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The Clay Brick Association
of South Africa

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The CBA expands knowledge and support for clay brick masonry and maintains building standards in the use of clay bricks and pavers in construction. We educate the clay brick industry about energy efficient, environmentally-sustainable, inclusive manufacturing technologies.



THE VOICE

OF THE CLAY BRICK INDUSTRY



CHEETAH

Status: endangered

Population in the wild: < 7 000



2019 AGM & CONFERENCE

TODAY'S FOOTPRINT... TOMORROW'S LEGACY

Theme

About three-quarters of greenhouse gas emissions that are attributed to humans, come from burning fossil fuels. Although as an industry our contribution is small, each of us needs to take responsibility for reducing our carbon footprint. It is the only way to ensure a future for ourselves and our families as well as the global community.

In line with our Switch Africa Green initiative, the 56th Annual General Meeting and Conference theme revolves around sustainability and reducing the negative impact we as brickmakers have on the environment both as individuals and as businesses.

Guest Speakers

Fundiswa Ndaba, Senior Policy Analyst: Public Affairs and Transformation at Minerals Council South Africa will address CBA members on a range of issues relating to Micro and Junior Miners.

Dr. Garth Tayler is a consultant in Ceramic Science, heavy clay production, microwave engineering and industrial leadership . He will be talking on "The 80:20 Rule applied to sustainable brick manufacture".

Claudius Dittrich will be discussing the European Carbon footprint

Lisa Reynolds - SAEI Confederation

Henk Sa & Lodewijk Nell - EcoMetrix Africa

Paul Oxtan and CJ Carrington - Wild Heart Wildlife Foundation.

Entertainment Highlights

It's not all just work, work, work!

Thursday: Mardi Gras style dinner, showcasing our valued sponsors. Dress code: semi-formal

Friday: Kruger National Park sunset game drive from Kruger gate followed by a bush braai inside Kruger. Dress code: semi-formal white & khaki. Dress warmly.

Saturday: Dinner in the boma

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PROGRESS REPORT: Switch Africa Green project

DATA COLLECTION - BRICK MANUFACTURING STATISTICS

Initial data collection through site visits with formal brickmakers has been concluded. Data from 40 production sites has been captured and based on user experience, the interfaces were refined for ease of use and data accuracy.

For the most part, brickmakers who were approached to participate have done so. Once the benefits of the Sustainability Portal as a tool in measuring and reporting sustainability are proven in practice and communicated, we anticipate that brick producers who have not yet provided data will reconsider.

BUILDING AND CONSTRUCTION SECTOR SURVEY

This survey was conducted and a report generated - "Baseline Study amongst SBS Stakeholders". In February 2019, the objectives of the Strategy Paper on the role of the clay brick sector in sustainable building were approved by the CBA board.

The next step is to analyse what the CBA and its members must do in order to realise these objectives - together with a practical action plan.

THE SUSTAINABILITY PORTAL

The Sustainability Portal is progressing and template reports for sector level and compliance reporting are completed.

Now that actual data has been input, the reporting functions of the Sustainability Portal have been finalised up to site level.

With buy-in from clay brick producers, the sustainability portal will be a powerful tool for individual producers and the sector to show benefits of adopting various sustainable, clean production practices.

INFORMAL CLAY BRICK SECTOR SUSTAINABILITY EDUCATION

Reaching out to informal clay brick manufacturers, as well as Government at Provincial level has continued, mainly in the Eastern Cape. The database has been expanded with additional information. We are building further on our "ground breaking" meeting with the DEDEAT (Department Economic Development, Environment and Tourism) in the Eastern Cape who have an interest in developing a working strategy for the informal clay brick sector in their province. This meeting was attended by eight officials from various DEDEAT offices in the area. The next step is to produce a written proposal for the development of a Provincial Plan for the informal clay brick producers.

A few clay brick members have expressed their concern that the information being provided to informal brickmakers will only encourage further theft of community resources and stronger unregulated competitors.

