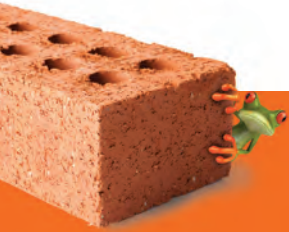


## BUILT-IN SECURITY

Because it is an extremely dense construction material, clay brick protects residents against natural disasters like flooding, lightning and hail, as well as civil crime, vandalism and unrest. Clay brick is incombustible with a maximum fire rating. The thermal expansion and contraction of clay brick is minimal throughout the year reducing the risk and cost of unsightly or potentially dangerous cracks.



Bricks are a fired ceramic building material - they cannot rot, tarnish, puncture, scratch, fade, rust, scuff, peel or erode. Brick masonry withstands storms, fire, rain, hail and intense heat – remaining beautiful and secure for centuries. 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.



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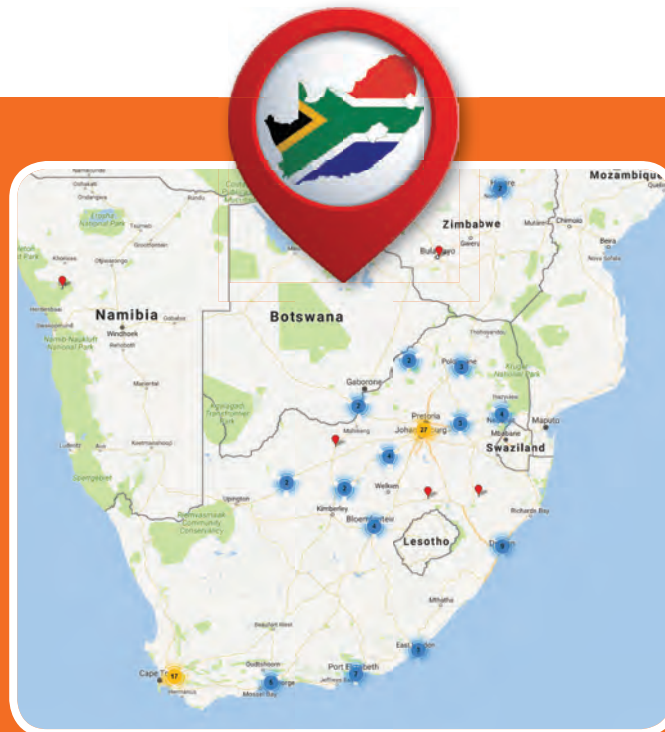
Competitively-priced brick suppliers manufacturing to strict SABS standards can be found throughout South Africa.

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## SECURE

Brick buildings shape South Africa's architectural heritage – in every province you will find long-lasting schools, municipal buildings, hospitals, churches, stately homes and historic monuments. You will also find durable and affordable brick homes that have protected and served South African families across several generations.



## Endurance over centuries

Brick masonry does not rot, tarnish, puncture, fade, rust, scuff, peel, erode or burn. Most clay brick structures last over 100 years, and there are many brick buildings older than 500 years. The Bell Tower at the Castle of Good Hope in Cape Town – South Africa's oldest building – has braved the Cape of Storms since 1684.

## Absolute structural integrity

Clay brick walls have impressively high load-bearing capacity and excellent dimensional stability. These inherent properties limit cracking and ensure structural integrity. This extended operational life reduces brick's carbon footprint, dissipating embodied energy over its long life cycle.

## Safety & security

Clay brick is a dense construction material with a high compressive strength to protect against both natural and civil disasters. Fired clay bricks come in a range of compressive strengths from a minimum of 7MPa for NFP bricks, to greater than 50MPa for Face Brick Extra and Engineering products.



## Maximum fire ratings

Clay brick is incombustible, and therefore cannot contribute to the start or rapid spread of fires. Double-leaf clay brick walls achieve maximum fire ratings of 240 minutes of resistance without impairing structural strength. Brick walls do not conduct electricity or lightning. During production, clay bricks are fired at temperatures of 1000°C - they easily resist this level of heat without damage, shattering or crumbling.

