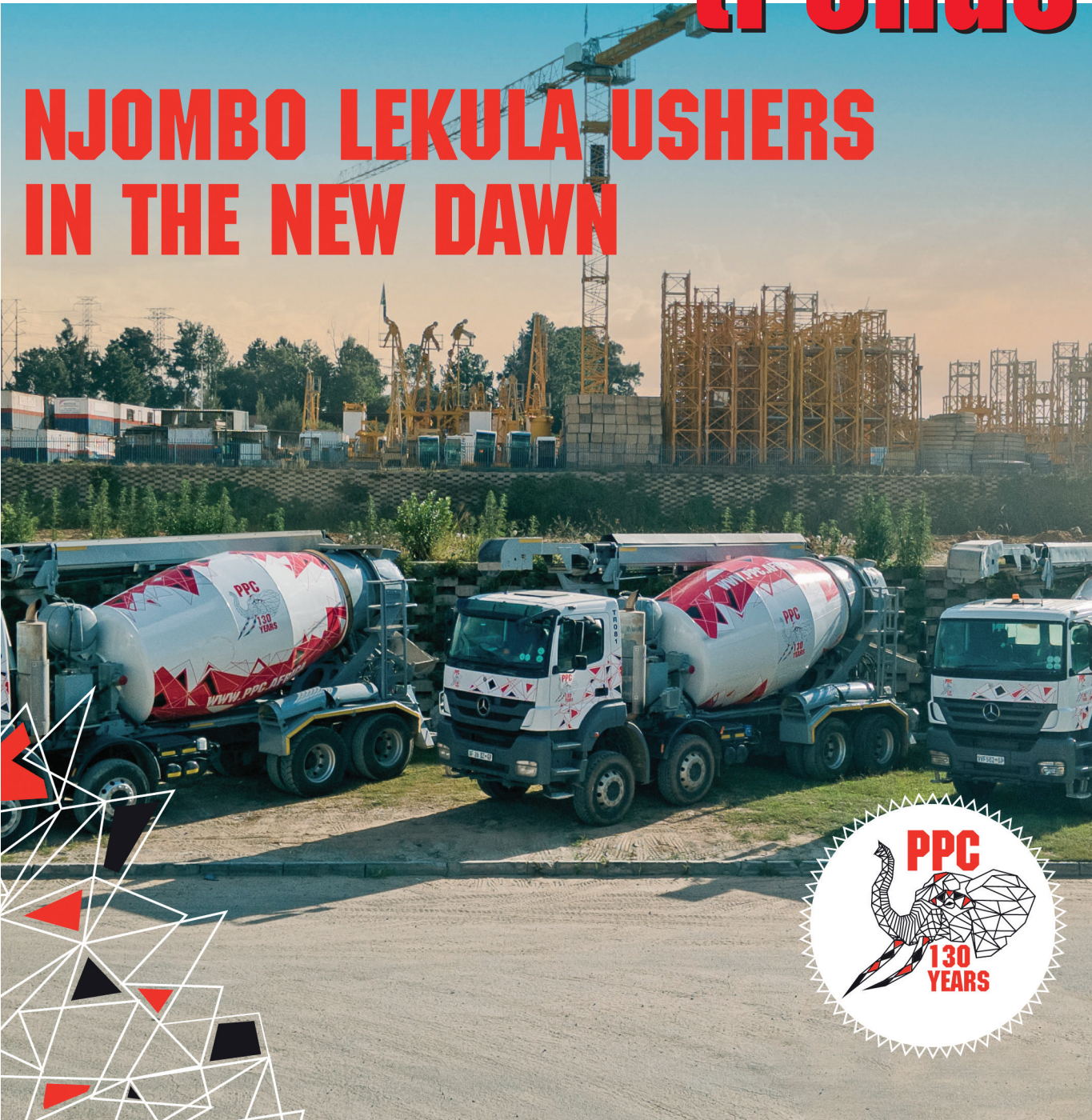


CONCRETE

The voice of the industry

trends

NJOMBO LEKULA USHERS IN THE NEW DAWN



CONCRETE PAVEMENTS
Life-cycle analysis



READY-MIX
Innovations



CONCRETE PROJECTS
Latest projects



LEMAITRE
SAFETY FOOTWEAR

FALCON BOOT



Raptor sole with TPU inserts for grip, support and protection.

Genuine leather.

Padded collar for improved comfort.

Footology Elastopan Climate Control insole.



KEEPING YOU STEADY ON UNEVEN TERRAIN - LADDER GRIP DESIGN AND TOUGH DURABLE UPPER

Get the ultimate grip while stepping with a uniquely designed sole with ladder grip TPU inserts.



HAWK

EAGLE

MAXIMUS

FALCON SHOE



**FROM ONE WORKER
TO ANOTHER**



www.lemaitre.co.za

SOURCED AND MANUFACTURED
IN SOUTH AFRICA

CONCRETE trends

The voice of the industry



COVER

In this, the 130th anniversary of PPC Cement, the current role of Njombo Lekula, MD PPC Cement South Africa is to oversee and provide strategic guidance and direct PPC's Cement and Materials Operations in South Africa, as well as in Botswana (operations and commercial). His primary focus has been to optimise and enhance operational output, while delivering business growth and profitability.

CONTENTS

Editor's comment 2

Association trends 3 - 6

UFS works on developing green concrete 7-8

Cover Story

Introducing Njombo Lekula, MD PPC Cement South Africa 9-10

School of Concrete Technology 11-12

Claude Gorgulho obituary 13-14

Tjeka Training Matters 15

The Big 5 Construct Southern Africa 2022 16-17

Ready-mix trends:

PMSA 18-20

Putzmeister 21-22

CMA Trends:

Ageing aids port cochere paving 24-25

Cast-stone cladding connects wine estate to the natural environment 26-27

New life for waste plastic as concrete aggregate 28-31

Revelstone pavers enhance positive urban spaces at Bridgewater 32-33

Lemaitre supporting SA workers 34

CMA member list 35-36



7



18



26



28

VICE PRESIDENT:
Devi Paulsen-Abbott
email: DeviPaulsen@dmgevents.com

MANAGING EDITOR:
Eamonn Ryan
email: EamonnRyan@dmgevents.com
T: +27 21 700 5608 M: +27 82 560 8718

PROJECT MANAGER:
Tracy-Lee Behr
email: TracyLeeBehr@dmgevents.com
T: +27 21 700 5512 M: +27 73 367 9647

MARKETING:
Saki Magoxo
email: sakimagoxo@dmgevents.com
T: +27 11 783 7250 M: +27 83 735 7213

EXHIBITION & PUBLISHING SALES MANAGER:
Kenneth Masvikeni
email: KennethMasvikeni@dmgevents.com
T: +27 21 7005509 M: +27 72 686 6998

ADVERTISING:
Centaine O'Reilly
email: centaineoreilly@dmgevents.com
Cell: 072 911 1904

DESIGN & LAYOUT:
Virgil Jacobs
email: rykim@mweb.co.za
M: +27 83 524 5024

PRINTED BY:
Onyx Press
T: +27 21 593 9173

dmg events

Published by dmgevents: Units 5 & 6, EDGE HOUSE, 16 Bell Crescent Westlake Business Park, Westlake, 7945, Cape Town, South Africa
Tel +27 (0)21 700 5500 | Fax +27 (0)21 700 5519
76 11th Street, Parkmore, South Africa, 2196 | PO Box 650302, Benmore 2010 | Tel +27 (0)11 783 7250 | Fax: +27 (0)11 783 7269



ISSN 1560-2710

Endorsed by industry:



dmgevents and the editorial team accepts no responsibility for any opinions or statements in this publication. Consequently no person connected with the publication of this journal will be liable for any loss or damage sustained by any reader as a result of action following any statements or opinions expressed herein.