The CBA has been able to show that the primary activities of establishing a database, collecting baseline data, and developing stakeholder dialogue are not a threat, but will give us a better understanding of the sector. It was also clarified that the emphasis of the training is to impart a better understanding of SCP practices, and was not training on brickmaking techniques. The informal clay brick producers, bar a few whom are possibly illegal immigrants, have responded positively to visits by the project partners, which bodes well for the success of the project.

**See next page for a report on the
Switch informal settlement visit.**



This Switch Africa Green Project is co-funded by the European Union



PAGE Ministerial Conference 2019



The Switch Africa Green project was showcased at the third PAGE Ministerial Conference in Cape Town in January 2019. Partnership for Action on Green Economy (PAGE) meets to discuss policies and strategies to advance inclusive and sustainable economies.

The event was attended by over 500 leaders and innovators from the public and private sectors of more than 50 countries as well as NGO's in the green economy within South Africa. The fact that our sustainability initiative included work in the informal clay brick sector, drew positive comment.

An outcome of the conference was agreement that government needs to unlock finance to support a fundamental shift from traditional linear economic models towards sustainable and circular economies. Funders and recipients must account for the value of the resources they consume, to ensure they do not perpetually erode the world's limited natural resources.

"It is only by building bridges across economic, racial and ideological divides that we can successfully face the challenges of our generation," reported Steven Stone, Chief, Resources and Markets Branch of the United Nations Environment Programme (UN Environment).

"Partnerships represent a way of scaling our actions and distributing innovative ideas and methods to all nations."





Switch team visits East London informal brickmaking settlement

Submitted by: John Volsteedt

The Switch Project visited East London and established a relationship with a group of 10 informal brickmakers (9 male, 1 female) around the Bridle Drift Dam. During a morning session, their brickmaking operations were visited for data collection and to determine their level of knowledge on sustainability practices (which is extremely low.)

The harsh economic reality faced by informal clay brickmakers limits the extent of any realistic hope for large scale change. In certain regions, informal brickmakers are not even willing to engage.

On the other hand, a range of low-level opportunities exist by improving ground preparation, controlling water run-off, better fuel storage, clay mixing and preparation, moulding and kiln packing.

LIFE AS AN INFORMAL BRICKMAKER

Sekela Mpekula, a brickmaker in the settlement, gave a presentation on his business to the CBA and EU delegates.

"My parents started the brickworks without any proper knowledge on how to make bricks. Through trial-and-error they slowly learned from other brickmakers and tried out new formulas for stronger bricks.

"We researched the regulatory size of brick and made our own moulds because the bought moulds were slightly undersized. This allowed us to supply contractors and builders. As our customer base grew so did our interest in making better **quality** bricks for rather than increasing **quantity** for quick cash. After standardising and improving quality, we got more referrals"

PROBLEMS FACED

- Area: too many brickmakers working in a small area.
- Water: we use dirty dam water and carry buckets to the moulding area. Water, time and effort is wasted.
- Fuel: most brickmakers can't afford to buy enough coal (so it is supplemented by timber and other fuel sources).
- No sense of co-operation between brickmakers
- Hand to mouth existence. No vision or desire to improve.
- Lack of manufacturing skills: we learn skills from each other and do not meet any regulatory standards
- Lack of business skills.
- Brick moulders leaving at any time - this results in a loss of skills and capacity.



At Bridle Drift Dam, rain water is captured in clay pits. These images illustrate the environmental damage that results when nothing is rehabilitated.

Incorrect storage of ash and other materials results in product loss through water run-off. In this way contaminants can easily enter the local river system.



Saving Water Resources

Water is a key resource in our sector. Brickmakers who do not have natural dams, should consider rainwater harvesting to cut costs and reduce reliance on municipal water.

Claytile in the Western Cape harvests rainwater to reduce its dependence on potable water during production. Its water conservation initiative was awarded an EcoStandard South Africa EcoProduct certificate.



Water collection rarely requires new infrastructure, but storage in open dams or unlined pits results in huge losses due to evaporation and water seeping away into the soil. This replenishes the water table, but does not benefit the brickmaker.