## Water-resistant ceramic

Clay bricks are fired in a kiln, not dried in the sun so they can withstand saturation from flood water without being adversely affected. They are water resistant and impervious to all weather. They absorb and release moisture easily, so that walls dry out quickly without ugly colour changes.

## SABS-approved quality

Bricks manufacturers comply with strict legislation regarding carbon footprint, energy use and air quality. Products are manufactured to SABS specifications and their use is controlled by national building regulations to protect home owners and property investors.

SANS 227:2007 and SANS 1 575:2007 classifies the South African National Standard for burnt (or fired) clay bricks and paving units.

## Structurally adaptable

Brick walls have the structural strength and density to support built-in cupboards, heavy shelves and wall-mounted fixtures. You can usually remove a non-load bearing wall entirely without compromising the integrity of the building, giving property owners the option to do improvements, alterations and extensions. Double-leaf brick walls protect conduit and piping without reducing accessibility.



## Durability in tough environments

Clay brick withstands severe climate zones and industrial areas where high acid or alkaline discharges occur. At the coast, salt sea mist, high water tables, rapid temperature variations and soluble sulphates in the soil combine to create a corrosive environment. Green Point lighthouse, South Africa's first lighthouse, is built from brick.





## LOW RISK CONSTRUCTION

Modular clay brick walling is flexible to work with. Construction teams can quickly adapt to changeable site conditions and client demands. It implements complex architectural designs and simplifies logistics, on-site damages and ordering. Bricks have known parameters for use with different foundations, soils and climate zones. Brick masonry is predictable in terms of performance, project timing and building costs.



Bricks are modular and easy to transport even on rural or dirt roads. Masonry construction does not require large staging areas on site, or heavy equipment for relocation. No special tools are needed for placement or joining.

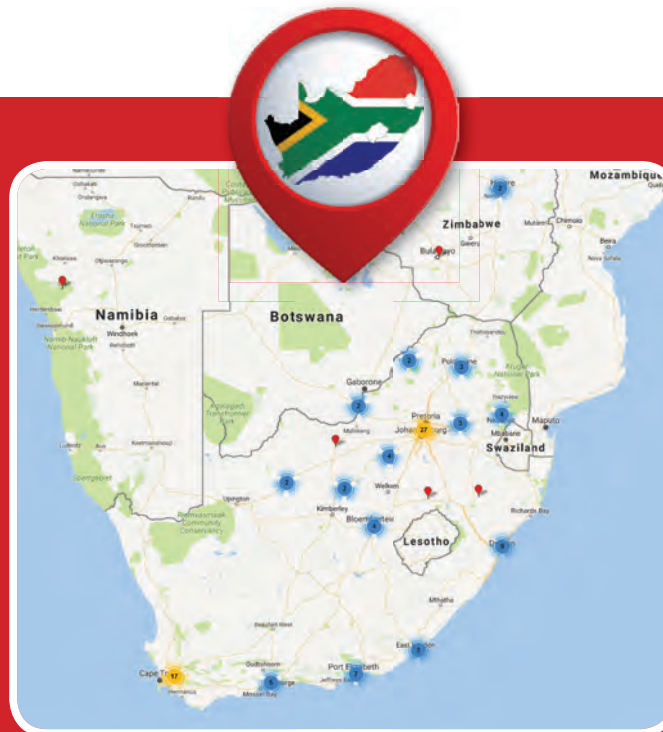
With quality suppliers manufacturing to strict SABS standards in every region, just-in-time ordering is feasible.



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# SAVE

Due to its durability and strength, clay brick is proven to be the most cost-effective walling material available, offering numerous long-term savings. Clay Bricks are thermal batteries, using energy from the sun to provide natural thermal efficiency, reducing the need for electricity-guzzling air-conditioners, heaters and humidifiers.

## DAY-TO-DAY SAVINGS

### Save on painting & plastering

Clay face-bricks require little or no maintenance ensuring lowest life cycle costs, saving property owners both time and money year after year. Low maintenance mitigates carbon debt associated with painting, refurbishment and replacement.

### Save on air-conditioning

Bricks “self-regulate” keeping internal spaces naturally cool all summer - reducing the need for expensive air-conditioning.