It's time for those 'extraordinary measures'



Eamonn Ryan

When the National Treasury first published its Economic Policy Paper at the commencement of Cyril Ramaphosa's presidency, its purpose was to set the agenda for discussions on economic policy within the ANC and to serve as a framework for the economic policy of a new government.

"Extraordinary measures" is what Ramaphosa claimed were required at the time, and central to this effort would be infrastructure construction and maintenance. Figures in the hundreds of billions have frequently been touted since then, yet with no sign of new public funding being made available for projects. During the Ramaphosa presidency few new government-led infrastructure projects of any significance have been initiated.

These years have been characterised by growing anxiety as the economy remains mired in economic stagnation and the government has failed to act decisively to address the many problems which we face.

The actions of the Competition Commission are just one such example. We can all agree that South Africa needs to become more competitive internationally. To do so the country needs to reset how it views foreign direct investment (FDI).

The Competition Commission is active in adjudging acquisitions by foreign investors of local companies. When making acquisition decisions, the CompComm needs to adopt a pro-growth strategy. The closure or crippling of so many of South Africa's construction sector leaves an opening for foreign-owned construction companies, and a number are known to be looking at local acquisitions of mid-sized companies. This could be a test for the CompComm to change its requirements, and rather than restricting the ability of companies to do transactions, let them do so but on stringent pro-employment conditions which serve to stimulate the construction, as well as cement and concrete sectors of the economy.

Without pro-growth conditions of this nature, all that FDI means is that assets change hands without any true new investment taking place. We need to see growth in our economic engine-room, as a means of getting other foreign investors excited to participate in South Africa as a new market for them. The present scenario might 'tick the box' of FDI coming in, but if it is in reality just assets swapping hands for the enrichment of a few shareholders without doing anything meaningful in the economy at a grassroots level – then it is of questionable value.

Those types of big deals are going to occur in any event without any need to stimulate them. What we need is FDI which is going to actually change conditions on the ground.

South Africa does have a value proposition as a centre of manufacturing in an environment where logistics are globally becoming a bottleneck and our currency makes the overhead structure here, relative to skills and capability, comparatively more favourable. The alternative is to take an ever more isolationist view – which is not sustainable. In this scenario, as the country becomes less and less competitive you will see more cheap imports enter the country and local businesses will experience declining margins as they try to compete. That in turn makes a local business uncompetitive from a global return perspective.

From this issue onwards, *Concrete Trends* has entered into a partnership with the Concrete Manufacturers Association. We are pleased to welcome them as a partner and look forward to a long period of collaboration, which can only result in better content for our readers.

Henry Cockcroft, CMA General Manager, comments as follows: "It is essential that industry associations leverage every possible avenue to advance the goals enshrined in their memorandums of incorporation. It involves using traditional media platforms and the digital media, and the CMA believes that the former requires a mutually beneficial relationship with a media house.

"After a period of carefully considered deliberation, we came to the conclusion that the construction journal, *Concrete Trends*, offers a platform which is best suited to the promotion of CMA members, their products and state-of-the-art precast concrete technology.

"The decision was based on the status of the magazine, its readership profile, print run and circulation reach. The CMA will contribute editorial content showcasing the precast concrete industry which will be run in *Trend's* digital and print formats.

"In addition to advantages for both parties, the partnership will benefit South Africa's entire built-environment fraternity, offering a vital information portal and access to live events. Moreover, advertising and business development opportunities will be extended to this market sector through the CMA's contact database.

"The partnership lends *Concrete Trends* a voice of authority on precast matters which will stand the magazine and CMA members in good stead in the coming years." ■

Eamonn Ryan, Managing Editor



CONCRETE
trends

The voice of the industry

Keeping the industry up to date with the latest news, innovations, trends and connections.

Subscribe to the **FREE** e-news letter today!

www.concretetrends.co.za

Enterprise Ireland becomes an affiliate member of WCA

The World Cement Association (WCA) announced recently it has further expanded its international network of members by welcoming Enterprise Ireland as an Affiliate Member.

Enterprise Ireland is the Irish government trade and innovation agency, responsible for the development and growth of Irish enterprises in world markets. It represents a cluster of over 450 Irish companies that supply products and services in to the international and domestic construction industries. Ireland's construction industry has a strong reputation for delivering large, complex projects internationally, and delivering the innovations that are shaping the future of construction.

Supporting Irish companies to reduce their carbon footprint and capitalise on opportunities emerging from the low-carbon transition is a key strategic priority for Enterprise Ireland. The agency has introduced initiatives including a Climate Enterprise Action Fund to achieve this ambition.

"Our Association needs, more than ever, partners that can share new ideas on responsible business and promoting sustainable approaches and practices within the cement industry" said Ian Riley, CEO at WCA. "I am especially happy to be welcoming Enterprise Ireland and look forward to working together to help our members expand and innovate, promote fair competition and integrity in our industry, and explore opportunities for growth in Ireland and beyond."

"Construction companies have an important role to play in reducing emissions and building a more sustainable future.

We have been especially impressed with the way WCA is helping its members to decarbonise," said Leo Clancy, CEO of Enterprise Ireland. "We look forward to collaborating with WCA and its members, to explore and promote sustainable business practices, to support the construction industry on its decarbonisation journey."

Affiliate Membership is designed for regional or national cement associations and other partner groups, which are not-for-profit organisations working in areas related to the objectives of the WCA. Through this membership, WCA invites such organisations to be part of its network and together improve industry standards worldwide. ■

ABOUT THE WORLD CEMENT ASSOCIATION

The World Cement Association is the original international cement association and represents the cement industry and its stakeholders. Corporate Members are cement producers and have equal rights regardless of size or nationality. WCA connects members across the world and provides practical help to improve competitiveness and sustainability.



Global honour for CCSA's Bryan Perrie

By Eamonn Ryan

Bryan Perrie, CEO of the Cement & Concrete SA (CCSA) which was officially launched in March last year, was awarded Honorary Membership of the International Society of Concrete Paving (ISCP) at its 12th International Conference of Concrete Pavements, held online in September 2021 because of Covid-19 travel restrictions and attended by delegates from 30 countries

The accolade places him in a select group of only 31 concrete pavement innovators worldwide to have received the distinction. For almost four decades Perrie has been recognised as a global authority on concrete pavements and the honour is for his service to the concrete pavement industry.

Dr Peter Taylor, director of the National Concrete Pavement Technology Center at Iowa State University, told the ISCP conference that few people had done as much for the cement and concrete industry than Perrie. "He simply understands cement and concrete, how to make it work in practice, and is skilled in so many aspects of the business world: manager, technical expert, mentor, innovator, negotiator, and hands-on colleague. Bryan has also worked hard to make ISCP more of an international organisation."



Bryan Perrie, CEO of CCSA

"When I first became involved with ISCP, it was a largely United States society. I set about encouraging more international involvement and persuaded ISCP to have a Board and strategy meeting followed by a two-day conference in Johannesburg, in 2007. Since then, ISCP has broadened its reach to include involvement in conferences and events in China, Australia, and South America," Perrie says.

Perrie was a Board member of ISCP for many years and vice-president for two years. This period coincided with the organisation internationalising itself from its then predominantly US roots.