Vertical water tanks are most common –they are inexpensive and easy to set up. Tanks can be made from plastic, steel or concrete, and should be fitted with filters that clean the rainwater of micro-organisms and turbidity. Look for UV-resistant polyethylene and BPA-free materials. Keep away from direct sunlight.

Lined, underground water storage needs excavation, but the area on top of the tanks can be used for parking. Disadvantages compared to above ground tanks are high installation costs, more complex monitoring, and ongoing maintenance to prevent leakage.

Best roofs for rainwater harvesting?

Rainwater collection off roofs is an easy option because it is already channelled into gutters.

Clay tiles have lower collection efficiency due to porosity. However, fired clay is inert and doesn't need bitumen or adhesive for installation, so collected water is good quality.

Corrugated metal is efficient but galvanizing will leach zinc into the rainwater. Sample testing is required.

Asphalt shingle is inert, but the adhesives cause problems. This is not suitable as potable water and avoid irrigating edibles. Inlet screening on your tank will filter out the gravel!

Wood and thatch are almost always treated with fire retardants. Sample testing is required.

Copper is naturally resistant to algae/moss growth because it is an herbicide. Collected water should not be used for irrigation or drinking.

Solar panels are not only electricity savers, they also make a wonderful collection surface to harvest rainwater!

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Platinum sponsor **BUSCH VACUUM PUMPS** is a German company established over 55 years ago and is today one of the world's largest suppliers of vacuum pumps, liquid ring pumps and over pressure blowers. The Africa head office is in Johannesburg, supported by sales and service branches in Cape Town, Durban and in Accra, Ghana.

Busch Africa can supply most pumps, blowers and spare part kits ex-stock, and is fully geared to service and overhaul pumps in their workshops or to carry out servicing and commissioning on site. They offer service repairs on their own as well as competitor products.

Busch oil rotary vane technology improves green break strength due to its deep vacuum capabilities. Return on investment is generally 6 to 12 months. Benefits include:

- reduced waste - on average of 2-3%
- reduced in extruder energy consumption
- reduced vacuum pump energy consumption (50-60%)
- waterless operation
- 2 to 3 kPa reduction in vacuum

Direxa Engineering

Plant and application engineering for the construction material industry and technical ceramic firing solutions.

Platinum sponsor DIREXA ENGINEERING is an engineering, procurement and construction enterprise specializing in plant and application engineering for the construction material industry and technical ceramic firing solutions. The company is based in the United States and offers in-house design and on-site construction of its own range of dryers and kilns.

Direxa has extensive experience with designing and building grinding plants, forming and shaping rooms, dryers, kilns and curing chambers, and product handling equipment. In-house specialists provide electrical drawings, PLC programming and IT supervision.

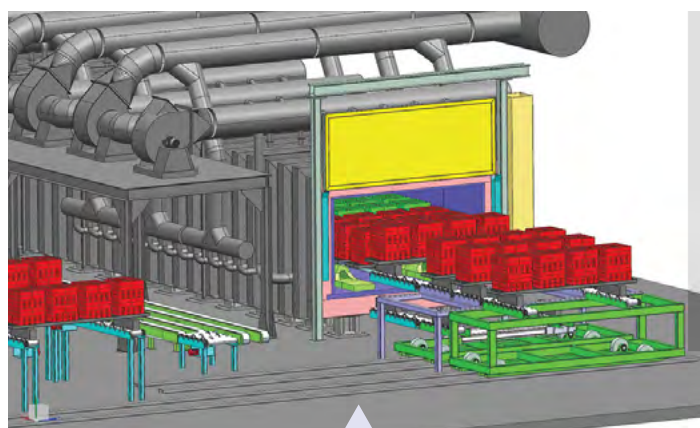
The company's experience and resources make it an industry leader in the design and engineering of production lines for stiff-extruded clay products. The company also has extensive experience in plant and application engineering for non-clay lines, including concrete and beneficial use of fly ash to produce bricks, blocks and tiles.

The company is particularly proud of its proprietary fuel-efficient tunnel kilns and solid-fuel firing systems (petroleum coke, coal, sawdust). A main focus at present is on the development of high-performance tunnel kilns and dryers that can be sourced locally in developing markets.