### Save on heating bills

Clay bricks are thermal batteries, using energy from the sun to boost thermal efficiency in our South African climate. The bricks absorb the warmth of the sun all day, and release the heat inside during freezing winter nights. The high thermal capacity (C) with resistance (R) (or CR value) of clay brick significantly reduces the need for thicker insulation materials between the brick leaves in order to meet building regulation requirements.



### Save on cleaning & repairs

Most brickwork stains can be cleaned with a stiff fibre brush and running water, but in special circumstances chemical cleaners are inexpensive and easily available.

If clay brick bricks or pavers become stained, or the mortar crumbles, simply drill out or remove the mortar, remove the brick and replace it.

### Save on maintenance from thermal expansion

Most building materials experience stress cracks due to daily thermal expansion and contraction. Thermal movement of clay brick is minimal both winter and summer. Depending on the clay mix and firing process, the coefficient of linear thermal movement for brick is between 4-8. Movement per 10m of wall for a 50° temperature change is only 2-4mm.

### Save on maintenance from moisture expansion

Most building materials suffer structural stress due to changes in air moisture from alternating sunny and rainy days. Clay bricks rarely exhibit movements due to moisture in excess of 1mm per 10m of walling.

### Reuse & recycle

Clay bricks and pavers can be salvaged, sold and reused. Crushed bricks are non-toxic aggregate for road construction, landfill and site levelling.

## CONSTRUCTION SAVINGS

### Quality & consistency

Bricks have consistent sizes. There is a rough arithmetical relationship of length to width of 2:1 and length to height of 3:1 in the standard brick. The most common brick size is 222mm (long) x 106mm (wide) x 73mm (high) with a mass of 2,4 - 3,3kgs.

### SANS204/10400-xa energy efficiency legislation

Clay brick when combined with thermal insulation in double-leaf cavity wall construction automatically meets the Deemed-to-Satisfy requirements of SANS 204 and SANS 10400-XA: Energy Usage in Buildings.

### Cut labour & equipment costs

Brick construction and paving projects do not need specialised heavy equipment and are not capital intensive. There are trained, competitively priced local bricklayers throughout South Africa.

### Cut construction time with maxis

Non-standard, large size bricks (often called Maxi's) can lower construction material costs. They use less mortar and have fewer joins per square metre. A single leaf wall made with 140mm-wide clay bricks will meet SANS 10400-XA requirements.

### Cut construction waste

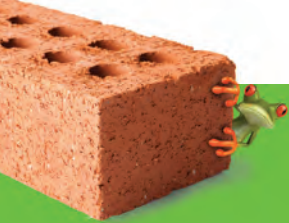
Bricks are weatherproof and can be stored outside. Bricks are modular and can be bought in batches, so waste is reduced. Scrap brick can be recycled, reducing removal costs. Packaging is minimal.





## SUSTAINABLE BUILDING

CBA Members preserve the environment by minimising fuel use and carbon emissions during manufacture and distribution. The natural insulation properties and density of clay brick also contributes significantly to reduced energy use and low CO<sub>2</sub> emissions over the life cycle of a building. At the end of the life of the building, clay brick can be reused, recycled or crushed and returned to the earth.



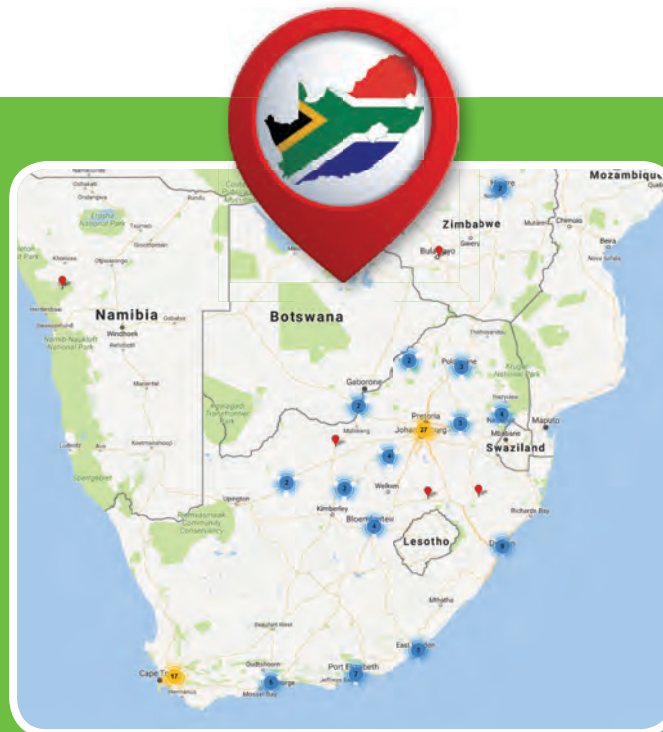
When considering construction materials, design professionals assess their product choices and ask: "will this offer optimal comfort, value and peace of mind long term?" For the good of clients and their families as well as the greater community and the environment, it makes sense to choose construction materials that are sustainable, healthy, energy efficient and natural,