ISCP TODAY

Today ISCP has approximately 900 members and is primarily a knowledge disseminating body that promotes concrete paving/concrete roads, runs webinars on concretepavements.org, as well as networking with like-minded organisations such as the European Concrete Paving Association (EuPave), and produces a regular newsletter which is summary of the latest developments in concrete pavements.

“South Africa has benefited significantly from this involvement with ISCP in the promotion of concrete pavements in South Africa and a number of South Africans have since attended various ISCP conferences.”

"The ISCP's format is similar to national and regional organisations. It lobbies governments to opt for concrete roads over asphalt roads by looking at the total life of asset concept. For instance, the American Concrete Pavement Association has a permanent lobbyist in Washington, and they work closely with the ISCP in this regard."

SOUTH AFRICA IS THE WINNER

South Africa has benefited significantly from this involvement with ISCP in the promotion of concrete pavements in South Africa and a number of South Africans have since attended various ISCP conferences. Concrete pavements have also steadily gained wider acceptance in South Africa with a large amount of such pavements currently planned for the Durban area.

After obtaining his BSc (Eng) Civil and MSc degrees from the University of the Witwatersrand, Perrie started his career in the contracting fraternity working throughout southern Africa, He joined the Portland Cement Institute in 1984.

Perrie was with the Cement and Concrete Institute (C&CI), previously the Portland Cement Institute, for 29 years, with the last five as managing director. Following the demise of the C&CI in April 2013, he was instrumental in creating The Concrete Institute, where he was the managing director until the formation of CCSA. He is a Fellow of the SA Academy of Engineering, and a member of the SA Institution of Civil Engineering, the UK Concrete Society, UK Institute of Concrete Technology, and American Concrete Pavement Association. ■

Concrete pavements and their full life-cycle analysis

By Eamonn Ryan

Cement & Concrete SA (CCSA) and its predecessors have since 1965 been trying to encourage authorities to use concrete rather than asphalt for road construction. "The argument for this is that designs need to start looking at lifecycle cost analysis as opposed to the simplistic initial cost of building a road and ignoring maintenance and disruption of the economy from closing freeways for maintenance," says Bryan Perrie, CEO of CCSA.

He notes that few countries in the world ever look at road construction taking into account full life-cycle cost analysis including road user delay costs due to budgeting cycles. "For example, the Pietermaritzburg bypass went out to dual tender and although concrete was more expensive including construction and maintenance costs, it was decided to construct it in concrete. Reviewing actual costs over a twenty-year period indicated that asphalt maintenance costs were significantly higher than predicted at tender stage and in fact the total costs over the twenty-year period were very similar.

"This meant concrete was very competitive and will be even more so if road-user delay costs are included. This is the argument that organisations similar to CCSA around the world are using to promote concrete pavements" explains Perrie.

BEDDING DOWN THE CCSA

Promoting the use of concrete, such as in concrete pavements, is one of the major objectives of the CCSA, when it was formed last year through the amalgamation of three different organisations. It now takes the lead on all matters cement and concrete in South Africa. Perrie spells out how the amalgamation is playing out. "It's been a trying year since the merger of three completely disparate organisations into one. In particular, bringing together the cement side and the concrete side has been quite challenging."

CCSA was officially launched in March 2021 following an extensive and thorough process of engagement with various stakeholders to consolidate The Concrete Institute (TCI), Concrete Society of Southern Africa (CSSA) and the Association of Cementitious Materials Producers (ACMP). The new, consolidated body will create long-term shared value and industry growth in South Africa through collaboration, skills development, innovation and high standards in sustainable cement and concrete materials and products.

Explaining the motivation for the move to consolidate the three associations, Perrie says there was confusion about which bodies provided services to the construction industry.

There was also some duplication and gaps in services offered by the various associations. "Different associations can result in conflicting and ambiguous messages, and the need for authoritative engagement with all stakeholders became critical," says Perrie.

CCSA'S MANDATE

CCSA has been mandated to promote and support the industry, drive growth and deliver shared value through a unified platform for cement and concrete. A new and inclusive membership model has made the portfolio of services offered by CCSA to individuals or corporates available either for free or at members' discounted rates.

These services include courses presented by the School of Concrete Technology, access to the Information Centre, attendance at technical events and webinars, publications and hyper-linked listings on various electronic sources, to name a few.

CCSA, through its members, creates the opportunity to develop the value propositions of cement and concrete more fully. Other goals include promoting the value creation story of the cement and concrete industry in South Africa; supporting research as a means of increasing the ongoing expertise base; and the promotion of industry standards and audit compliance among members and industry role players.

Growing industry expertise and build capacity by developing and offering courses, seminars and training materials, is another mandated objective of CCSA. The provision of information, research, advisory and on-site technical consulting services will be another service offering available to members.

Its committee structures empower members to guide and shape many of the services. The branch committees of the erstwhile Concrete Society of Southern Africa were retained to ensure that CCSA will have concrete ambassadors in various regions.

Another key challenge, he adds, is the loss of skills in the broad construction industry that CCSA hopes to address through the School of Concrete Technology's numerous courses and seminars, workshops, and technical publications. ■

Greening cement is the core challenge of sustainability

By Eamonn Ryan

Commenting on some of the trends identified in the cement and concrete industry, Bryan Perrie, CEO of Cement & Concrete SA (CCSA) says the most significant driver for new technology trends is the quest for sustainability. To address that, cement manufacturers and concrete producers emphasise higher extender contents and lower clinker contents to minimise the potential negative impact on the environment.



Bryan Perrie,
CEO of CCSA

Where possible, recycling and refurbishment are being considered over the use of virgin materials," he says.

The current focus on reducing the carbon footprint of cement – an objective which everyone in the industry is working towards – is gaining traction as ever more products come out with more extender and less clinker in – but still retaining concrete performance.

"Not long ago there were only a couple of extended cements on top of the traditional Portland cement, but now if you look at the European standard (which South Africa has adopted) there are 35 to 40 different types. Late last year a new standard was adopted in Europe which South Africa is in the process of adopting, and which approves the use of calcined clay and limestone in cement to reduce the carbon footprint," says Perrie.

While individual companies are guarding their own R&D, being on a competitive basis, organisations such as the Global Cement & Concrete Association (GCCA) are trying to coordinate activities by broadly disseminating information. "Obviously, it is in the nature of competition that cement companies will in the future market their products based on its CO₂ emissions.

"Architects, engineers and contractors are all being pushed by their clients for 'green' constructions – so this is a competitive issue. Furthermore, the extent to which the extender materials are available locally dictates which product is used. The big extenders are slag (from iron making), fly ash (from coal-fired power stations), limestone (which is quarried to make cement) and now calcined clay of which we have sources in South Africa. One problem is that coal-fired power stations are increasingly being phased out around the world thus reducing fly ash sources."

Perrie adds that research is also taking place on carbon sequestration whereby the carbon is captured – but notes it is an expensive option. This research is being driven by global carbon taxes, as is the case in South Africa, meaning that the more you can reduce carbon emissions the less tax you pay. ■

UFS works on developing Green Concrete using geopolymer binders

By Eamonn Ryan

Lecturer and project leader at the University of the Free State Department of Engineering Sciences, Dr Abdolhossein Naghizadeh, leads a green concrete project which aims to produce user-friendly geopolymer concrete by eliminating aggressive alkali activator additives from the mixtures.

The green concrete project involves research aimed at producing environment-friendly concrete based on industrial waste materials. The potential product will be formulated by optimising mixture parameters and ingredients based on the South African industrial by-products.