Direxa has the resources and flexibility to handle projects of any size – from small retrofits to complete turnkey plants. As a design and engineering firm, it places the application requirements of its customers above the sale or installation of any particular OEM technology. This allows engineers the freedom to source the best available equipment on a given project.

Direxa Engineering can undertake projects anywhere in the world. It is active on projects in Brazil and Australia, where it has set up subsidiaries to provide local support. Direxa are active in the South African market and are represented by BMMS.

For more information see www.bmms.co.za or www.direxa.com



Direxa has developed a low-energy tunnel kiln concept to help ceramic manufacturers minimize energy and investment costs while improving production flexibility and product quality.

The basic principle of the kiln is that the firing chamber has four fixed sides: two walls, one roof and one bottom (hearth). The products, their supports and the moving media are all completely immersed in the firing chamber and are therefore always at the same temperature.

OUR AGM GOLD SPONSORS



Dezzo Equipment - Manitou

As an accredited dealer of Manitou and GEHL materials handling solutions, Dezzo Equipment stocks a broad range of standard and rough terrain forklifts, skid steer loaders, access platforms, telescopic handlers, piggy back forklifts. Dezzo Equipment offers both on and off site maintenance contracts, with fast response times to keep you operational around the clock.

Keller HCW

KELLER HCW stands for intelligent solutions in automation and measurement and control technology, as well as highly precise skiving machines for PE and PTFE. The company plans and realizes machines for the production of bricks and paving clinkers. They co-ordinate and manage engineering projects, and assist with equipment handling, assembly, commissioning and after-sales service.

Metalcértima

Metalcértima has more than 40 years of specialist experience in the development, manufacture and installation of highly automated turnkey projects for the brick, roof tile and ceiling block industries. They have installed tailor-made solutions in Europe, Asia, Africa and America that are customised to meet the client's needs in terms of product dimension, shape and required output.

Rieter Morando

Newly merged Rieter Morando is a world leading supplier of clay preparation and shaping equipment, service and spare parts. Rieter Morando has over 90 models in its portfolio, and has installed almost 7 000 machines in 74 countries. The Rieter Morando team now is even stronger thanks to their combined know-how and skills in brick and tile manufacturing technologies.



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Bell Equipment

Bell Equipment is renowned as a leading global manufacturer, distributor and exporter of materials handling machines for mining, quarrying, construction, road building, forestry and agriculture.

Born and bred in Africa, Bell's entire range of products is robust and reliable - fully suited to the harshest of local conditions.

Beralmar Tecnologic

Beralmar is a world leader in burning systems - they design, manufacture, sell and install firing and drying equipment for heavy clay roof tiles and bricks.

Beralmar develops entire plants as well as tunnel kiln and dryer engineering projects. It has the capability to provide the right solution for any kind of fuel, clay or ceramic blanking plates worldwide.

Bernini Impianti

A specialist supplier of burning systems for clay brick kilns and dryers.

Bernini Impianti burning systems are simple and rational models, both for Hoffmann and Tunnel kilns. Their kilns are optimised for energy savings as well as improved combustion efficiency.

Bongioanni Macchine

Bongioanni Macchine designs and produces equipment for clay brick and clay roofing tile manufacturing. It offers all machines and complimentary systems necessary for the preparation and shaping of clay by wet process, including feeding, conveying and storage of raw material, dust collectors, additive feeders and moisture control systems. Extrusion dies and moulds are supplied by Bongioanni Stampi.

BMMS

BMMS is the largest supplier of extrusion machinery and spares to the heavy clay industry in South Africa. Their range includes extruders, mixers, crushers, dies and wearing parts.

BMMS offers feasible and effective agglomeration solutions in metals, minerals and mining and provides a diverse range of heavy, general and precision engineering services.

Cermalab

Cermalab is a materials testing and materials sector training facility, serving the heavy clay, ceramic and refractory industries in Africa. They manage an ISO 17025 High Temperature laboratory on their behalf of CSIR Light Metals and co-ordinates accreditation for SANS 227, SANS 1449, SANS 1575 and SANS 52004.