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## SUSTAIN

Sustainably designed buildings are energy efficient, resource-efficient and serve the long term economic, social and environmental needs of individuals and communities. Clay brick masonry demonstrates all these qualities during construction as well as throughout its long operational life.

## BUILDING HEALTHY HOMES & OFFICES

### Regulating humidity

With its ability to regulate both air humidity and temperature, brick homes maintain a cool, comfortable interior throughout hot, rainy months - rooms don't become dank and stuffy. As a 100% natural material, clay brick "breathes" - its internal structure is comprised of a fine capillary pore system, which enables water vapour to be absorbed and released quickly.

### Stopping condensation

Double-leaf clay brick walls minimise interior damp and condensation in winter rainfall regions like the Western and Southern Cape. Thin materials like glass and cement panels react quickly to temperature differences between the cold outside and warmth inside so droplets of water condense on the inner surface. The density and thermal capacity of clay brick ensures that interior walls never become damp.

### Insect & rodent resistant

Clay bricks are resistant to damage from ants, borer and termites. Thanks to their strength and high density, clay brick stops insects and rodents from living in or chewing through walls.



### Mould & fungus resistant

Brick masonry is not a food source for moulds or fungi and does not promote mould growth even when wet. Clay bricks quickly release moisture back into the environment and do not remain damp. Double-leaf walls reduce the variance between cold outdoor temperatures and warm interiors.

### Sound & noise protection

The density and mass of clay brick masonry makes it a natural sound barrier with high acoustic protection - ideal for schools and community buildings. Brick homes keep suburbs quiet even with high-density living. The acoustic insulation of clay brick ranges from 43db to 49db.

### Inorganic & inert

Made from 100% natural clay and shale, clay bricks meet all necessary requirements for healthy living. They release no VOCs (Volatile Organic Compounds) that reduce air quality in enclosed spaces. Clay bricks release no toxic fumes or gases under either normal or fire conditions. Clay masonry cannot contribute to conditions like "sick building syndrome".

## BUILDING SUSTAINABLE COMMUNITIES

### Accessible pavements for the elderly & disabled

Research and prolonged use has proven that segmented clay paving complies with accessibility guidelines for wheelchairs and is user-friendly for those with poor vision, crutches, walking aids, prams, trolleys or other wheeled equipment.

### Economic growth in rural areas

Brick products and manufacturing technologies are not imports - every brick is made here in South Africa under well-regulated quality standards. Brick production plants are found outside urban centres and provide stimulus for economic transformation, local job creation and skills development.

### Job creation & skills development

No matter where the construction site is located there will be trained, local bricklayers to complete the project. It is estimated that over 200,000 workers are directly employed across the building industry in production, bricklaying and plastering.



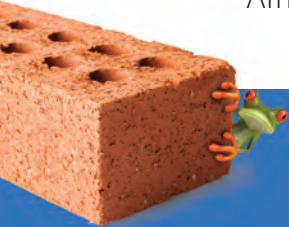


## PROUDLY SOUTH AFRICAN



When you build with clay brick, you build for the future. You build pride and dignity; you build safe, healthy environments to live and work. The result is satisfied property owners who can rely on affordable and easily maintained investment.