In green concrete mixtures, geopolymer is typically used as the binder. Geopolymer binders consist of two components comprising solid raw material and a liquid alkali activator. Once the raw material is mixed with an alkali activator, the hardening process starts. To obtain high strengths, the mixture is exposed to elevated temperatures of between 40°C and 80°C for up to 24 hours.

Although geopolymer concrete technology has been employed to a limited extent in projects in China, Australia, France and the US, there remain some issues regarding the complexity of this technology that need to be solved before



Cement and concrete lab at the Department of Engineering in the University of the Free State

Find our branches at www.technicrete.co.za

FINISHING *Touch*

paving | mining | masonry | kerbs | erosion protection | retaining walls | drainage



SUITABLE FOR:

- Car parks
- Industrial Estates
- Retail Centres
- Pedestrian areas
- Domestic Drives
- Motorways | Garages
- Service areas

APPLICATIONS:

- Tongue & groove
- Standard grey or traffic calming colours
- Precast
- Various sizes available
- Highest quality

Technicrete is a subsidiary of ISG, a leading supplier of innovative infrastructure products to the construction and mining markets in Southern Africa.



TECHNICRETE



Green concrete specimens prepared by the research partners at the University of Johannesburg

its extensive application in the industry. It may take some time before this 'new' concrete will be used more regularly in the construction industry, explains Naghizadeh.

GREEN CONCRETE

"Green Concrete based on locally available waste material has been formulated and produced on a laboratory scale. The physical and mechanical properties of the material have been evaluated. So far, the findings show that this new material can exhibit superior performance to the conventional concrete based on Portland cement. Besides the properties of as-prepared material, the durability performance of concrete is also essential. Materials used in construction are exposed to different environmental conditions during their service lifespans, which sometimes can reach a hundred years. Therefore, construction material's long-term stability upon exposure to various environmental parameters such as chemical attacks, humidity, and temperature variation is crucial. At the current phase of the project, a series of durability tests are being conducted to ensure the appropriate long-term preferences of this material," he says.

"The main objective of green concrete technology is to minimise the environmental impact caused by normal cement, but consuming green concrete based on a geopolymer binder system can also provide economic benefits by using waste materials, as well as minimising energy consumption. The reuse of industrial waste materials such as fly ash would help with waste management in power stations," he notes.

The technology of geopolymer binder as an alternative cement was introduced to the academic world a few years ago. However, there are some issues that greatly hinder its application in the industry.

Some of these issues are related to the mixing design complexity, the aggressiveness of the activators used, the diversities of raw materials found in different countries and special curing procedures required for this type of concrete.

Based on the significance of the research topic, as well as the existing research capacity in the UFS Department of Engineering Sciences, the research committee decided to play a role and contribute to the ongoing development of the new technology, known as geopolymer concrete or green concrete.

USER FRIENDLY MATERIALS

"The project aims of this laboratory are to create formulations of green concrete based on user-friendly materials and the simplification of the preparation and mixing process. This could introduce a more eco-friendly, desirable product that can be easily employed extensively in the construction industry," explains Naghizadeh.

There is a real potential for economic mass production and an adequate market. "Currently, there is a huge demand for cement in the South African construction industry, where a remarkable amount of cement consumed is imported. Based on the vast availability of industrial wastes used as raw materials in green concrete and the market's significant demand, it is predicted that this alternative concrete will play an essential role in the construction industry in the future.

Naghizadeh believes there is sufficient industrial waste like fly ash to be commercially viable. "South African fly ash is classified as low calcium Class-F fly ash with highly reactive components, making it a suitable raw material for green concrete. A significant amount (beyond 27 million tons per year) of fly ash is produced in South Africa, where only minor proportions of less than 5% of this amount are used, and the rest is deposited in landfills. This statistical data shows that the available material is way higher than what is needed for green concrete, even if it is used as the predominant construction material one day."



Dr Abdolhossein Naghizadeh running analysis on green concrete samples using a Scanning Electron Microscope at the University of the Free State

Similar research is taking place in other countries, he says: "The green concrete formulated in our lab is based on geopolymer binder technology which was proposed by European scientists a few years ago. Although the basic technology is consistent with the other researchers around the world, the formulation of green concrete is highly dependent on the type, composition, and properties of the locally available waste materials that vary from one place to another. The topic of geopolymer technology is quite advanced, and our project's findings are regularly published in top international journals.

"Green concrete consists of approximately 95% (by mass) of industrial wastes such as fly ash, slag and recycled aggregate. Less than 5% (by mass) of composition is some chemicals called alkali activator," says Naghizadeh. ■



Introducing Njombo Lekula, MD PPC Cement RSA and Botswana



Njombo Lekula

Q Can you give us some background on your career and some information on yourself away from work

A I am a Chemical Engineer by profession and hold a Master's degree in business administration from the University of Stellenbosch Business School. I began my career on the technical side of the PPC business 32 years ago, but soon discovered a love of – and affinity for – the operational side of things. I have held a number of leadership roles within PPC across various divisions, including overseeing the International division of PPC as Managing Director of PPC Zimbabwe from 2013. In 2017, I took over as MD of South Africa and Botswana.

When away from work, I enjoy playing golf, doing landscaping and home renovations. My wife (Noxolo) and I have two children, Ntsako and Gabriella.

Q Can you walk us through your role as the MD and how you have stamped your authority?

A My current role is to oversee and provide strategic guidance and direct PPC's Cement and Materials Operations in South Africa, as well as in Botswana (operations and commercial). My main focus has been to optimise and enhance operational output, whilst delivering business growth and profitability. This includes capacity expansion and optimisation, exploiting strategic synergies and exploring various alternative fuel and energy projects in the region.

I'm a firm believer in always looking for a win-win solution in every interaction I have. If you or the other party feel like there is only one winner, then it was not a good engagement. A win-win solution guarantees longevity. If an interaction or engagement does not offer a win-win situation, it is one-sided and bound to fail. I believe in a transformative management style, and so I wouldn't say I have "stamped my authority".

Q PPC is celebrating its 130th anniversary this year. What is it like working for such an illustrious brand?

A I've been in the business for 32 years (I just missed the other 98 years). It has been an honour and really challenging, yet exciting journey. PPC has provided me with great opportunities in my career, with my greatest opportunity being taking up the role as Managing Director in our Zimbabwe operations in



2013. The position came at an opportune time as the country was coming out of hyperinflation and we had to turn the business around. The operation increased its EBITDA by 45,6%.

It is a great honour to be part of an organisation that has been through so many eras of our country. A longevity of 130 years' existence in South Africa is no easy feat.

Q What has been the recipe for sustainability? A company does not survive this long without having a winning formula.

A At PPC, we always value our partnerships with our stakeholders in the context of not only investing in our people, but also as an investment in the future of our country. As a strategic partner in the construction industry, our mission is to improve lives by building stronger, empowering people to experience a better quality of life, through the provision of a competitive product portfolio, superior customer service and going beyond just selling a product. Being agile in our responses to changing circumstances, and collaborating with stakeholders to create the necessary enabling environment, internally and externally, has helped sustain our business.

Q How does PPC give back to communities?

A PPC's purpose is to empower people to experience a better quality of life. And this is seen in everything we do. We believe in giving back to communities in which we operate

and this can be seen in the work that we have done. One of the major challenges in South Africa at this time is unemployment, and in our industry we have the challenge of skills development. As a responsible corporate citizen, we have not sat back but have looked at ways to close the skills gaps. We are running bricklaying, plastering and construction management accredited training courses across the country, to empower the youth with skills that they can use in the market. Our contribution to communities has many facets, including education, primary health care and infrastructure. Through partnerships with the JP21 foundation and the Temba Bavuma foundation, we have done great work with schools in relation to cricket development.