The Institute of Ceramic Education (ICE), affiliated to Cermalab, presents a CETA accredited 8-module brick-making course.

EcoMetrix Africa

EcoMetrix Africa is a leading South African greenhouse gas, energy management and financing consultancy assisting organisations in energy/carbon performance assessments, defining mitigation strategies and developing renewable energy and energy efficiency projects.

They help organisations determine how to best respond to the changing regulatory landscape: carbon tax and offsets, energy efficiency policies and incentives as well as carbon budgets and greenhouse gas reporting.

Ehrenberg Engineering

Ehrenberg Engineering manufactures a range of floor setting brickmaking machinery for cement bricks and blocks, with options for production levels from 1 200 to 10 000 bricks per day.

Ehrenberg are able to assist customers with materials handling equipment and general engineering from fully CAD design models to final product.

Verdés, Beralmar and Forgestal are all represented in South Africa by clay brick specialists Ehrenberg Engineering

Forgestal

Suppliers of Schupp® furnace linings with heating elements made from molybdenum disilicide (MoSi₂) and high temperature insulation materials made of polycrystalline mullite/alumina wool .

Cost-efficient solutions are available for temperatures up to 1800°C. Services include re-lining existing furnaces, consulting, heat transfer calculations, construction and assembly.

Insulation Refractory Cons.

Insulation Refractory Consultants is an importer of ceramic fibre and refractory products. They also offer a wide range of insulation materials including calcium silicate boards, mineral and glass wool, cladding, Rockwool and Aerolite.

IRC installs furnaces and ceramic fibre and refractory products.

Officine SMAC SPA

There is a growing trend for the use of gloss and satin coloured glazes on clay brick. Officine's automated glazing machines allow brick producers to add colour and gloss to face-bricks, while streamlining production costs and reducing risk.

Since 1969, Officine SMAC has specialised in producing plant and equipment for glazing and decoration of fired clay brick, ceramic tiles and roof tiles.

Tecnofilieri SRL

Tecnofilieri SRL is a specialist producer of extrusion dies and equipment for the heavy clay and ceramic industry.

Through their experience, Tecnofilieri can anticipate potential problems with the heavy clay extrusion in terms of device wear, energy dissipation and anomalous tensions on the materials to be manufactured.

Teide Refractory Solutions

Teide offer a wide range of products and turnkey services to provide solutions for any type of red ceramics furnace. Teide kilns offer lower thermic conductivity low thermic mass and significant energy savings. Their solution cuts energy consumption by up to 15%.

TEIDE offers integrated project management including detailed research studies, project planning, supply management and assembly.

Talleres Felipe Verdés SA

Verdés is globally recognised as a leading manufacturer and supplier of machinery, equipment, services and installations for the ceramic heavy clay industry, as well as for processing non ferrous minerals, recycling and waste.

SEE US AT
THE AGM!



READ MORE DETAILED MEMBER PROFILES
WITH CONTACT INFORMATION ON OUR WEBSITE



Counter staff sales training

This Eastern Cape training was held over two days in November 2018 at Algoa Brick. The course was presented by Rod Taylor and aimed at counter sales staff. It was attended by 26 people – mostly from hardware outlets and brick distributors.

The workshop covered all the basics of a brick including how it is produced, the benefits of clay brick and terminology.

The CBA offers two sales training and reference manuals for our members to conduct their own in-house training sessions. The books are available on the CBA website in PDF format.

Benefits of Brick: Fire resistance

As we move towards winter, the fire resistance of brick becomes an important benefit to discuss with customers who are evaluating walling materials options. Because clay brick is a ceramic product fired to well over 1 000 degrees Celsius, it is incombustible and cannot contribute to the start or rapid spread of fires. Clay bricks do not emit toxic fumes under fire conditions.

Every minute is critical in order to give the occupants time to escape. This is why construction materials are rated to define how long it would take fire to affect structural strength.

