

FACTSHEET #08

Clay Brick: in a class all its own

There is just no sensible economic, social or environmental reason to forgo the fundamental value that clay brick construction brings to infrastructure buildings in South Africa. No other building material provides structures with equal energy efficiency, durability, lifespan, investment value or aesthetics





CLAY BRICK: IN A CLASS ALL ITS OWN

The track record of clay brick construction in providing sustainable superior quality infrastructure - schools, clinics and houses - is evident in every South African city. Many cities boast buildings over 200 years old and still in perfect shape both structurally and aesthetically. Due to its extended lifespan, clay brick is the most economical building material available today and uniquely suited to South Africa's climate and lifestyle

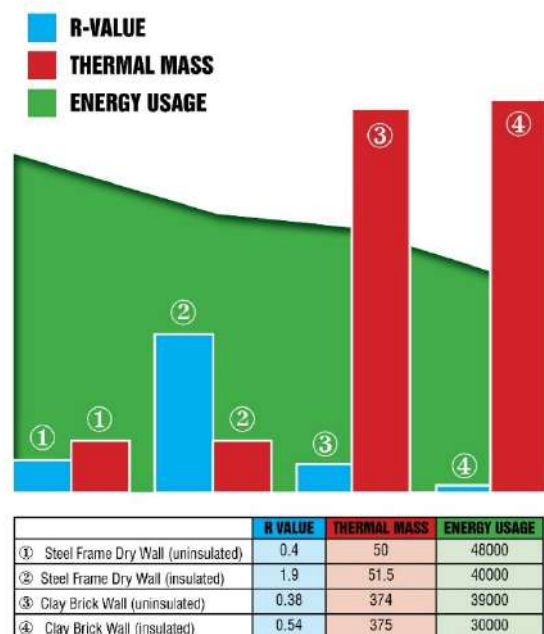
Over the years there have been many pretenders to clay bricks' crown. But to date, no Innovative Building System (IBT) has yet taken up to the challenge of providing structures with equal energy efficiency, durability, lifespan, investment value or aesthetics.

The Clay Brick Association of South Africa has extensively reviewed several "alternative solutions" to assess if there is substance behind their performance claims.

One IBT claims that their lightweight concrete panel with fibre cement finishes affords "better thermal ratings than clay brick". They rely on a single measurement – wall thermal resistance or R-value. The R-Value is a theoretical figure that measures a material's resistance to conductive heat transfer, but it does not factor in the time taken for heat to traverse a layer of high mass. To account for both factors we need to measure the thermal diffusivity or CR-value. (Thermal Mass)

When calculating actual energy savings and thermal comfort, the R-Value needs to be considered together with the density of the material. Clay Brick is not only an extremely dense material, but is usually built as a double layer. Therefore a clay brick shell ensures that a brick house remains warm in winter, and in summer it stays cool and comfortable for longer - mitigating the need for expensive heating or air-conditioning.

Thermal performance can be further improved by adding a cavity with insulation. Clay brick's outperforms the majority of alternative walling systems in thermal comfort.



R-Value on its own has minimal impact on Energy Usage, until Thermal Mass is also taken into consideration.



When it comes to a pre-fabricated panel type construction system, the manufacturer's R values applies only to properly installed panels and does not include heat losses if the panels are not air-tight or are joined by highly conductive jointing strips or profiles.

This is just one example of the disconnect between the marketing speak of Alternative Building Technologies and reality in home construction.

IBTs are a compromise – it is as simple as that. There is just no sensible economic, social or environmental reason to forgo the fundamental value that clay brick construction brings to infrastructure buildings in South Africa.

The high maintenance costs associated with many IBTs is money that could have been better spent on new infrastructure. The Government's stated intension to push for 60% of future infrastructure to be built in IBTs will have serious long term economic consequences.

For further information:

The Clay Brick Association of South Africa

Website: www.claybrick.org