Q Why should PPC be top of mind? What sets it apart from competitors?

A It's about going beyond. We don't just sell cement and building materials – we sell value. As I said earlier, its about a win-win relationship in everything that we do. Delighting our customers with technical support and providing more than just quality products is at the heart of what we do. We are a 100% home grown South African company.

Q What does the future hold for PPC?

A As a sector, as industry elders and leaders, we have to ask ourselves the questions around our role in the creation of a massive infrastructure programme and we have to look at transversal partnerships in order to answer and achieve this massive question.

As all countries are, South Africa is slowly recovering living from the constraints of the aftermath of a harsh Covid-19 pandemic, which has ravaged many economies. The question for us as a sector is how do we help in the recovery processes? As South Africa's largest cement producer we recognise our role as an enabler and technology partner and the vital importance of public, private and community collaboration.

We also recognise the global threat of climate change and the immensity of the challenges associated with achieving net-zero emissions by 2050. Yet, we are committed to reducing our carbon footprint, and committed to participating in the collective actions needed to address key barriers to decarbonisation.

Furthermore, where possible we will take a leadership role in the use of waste as a fuel source, as evident in our recent successful introduction of tyres at our De Hoek factory in the Western Cape and the use of biomass fuels in Rwanda. ■



Self-study is part of the future at the School of Concrete Technology

By Eamonn Ryan

The great majority of courses hosted by Cement & Concrete SA's School of Concrete Technology (SCT) are being done online through three different methodologies, says John Roxburgh, senior lecturer at the SCT.

PAANOPTO REVOLUTIONISES STUDY

Firstly, SCT employs multiple platforms such as the commonly-used Teams and Zoom.

Secondly, the School makes use of the e-learning Colcampus platform, in which students sign on and go through course material. "At the conclusion of each session, there is a short test which has to be successfully passed to be eligible to get to the next session as it demonstrates they have actually studied the material. This is combined with the Zoom sessions," Roxburgh explains.

Thirdly, SCT uses another video delivery platform called Panopto.

"The greatest challenge in supporting online learning is to design a learning experience that lives up to the reputation your on-campus courses have earned. Students in a classroom can see the teachers, their slides, white boards and even live demonstrations. You have to make sure students learning online get the same elevated experience."

Roxburgh says with Panopto, there's nothing you can't capture. Panopto is the only video delivery software for blended and online learning built with the flexibility to record any combination of video sources, in any configuration, from anywhere, in full HD. "Panopto automatically recognises connected cameras and microphones to make recording videos effortless – you just have to press record and begin teaching. Whether you're streaming classes live or capturing the session for on-demand playback, with Panopto, you can give distance learners the ability to see everything they would see in a classroom," he explains.

“We cater for everyone in the concrete value chain – from someone who works a shovel through to structural engineers.”

Panopto also puts the viewer in control of their learning experience. "Viewers can see the instructor alongside supporting video feeds, including screen shares, slides, whiteboards, and document cameras. They can toggle between any of these video feeds based on their preference at any time, turn captions on and off when available, and even change the video's playback speed. With Panopto, you'll provide students with an engaging, interactive virtual learning experience that can help improve student outcomes."



John Roxburgh, senior lecturer at the School of Concrete

Roxburgh adds: "I might deliver a lecture in the form of lecture notes on the screen with my voice in the background. The students receive the lecture in this format which enables them to replay them as required, and they can also ask questions with the 'raise a hand' function. Answers to the questions can be added in to the video, and students sign on for the series with the ability to replay them as many times as necessary."

He says there is also a range of courses which are only self-study courses, consisting simply of a series of notes presented through the Colcampus e-learning computer application.

"For self-study in concrete, a practical component is less necessary than one would imagine. Most of our students are perfectly familiar

with the process of mixing concrete on site and are rather looking to over time gain experience and supplement their understanding. We're giving concrete education that is not a 'how-to' instruction course, but rather 'why' something is done.

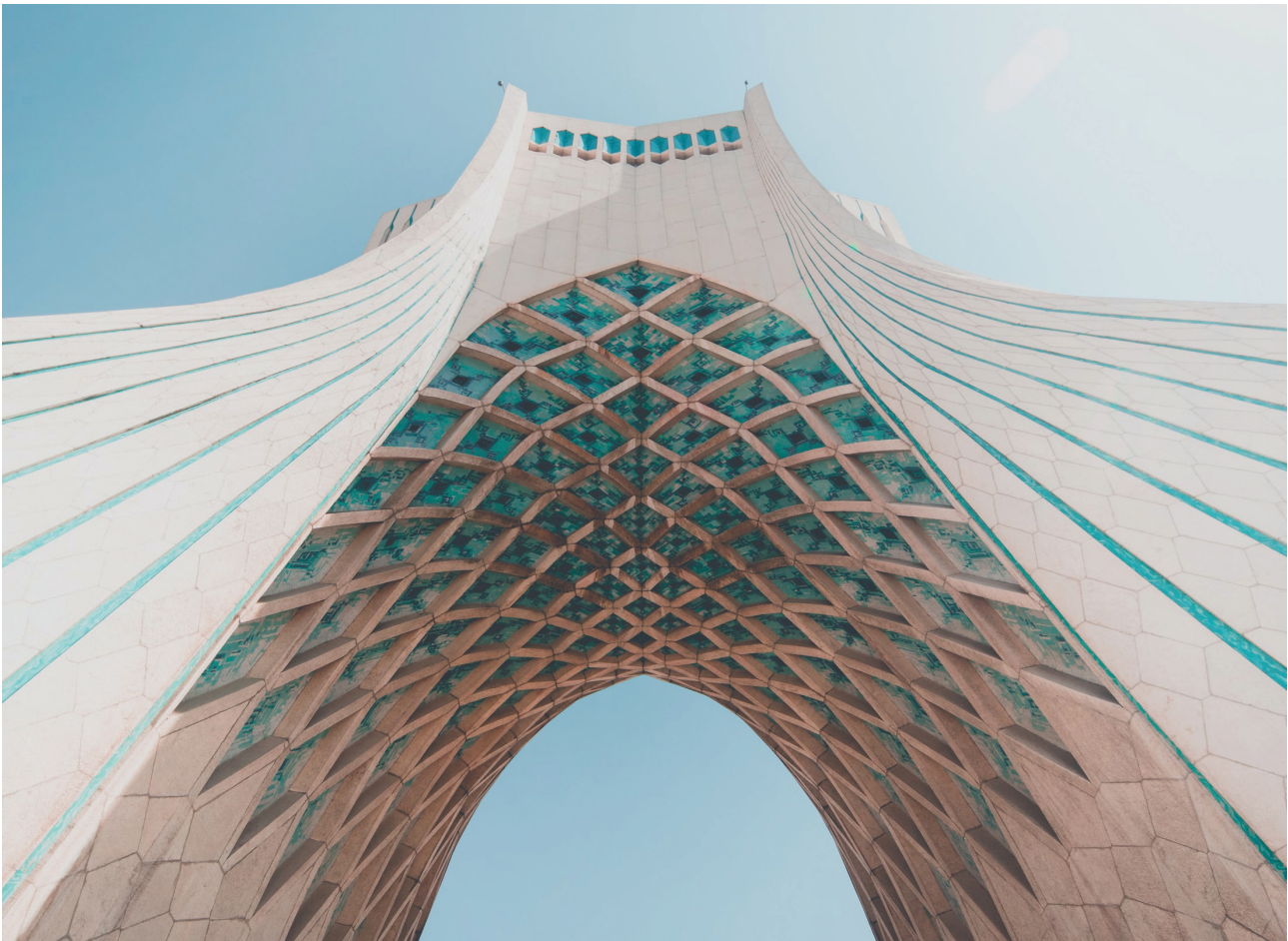
"We cater for everyone in the concrete value chain – from someone who works a shovel through to structural engineers. Therefore, we have a stepped approach to raise someone through rung after rung from the lowest to the highest level, and gain insights which they are able to use thereafter to solve situations on site," Roxburgh adds.