Tests have proven that a double-leaf clay brick wall achieves a maximum fire rating of 240 minutes. In general, clay brick masonry withstands fully developed fires longer than any other standard building material.

- Although materials like aluminium or steel aren't combustible, they buckle under intense heat, reducing structural integrity.
- The fire-resistance of concrete depends on the aggregate used. Natural aggregates tend not to perform well. The expansion of moisture or reinforcing steel within the concrete can cause it to shatter or spall under extreme heat.

CBA connects with the Institute of Architects in KZN and the Eastern Cape

Architects are key influencers and decision-makers - we need them to understand the benefits of clay brick and to specify it early in the design phase. They act as our sales team, convincing home owners and developers. Working architects are educated professionals and are keen to expand their knowledge.

The CBA has developed a series of courses on clay brick aimed at educating architects. Four CPD approved courses were held at a two-day workshop in April at the KwaZulu Natal Institute of Architects offices in Durban.

- A. What is a Brick
- B. EcoWeep
- C. Paving Technical Factors
- D. The Paving Solution

The CBA sponsored the two-day workshop as well as travel costs for specialist presenter Rod Taylor of First Brick Consulting.

The workshop hosted 14 delegates on the first day and a further eight on the second day. The delegates participated enthusiastically, and the event was extremely well received.

The Evaluation Rating for Day 1 was 85%, and increased to 90% on Day 2. KZANIA has approached the CBA to take part in a road show that reaches the northern, southern and Midland regions.

What has been highlighted in these workshops is how hungry architects are for CPD points, brick and paving construction techniques, and SANS 10400 XA cavity walling requirements. These courses are a great opportunity for the CBA to position itself as the authority on masonry by supplying the latest reference information.



The Eastern Cape region is forging relationships with local architects by sponsoring an Institute of Architects breakfast forum to discuss topics and issues relating to their profession.

This gives members an opportunity to proactively interact and network, and really listen to their issues and identify how we can adapt to these important decision-makers.

Upcoming Member Events

- 10 July: Gauteng Regional Meeting
- 11 July: Exco Meeting and Switch Project Meeting
- 17 July: Eastern Cape Regional Meeting
- 24 July: Western Cape Regional Meeting
- 12 Sept: Exco Meeting and Switch Project Meeting

John Martin of EP Brick walked away with our generous prize of a bottle of Johnnie Walker Black Label.

We received 11 correct submissions. Thank you to members who took part!





- ceramic fibre blanket
- ceramic fibre modules
- ceramic fibre formed products
- insulation bricks
- calcium silicate board
- Rockwool board
- precast shapes
- vermiculite and vermiculite cloth
- cavity wall insulation



Pictured at the sod turning of the new Corobrik factory at Driefontein is (L to R) Lerato Mkgotsi, Rehab Mathobela, Corobrik Chairman Peter du Trevou and Bryan Soldaat, Director: Resources Based Industries for the Department of Trade and Industry.

Progress at new Driefontein factory

Corobrik is making steady progress in the construction of its R801-million new Driefontein factory. The first bricks are expected to exit Kiln One in March next year.

The new Driefontein facility will have a positive impact on the neighbouring community during construction. Thirty people from the local community and family members of the current staff have completed a 12-week bricklaying course. The main contractor will employ these newly trained bricklayers for the duration of construction. Approximately 200 employees are on site each day during construction.

Corobrik does not intend to shut down the older Driefontein factory and plans to introduce new product offerings.

The new plant will create around 60 jobs in the factory and will require at least 800 bricklayers to bring in the bricks that are produced and sold.

It will also be necessary to upgrade existing skills needed to operate the state-of-the-art technology factory. Preference will be given to existing employees who will be trained on the new equipment as they already understand the brickmaking process. This will create job opportunities elsewhere in the business.

Both local and overseas manufacture of new equipment to be installed at Driefontein has already begun. By the end of the project, approximately 600 containers of machinery and equipment will have been delivered to the site.

The new Driefontein facility is expected to produce 100 million bricks per year.