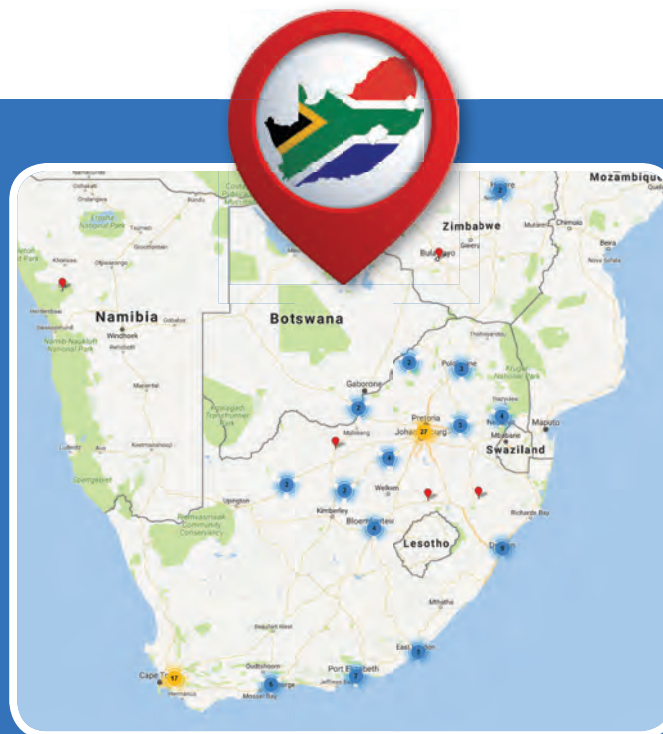
And most importantly you create jobs in local communities as well as prosperous entrepreneurs who manufacture, sell and build with South African clay brick.



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Beautiful and timeless, brick homes embrace the durability and attractiveness to blend well in a variety of neighborhoods. Whether it is used as a bold exterior statement, or an organic and elegant interior feature, visitors will want to run their hands over just to feel its texture. Natural clay brick provides a welcome contrast to cold, hard construction materials like steel, glass, aluminium and polished tiles.

## STYLE

A clay brick's simple rectangular format has an appealing human scale. Its balanced proportions provide for limitless options as you combine different bond patterns, colours and textures. Clay brick allows you the opportunity to individualise your home - creating a modern work of art that grows in value every year.

## Investment value

Clay brick has long been used as the benchmark for quality housing, with the highest aspirational value for all South Africans. Clay brick homes are always in demand and define the benchmark for superior long-term investment value.

## Colour choice

The varied colour palettes and texture choices of natural brick means walls don't need to be hidden away under plaster and paint. From deep reds and browns to light creams, tans and greys, clay brick masonry creates one-of-a-kind home exteriors that make a statement.

## 3D textures

Brick add atmosphere and a tactile dimension to an otherwise plain wall. Three-dimensional, symmetrical lines of masonry offer a constantly changing display of sculptural light and shadow even when painted, adding character and creating stunning accent walls that enrich the design.

## Colour-fast

The enduring hues and textures of clay brick will never fade or wear, and they don't discolour or darken in the rain. Face-brick looks beautiful for a lifetime and eliminates carbon debt associated with painting.



## Create visual effects with bonding patterns

The bond is the pattern in which bricks are laid. The visual contrast between courses of headers and stretchers combined with differences of colour or tone create subtle horizontal, vertical, cross and diagonal motifs. Use a recurring bonding pattern as a unifying thematic element - both functional and fabulous.



## Get creative with special shapes

Clay bricks are more than rectangular blocks. Corners, radials, bull-noses, sloped sills, headers and coping caps can be used for dramatic angles and curves, finishing off edges for aesthetics and safety. A custom-shaped brick provides visual appeal and uniqueness.

## Desirability & dignity

King Henry the 8th of England lived in a home of red clay brick - the world-renowned Hampton Court Palace outside London. Many of the world's most famous heritage homes, universities, cathedrals and royal palaces show off luxurious clay brick exteriors.



## Authenticity & harmony

Clay brick walls blend well with both traditional and contemporary materials. Brick brings rich colour and texture to concrete, steel and glass buildings. Brick masonry also complements rustic building materials like timber, stone and thatch while bestowing a sense of heritage and authenticity to the home.