CONCRETE TECHNOLOGY STRUGGLES TO ATTRACT YOUNG PEOPLE

He believes the relevance of this methodology lies in what is currently happening in the construction sector which is in a depressed state with many long-time companies having closed down and highly experienced professionals having either left the industry, left the country or gone into retirement. They are no longer a part of the industry, and those skills are not being replaced.

"There used to be a core of young people who saw a career in concrete technology and wanted to do all the courses through to the Advanced Concrete Technology diploma. To rebuild this core takes time and the industry is losing many potential professionals to the digital world which does not take as long to qualify in. The School is responding by providing optional online courses to which there is easier access."

Roxburgh says a core base of students at the School comes from several qualifications such as Mechanical, Civil, Electrical



Source: Mahdiar Mahmoodi/Unsplash

and Mining engineering where there is a requirement to have knowledge of concrete technology. These are typically well-educated individuals who, he feels, frequently take a lively interest in the concrete technology course even though it is not core to their future careers.

“Another driver of change in the industry is 3D printing, which is being used to erect buildings on a wide scale today. There is an urgent need for people who know how to handle the material.”

“This is because incredible things are happening in concrete technology at the moment. It’s a pity fewer people aren’t drawn to the industry because there is more happening than ever before in terms of innovation and many high-tech jobs which never existed a few years ago. There are a number of global trends driving this, of which the biggest is sustainability. There is a tremendous market for professionals who are trained in sustainability to apply that discipline to concrete. This is because concrete is core to any infrastructure development and has an incredibly low carbon footprint compared to other building materials.

CONCRETE SHRINKS – DO 3D PRINTERS KNOW THAT?

“Another driver of change in the industry is 3D printing, which is being used to erect buildings on a wide scale today. There is an urgent need for people who know how to handle the

material as it is crucial to get the flow, stiffening, set, shrinkage and finishing properties of the extruded mortar or concrete optimised to ensure a quality product. There is little discussion about the performance of 3D printing once the building is erected, but I believe it will be a major issue in the coming years as most of the focus has been on the digital side and not the concrete,” Roxburgh comments.

He says drones too are game-changes in concrete technology as they are in many other fields. “Their use in our industry is in the investigation of concrete performance – a drone can be flown over a road and detect a 1mm crack and map where it is. This has implications for asset management with drones being able to fly around the perimeter of large concrete buildings and map any wear and tear with the aid of thermal imaging technology. Previously this was a hugely time-consuming process requiring a person to be lifted by crane to every inch of the building.”

WATERPROOFING OF CONCRETE

Roxburgh says there are also new technologies coming to the fore for the waterproofing of concrete, a subject allied to sustainability. “The single biggest factor in the durability and longevity (or serviceability) of concrete is its permeability.

This suggests there are a number of interesting high-tech careers in concrete technology which would appeal to a high-tech younger generation. However, they cannot start at the top but have to proceed from the bottom by enrolling for reputable training. To attract these newcomers is the SCT’s major challenge,” Roxburgh adds. ■

Claude Gorgulho – construction fraternity mourns

By David Beer on behalf of the Cement Manufacturer's Association

Members of the local and international paving industry were shell-shocked in August with the news that C.E.L. Paving Products co-founder and co-owner, Claude Gorgulho, had died of Covid-19 at age 46.

Gorgulho's knowledge of the paving industry was equal to the best in the world and his contribution to the dry-cast paving industry extended well beyond the confines of C.E.L. Paving. During his tragically short life he developed an unrivalled knowledge of precast concrete paving production based on in-depth research, innovation and practical implementation.

An undisputed leader and game-changer, Claude, more than anyone else, was responsible for transforming the Western Cape's dry-cast paving industry from the mere run-of-the-mill to one which offered much greater choice and far better quality.

The eldest of three siblings in a close-knit Portuguese family, Gorgulho was born and raised in the southern suburbs of Cape Town. He left high school after standard eight and completed his formal education at False Bay College in 1993.

Gorgulho's father, Claude Senior, owned a hardware store in Maitland and when he opened a brick and block manufacturing business as a second string to the bow in 1994, he asked Gorgulho, then 19, to run it.

Claude's Brickworks, as the business was known, also supplied sand, cement and stone, and during a downturn in 1997 the business ran into hard times. With bankruptcy threatening, the family home was sold and Claude had to dig deep to save the business, which he did.

GORGULHO TURNS TO PAVING AS AN ALTERNATIVE PRODUCT OFFERING

It was during that time that Claude turned to paving as an alternative product offering. The industry was very limited in those days and Claude sensed there was a gap in the market which could be filled via product innovation and diversity.

A VB1 machine for the manufacture of bond and interlocking pavers was bought from Pan Mixers SA, and from the outset Gorgulho forged a tight bond with PMSA, especially with its joint managing directors, Walter Ebeling and his brother Robert. PMSA was very supportive during C.E.L.'s early days, and the close relationship that Claude forged between the two companies continues to this day.

From the outset, Gorgulho's business model was based on producing pavers to best-practice standards, a modus operandi which has underpinned the growth and stability of the company. He also developed a reputation for integrity and always keeping his word, another pillar of C.E.L.'s subsequent success.

Towards the end of the 1990s Claude's Brickworks bought some land in Blackheath where a new manufacturing plant was built. It was at that time that the name of the business



Claude Gorgulho

changed to C.E.L. Paving Products, named after the three Gorgulho brothers, Claude, Ed and Lenny. It was Gorgulho's focus on quality and on-time delivery that led to increasing demand and a growing number of professionals got to know about C.E.L. However, Gorgulho took care not to over-extend the company or over-promise, and he always conducted thorough due diligence testing before committing the company to any new venture. He never placed C.E.L. under undue risk, nor did he extend debt beyond the levels the company could handle. This approach meant that it took longer to grow the business but it laid a solid foundation, such that today C.E.L. is one of the most successful paving producers in the country.

Claude Gorgulho's youngest brother, Lenny joined the business in 2004 and Claude lent him free rein to map out his own route within the company. At that time the business was receiving an increasing number of enquiries and Claude decided to build a second production facility in 2005 in Rand Road, a short distance from the primary plant in Sysen Rd. The new

plant was equipped with a VB4X machine which was bought from PMSA, and together with curing racks and an automated packing system, it geared the company for mass production.

The production of C.E.L.'s bread-and-butter range of interlockers and bond pavers was transferred to Rand Road and this enabled Gorgulho to use the primary plant for new product development. This led to the introduction of exposed aggregate paving, and under Gorgulho's supervision, C.E.L. was the first company to master this range of paving locally. One of C.E.L.'s first exposed aggregate sites was the paving of roads and paths at the Croydon Wine and Olive Estate in 2005.

Architects saw something in C.E.L.'s new offering they hadn't seen before and began specifying the product. Thanks to meticulous planning, extensive research and constant contact with the company's suppliers Gorgulho turned C.E.L. into an exposed aggregate powerhouse almost overnight.

