

Clay Brick Construction Confirms its Uncompromising Worth

There is no getting away from the link between clay brick construction for housing and superior quality of living delivered most cost effectively. Having mineral properties recognised for meeting all necessary requirements for healthy living, clay brick's natural propensity to manage the sun's energy and support superior indoor thermal comfort conditions, together with its durability and propensity to mitigate future carbon debt, makes clay brick pre-eminent in house construction.

This reality is brought to the fore in the assessment of 10 show houses built using different construction types to demonstrate their compliance with Australian environmental standards.

The one and only double skin clay brick house, designed, specified and built along Passive Solar Design principles for the climate, resulted in an energy rating of "8 Stars" per the Building Energy Rating System (BERS). Of the other nine show houses, seven were of steel frame fabrications incorporating various forms of insulated lightweight walling composites. The latter lightweight walled houses achieved 6 Star Energy Ratings at best, this notwithstanding that some of these houses were also designed and built along Passive Solar Design principles. This 8 Star clay brick house has recently been usurped by the "9 Star" carbon neutral design clay brick house [Jade 909] (shown above), the



Carbon Neutral "9 Star" Energy Rated Clay Brick House

latter achieving a 119% reduction in energy making it beyond carbon neutral.

While double skin clay brick construction exceeds the insulation requirements set out for masonry building in SANS 10400 XA building regulations, the route to even greater thermal comfort and lowest energy usage for heating and cooling of houses in SA's climates, is through either rational design that factors in the benefits of different levels of CR Product for the walls with other energy saving interventions to roofs and fenestration, or the application of SANS 204 'Deemed to Satisfy' Energy Standards for masonry buildings. This is well demonstrated in 3 modelling studies in SA, confirming what has been well established

through extensive empirical and modelling research in Australia, namely, that clay brick construction with insulation added in the cavity between the brick skins, as applicable for the various climatic zones, affords superior thermal comfort outcomes with low operational energy costs and lowest lifecycle costs.

The message that emerges out of cumulative findings of research is clear: 'Stay with clay brick for the low lifecycle environmental impacts it assures and the cost effective superior quality of life it affords'.



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