

NEWS SNIPPET

CLAY BRICK - NOT JUST ANOTHER BRICK IN THE WALL

Clay brick is the cornerstone on which South Africa's bondable built environment is based, thanks to its structural strength, flexibility in design and application, endearing human scale, enduring earthy aesthetics, sound proof qualities, incombustibility, inertness that ensures no release of VOC's or CFC's to impinge on the quality of the air one breathes, solidity and security - all wrapped into one neat environmentally friendly package. Added to that, a clay face brick house requires minimal maintenance to retain its structural integrity, thereby eliminating life time maintenance costs and associated carbon debt, resulting in a more favorable economic value.

More recently in the context of the evolving pre-occupation for achieving energy efficient houses, comparative empirical and thermal modeling research scientifically demonstrates why clay brick houses are more comfortable to live in, warm in winter, cool in summer and adaptable to all climatic conditions.

Passive solar design interventions involving orientation, shading and ventilation is an important common sense approach for addressing operational energy reductions. The use of high thermal mass as provided by clay brick is fundamental, particularly in South African climates, where the primary challenge for walling materials is to moderate the external temperature amplitude to more bearable levels indoors, whilst also ensuring that the average indoor temperatures across all seasons is at an acceptable level for the average person.

Through the power of sophisticated computer modeling, based on years of empirical research data, it has been established beyond question that optimal walling systems should have sufficient levels of thermal capacity (C-value) as provided by the thermal mass of clay bricks and supplemented by appropriate levels of thermal resistance (R-value).

Thermal capacity "C" acts like a battery in that heat energy is absorbed, stored and released at a later time. In the hot summer months the walls thermal "capacity" slows the transfer of heat from the outside to the inside, between 6 to 8 hours, thereby delaying peak indoor temperatures to much later in the day. This is known as thermal lag.

In winter, similar dynamics are present, but the focus is more on the ability to absorb heat energy in the low angled winter sun, and then to keep it inside for as long as possible, so as to minimise the need for heating energy. Internal thermal mass also holds heat for longer thus providing for longer periods of thermal comfort and lessening the need for artificial heating interventions.

Holistic sustainability in all three dimensions is what clay brick brings to the table. Not only does clay brick provide economic benefits in the long term, it is also environmentally friendly and adds to the overall comfort and well being of inhabitants, which in turn contributes positively to the upliftment of communities ~ for good.

ENDS.