frame Buildings (LSFB) - insulated lightweight walling.

It was found that Clay Brick has a 15.8% lower first build cost than LSFB. Of the three walling systems, the Clay Brick house offers the lowest lifecycle costs and embodied energy costs.

Finally, Clay Brick contains natural insulation properties that keep buildings cool in summer and warm in winter, and between day and night. Room temperatures are even further regulated, through the inclusion of passive solar design principles. Furthermore, Clay Brick houses use the least energy for heating annually and provide the fewest days in which the occupants would experience thermal discomfort.

Coetzee says, "Our government must decide which building material is the best for the people of South Africa, based on the long term performance, cost and energy savings over the buildings life, and not just the initial cost, which may cost this country dearly in the long term."

"Clay Brick is also an inert and environmentally friendly material. It is made of clay and water and contains no complex components or chemicals; it is completely recyclable and ultimately can be returned to earth."

Coetzee concludes, "Our current energy crisis has also highlighted that energy efficient buildings are the most cost-effective means of reducing energy consumption. The superior thermal performance of Clay Brick should, therefore be an important consideration, especially in low-income built environments where health, safety and peace of mind contributes to the overall well-being of individuals and communities ~ for good."

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