Chairman Dirk Meyer reports that the new Driefontein factory will be more energy-efficient, and reduce natural gas consumption by around 40% compared with the current facility.

All surface water will be channelled into one of the existing quarry dams and then reused as process water. A new effluent treatment plant is also being constructed.

Photovoltaic panels on the north facing roof will convert solar energy into AC power and act as a grid tie-in system to supplement Eskom supply during the day.



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The firing process of zig-zag kilns not only reduces emissions, the result is high-quality bricks with consistent dimensions and specifications. Waste and breakages are reduced because there is less handling of the brittle green bricks.

Zig-zag kilns offer sustainability benefits

Hercules Brick recently completed construction of an efficient new zig-zag kiln at its production facilities north-west of Pretoria. CBA Executive director Mariana Lamont was given an opportunity to tour the facility in April.

A zig-zag kiln is an energy-efficient, low-emission technology offering significant environmental and economic benefits. The initial investment for building a zig-zag kiln is lower than for other comparable technologies, and they are low maintenance.

Zig-zag kilns are innovative, scalable and versatile, and can be configured for either large or small commercial use. A critical benefit is that the volume can be scaled up or down to suit demand. Due to the control of the fire and the low brick setting height, it is ideally suited to perforated bricks.

High temperatures and turbulent zig-zag air-flow in the long fire zone results in almost 100% fuel combustion. The large roofed area allows for rainwater collection and for the mounting of solar panels which can supply electricity for the fan and lighting.

Download the CBA's new Sustainability Technical Factsheet on zig-zag kilns on our website.

Staff packing a zig-zag kiln at Worcester Brick in the Western Cape. By operating under cover, moisture and temperature fluctuations are minimised. During production, the green bricks, workers and the kiln itself are protected from weather, making it particularly cost-effective in high-rainfall areas.



Algoa & Makana work together to fast-track PE Milkwoods project

Developed by Own Haven Housing Association and contracted to WBHO, Milkwoods is a R250 million, 630-unit housing development on Port Elizabeth's Victoria Drive.

Gillian Ardendorff Architects specified Ironspot Clinker with a mix of plaster and paint. Makana's clinker brick provides a unifying element across all the buildings. The exposed brick sections are low maintenance, and their natural warm tones and textures compliment the adjacent "smooth plastered" sections painted in attractive colours.

Algoa is the accredited distributor for Makana in Port Elizabeth and their capacity and service gave them the edge over the other suppliers.

"This is a fast track project and at its peak there are up to 100 000 bricks being delivered per day," says Algoa Brick Sales Director Mark Hunter-Smith. "The total order was for 1.2 million Ironspot Clinker and 5.4 million plaster bricks."

Named after the protected tree species found in the area, Milkwoods is more like a small village than a social housing project. The estate is ultimately expected to accommodate more than 1 000 residents in a green environment. During construction, damage to the existing vegetation was minimised and the precious milkwood trees were saved.

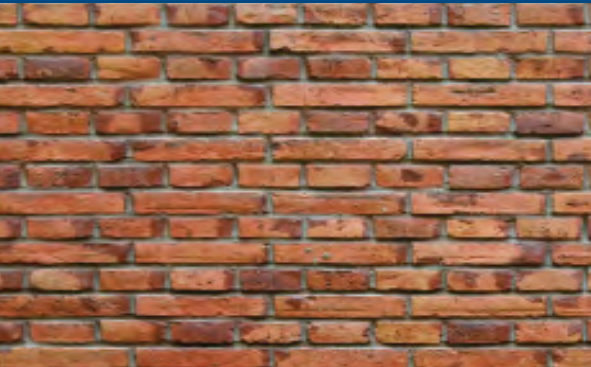


Terra Nova favours Federale Facebrick



The Terra Nova Retirement Village in Secunda, Mpumalanga selected Federale Stone's high-quality Rooibos Travetine (FBS) for their first-class retirement estate. With its beautiful texture and warm reddish hues, this high-quality face-brick allows for creative combinations with materials like natural stone, wood and metal for a stylish, custom-built result.

Go to www.claybrick.org for detail on projects & events



Solution Provider

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