This was also the period when C.E.L. became an award winning company. It won its first CMA Award in 2006 and from then on it's been a consistent winner at the CMA Awards for Excellence competitions.

Over time new machinery and handling systems enabled Gorgulho to introduce additional exposed aggregate ranges and other lines, and as the company's reputation for quality spread, sales continued to grow.

ONE STEP AHEAD

Gorgulho slept and breathed the industry and was always looking at ways of improving equipment performance. Continually one step ahead of the market, he was adept at choosing the right time to introduce new products. And thanks to his intimate acquaintance with the machinery and mechanics of paving production, these ventures were invariably successful.

His curiosity about paving technology and methods of improving it was insatiable. His regular visits to overseas trade

shows meant that he kept abreast of technology trends, even during the last years of his life after he had handed over the day-to-day running of C.E.L. to Lenny.

One of his outstanding qualities was his relationship with suppliers with whom he became close friends and with whom he was in touch on a regular basis. He was respected by competitors and was regarded as a peer by local and overseas equipment suppliers, someone from whom they would often seek advice. As a result, many innovations and modifications on new machinery were done on Gorgulho's recommendation.

In 2010, a neighbouring block and paving manufacturer, Columbia DBL, closed down. Claude's vision and timing saw C.E.L. taking over one of the plants at this site, giving them a third production facility.

A committed bachelor with a lock-up-and-go lifestyle, part of Gorgulho's success was his ability to place the right people in authority at C.E.L. This gave him the freedom to indulge in his second passion – travelling.

At the drop of a hat he would disappear for two to three months at a time and he would travel all over the world meeting up with friends and family. During these excursions he made a point of visiting equipment suppliers and paving manufacturers, and because he had mastered the art of connecting with everyone on a personal level, he was able to maintain relationships with many of them.

Extremely intelligent and creative, Gorgulho had a view on everything and was liberal with his advice. He was also a skilled communicator, a great storyteller, and an empathetic listener, and he brought much joy to others.

In addition to Lenny, who continues at the helm at C.E.L., Gorgulho is survived by his other brother Ed, who lives in Canada, and his mother Does who lives in Portugal. He will continue to be sorely missed by his many friends all over the world, many of whom he regarded as family, and by his family, all of whom he also regarded as friends. ■



Pawel Czerwinski/Unsplash

Tjeka Training Matters revolutionises construction supervisory training at NQF levels 4 and 5

Construction Tenders are increasingly requiring evidence that Managers and Supervisors have completed the relevant National Qualifications. CVs of an experienced workforce alone are no longer accepted, although a large number of Construction Managers/ Site Agents and Foremen have risen up the ranks in the construction industry because of the extensive experience they have gained in the workplace.



Kobus Brummer,
Manager of Tjeka
Leadership Academy

Tjeka Leadership Academy's distance learning programmes have enabled learners to accelerate the completion of their construction supervisory skills training at a National Qualifications Framework (NQF) Level 4 and Level 5.

The distance learning programmes were initially born out of a solution devised by Tjeka Leadership Academy to provide NQF Level 5 Construction Management/Site Agent training during the hard lockdown that was implemented in the beginning of 2020 to contain the

spread of the Covid-19 virus. Several construction professionals approached the academy to devise a way for them to work towards gaining this qualification while they had time to learn during the extended period that worksites were not operational.

Considering the flexibility it offered learners, many more people enrolled for the distance training. Based on demand, Tjeka Leadership Academy also decided to launch distance learning for NQF Level 4 training for experienced construction Foremen. This method of training has since become the preferred means of completing Registered National Qualifications at NQF Level 4 and Level 5 through Tjeka Leadership Academy.

"A significant benefit of this approach to training is that individuals can complete their qualifications faster than they would in a classroom environment. They are able to work through the material whenever they can, as opposed to a classroom environment where the pace of completion is governed by that of less experienced learners. This has helped to significantly accelerate their growth and development as construction leaders and it now seems to have become the new norm to complete supervisory training at these levels via distance learning," Kobus Brummer, Manager of Tjeka Leadership Academy, says.

However, it is merely the method of delivering the course content that has changed. Learners still receive the same quality instruction and mentorship from their experienced facilitators as they would in a classroom environment. This is provided at regular intervals via live coaching platforms, such

as Zoom, Microsoft Teams and Skype, as well as telephonically and via e-mail.

Learners write their exams on a quarterly basis at Tjeka Training Matters' facilities and hand in their Site Workbooks, a record of practical on the job learning, to facilitators for assessment. Depending on the progress made, they are able to then embark on the next batch of theoretical learning modules.

"This is yet another example of how we are able to constantly adapt to the requirements of the industry to provide unrivalled construction training. Tjeka Leadership Academy has trained well over 3 000 construction supervisors for South African contractors since registering our first Learnership in 2005. NQF Level 4 Foremen and NQF Level 5 Site Agents who have been trained by the academy are able to plan, lead, organise and control to mitigate errors and improve productivity on construction worksites. This provides companies with a strategic competitive edge in the market and improves their profitability," Brummer concludes. ■



Distance education has become the preferred means of completing Registered National Qualifications at NQF Level 4 and Level 5 through Tjeka Leadership Academy



African Construction Expo rebrands to **The Big 5 Construct Southern Africa**

African Construction Expo, Southern Africa’s construction and built environment multi-award winning, flagship exhibition, has unveiled its refreshed and reworked identity. The event will run as The Big 5 Construct Southern Africa for its 2022 in-person edition from 7 – 9 June at its usual home, the Gallagher Convention Centre.

According to the organisers, leading event company dmg events, the name update is reflective of the evolution of its place in a dynamic and transforming market and geography. Whilst a name change and rebrand is significant, the core foundation and vision of the event has not changed and the team is committed to ensuring that they provide a platform that not only unites the Southern African construction sector but demonstrates cutting-edge innovation, and provides a stage for knowledge and business opportunities for industry stakeholders.

“With a healthy pipeline of infrastructure projects on the cards in both Southern and South Africa, indicators point to a healthy rebound for one of the worst hit sectors by the pandemic. The decisions by governments to develop and invest in infrastructure provides a wealth of opportunities for established players and new market entrants.”

Devi Paulsen, Vice President of dmg events



Timing of the event could not be better. A key component of South Africa's Economic Reconstruction and Recovery Plan announced by President Cyril Ramaphosa in November 2021 is underpinned by 'aggressive infrastructure investment', with a strong emphasis on localisation, job creation and streamlining of the regulatory framework.

According to Devi Paulsen, Vice President of dmg events, "With a healthy pipeline of infrastructure projects on the cards in both Southern and South Africa, indicators point to a healthy rebound for one of the worst hit sectors by the pandemic. The decisions by governments to develop and invest in infrastructure provides a wealth of opportunities for established players and new market entrants."

"Our decision to rebrand to The Big 5 Construct Southern Africa allows the Southern African edition of this series to successfully align to the strengths of an iconic portfolio of global events, hosted in Dubai, Egypt, Saudi, Nigeria and Kenya, which has been running for over 42 years and collectively welcome over 100,000 participants annually."



With hundreds of global suppliers exhibiting their products and services, a number of thought-leadership conferences, hours of networking, business matchmaking programmes and free-to-attend workshops and talks, The Big 5 Construct Southern Africa 2022 will play host to thousands of attendees from over 45 countries, all in a safe and secure environment.

The event has partnered with leading industry associations to provide free CPD accredited workshops to equip industry professionals with tools and strategies to carry out their respective roles effectively. The interactive workshops and case studies, that will be examined by leading industry experts, will tackle advanced technology solutions, sustainable best practices, governance and regulation, new health and safety protocols and green construction solutions.

The Big 5 Construct Southern Africa is free to attend and construction industry professionals are encouraged to pre-register to secure their place at www.thebig5constructsouthafrica.com. For companies looking to grow their business in the region, there are various options available to exhibit or sponsor the event to suit any budget. For further information, please contact KennethMasvikeni@dmgevents.com ■

ROCLA

OUR DIFFERENCE IS CONCRETE



A STRONG FOUNDATION FOR INFRASTRUCTURE SUCCESS

ROCLA is South Africa's leading manufacturer of pre-cast concrete products.

Surpassing 100 years of product excellence.

- Pipes
- Culverts
- Manholes
- Poles
- Retaining walls
- Roadside furniture
- Sanitation

Including other related products within infrastructure development and related industries.

Visit us on
www.rocla.co.za
for our nationwide branches



When concrete is the same price as five years ago, your truck may be the difference between profit and loss

By Eamonn Ryan

In a market when suppliers are delivering concrete at the same price as five years, they can only achieve that by being smarter – particularly with the costs of their ready-mix trucks. Quintin Booysen, Sales and Marketing Manager at PMSA (Pan Mixers South Africa) gives PMSA's views on trends in the ready-mix and equipment sector.



Traditionally South Africa has a strong culture of dry mixing whereby the mixing is done on the ready-mix truck, which required further time-consuming mixing at the production site. With the improvements in technology in recent years, this system has rather favoured pre-mix whereby everything is mixed at the batching plant. It has the advantage of allowing for a higher-quality mix through everything being batched together and mixed in one go and discharged into the truck.”

This also permits a better utilisation of trucks. “There are other means to speed up the process, for instance through moisture control. When making concrete there’s always some extraneous water in the system, for instance in the aggregates, lowering the strength of the concrete. By rather doing this in the batching plant, it enables the moisture level to be closely

monitored for a more precise moisture level and less wastage, while the trucks themselves can also have an on-board Ludwig moisture monitoring system in the drum providing live feedback throughout the journey,” explains Booysen.

“You get transit mixers and you get ready-mix trucks, and in the latter what is critical in the drum itself is the number of blades inside. The more blades there are and their position result in a better quality mix and quicker mixing time. Then when the truck arrives on site, these more modern technologies result in delivery of concrete which is more consistent and predictable.”

South Africa has strict axle loads and weighbridge formulas, limiting the country to loads depending on the truck axles. Booysen explains that generally the South Africa market best suits drums of 6m³ or 8m³. “However, the make-up of the

drum affects this. In cases where the steel in the drum is too thick the weight of the drum increases and this reduces the load that can be carried to say 5.5m³ for a 6m³ drum. There is the option of a 10m³ or even 12m³ in certain circumstances, but these do not suit a typical urban environment. At PMSA we supply the full range," says Booyesen.

WAYS TO REDUCE COSTS

Other ways to reduce costs include having the right truck with the right power-to-weight ratio which uses less diesel; as well as a drum which has good wear resistance. Greater longevity of the drum means more cubic metres of concrete can be delivered from the same drum over its lifecycle. "If one can transfer some of the wear and tear from the drum to the batching plant, that results in greater truck efficiency. This is particularly important to an owner-driver who is paid per load, and consequently wants minimal wear on their truck. If they are transporting a dry mix where all the mixing is done in the truck's drum, this reduces the life of the drum as it is an intense mixing as opposed to just an agitation.

"Furthermore, the faster the drum turns the more power and diesel it requires. We try restrict this to an output drive of 1,500 rpm but with more mixing blades inside the drum which does the same job at a lower speed.

"A mixing drum can be loaded onto almost any truck, leaving the client to choose the most cost-effective truck for themselves, and we mount the drum onto it for them. The truck does need to have a power offtake (to rotate the drum) to power the hydraulic system. The truck also has to have a horsepower of between 250hp and 280hp for a 6m³ drum. Clutches tend not to last that long on a ready-mix truck because of the demanding treatment, and so an automatic shift may be better. A semi-automatic gearbox is also worth considering.



Among the drawbacks of an automatic is that they are more expensive and sometimes not suited to hilly terrain."

Often a purchaser considers the thickness or lightness of the drum's skin, without considering what material it is actually made of. "There are many different types of steel to choose from and we use one called 30 MnB5 made from steel with Chromium and Boron guaranteeing a real wear resistance to the wear and tear caused by concrete. You can make the material more wear resistant but it could become brittle and liable to crack. Our material has more malleability, allowing the material to be scratched and retaining the material, rather than scratching off and reducing the thickness faster overtime. This allows us to make a 4mm drum thickness with lighter material (by 350kg) permitting a higher loading to achieve 6m³ or 8m³ – and it lasts longer."





COMPETITION

There is a lot more competition in the ready-mix business today as the barriers to entry have lowered and pushed ready-mix prices down. "It's purely based on capital, with no special skills any longer required for the mass market."

There are about six suppliers of drums in South Africa with a lot of competition in the manufacture of the ready-mix equipment. The major ones are: PMSA, Putzmeister, Liebherr, Cifa, TFM, ECEM. Local manufacturers are restricted to the

grade of local steel they can get, and the limited size of the local market – with an absolute maximum of 300 units sold a year, and a low of 100 – does not always offer economies of scale.

"South Africa is definitely price sensitive, so one of the major considerations of buyers is affordability. Within a certain 10-15% window of affordability, a buyer will then look at different technologies, longevity of the equipment and support. For 2022 the main consideration will be availability – factories in Europe are experiencing shortages of raw materials and this is compounded by logistics bottlenecks with shipping which will affect supply of both drums and trucks."

THE FUTURE

For the short-term future, Booyesen doesn't anticipate much changing other than a steady increase in infrastructure projects in the country – bridges, dams and concrete freeways – coming on line over the next year to two. "There is demand for higher quality concrete, which means wet batching is required.

"What has entered the overseas market but not yet always available in South Africa is self-levelling concrete and self-compacting concrete – these will become more the norm in the future. This requires a high-quality drum and mixing equipment, as well as a really good mix design – normally on site there's no vibration used in casting the self-levelling and self-compacting concrete, so mix design is crucial. I anticipate seeing this trend in South Africa over the next two to five years.

"Over the five-to-ten-year time span I believe there's a good chance of seeing 3-D printing technologies entering the construction market in a big way – especially the printing of houses and buildings. In this scenario, the ready-mix truck will arrive with the 'ink' in the form of printable concrete. Instead of pouring concrete into moulds we'll be printing it into buildings, and this is already a reality. Some manufacturers are already looking at ways of converting ready-mix to a printable format," says Booyesen. ■



How Putzmeister helps with faster mix turnaround times

By Eamonn Ryan

Any 'down time' of a mixer or chassis is crucial to a construction business. Units need to do as many loads a day as possible in order to be profitable. However, when one has a concrete mixer that is of German quality, as the Putzmeister units are, down time is kept to a minimum, explains Rudy Myburgh, Head of Putzmeister sub-Saharan Africa.



Rudy Myburgh, Head of Putzmeister sub-Saharan Africa

Myburgh evaluates the main considerations a buyer should consider when choosing a concrete mixer truck: "The steel composition of the mixer drum unit itself plays a big role and ensures the durability (lifespan) of the drum itself. The longer your investment lasts the better return it can offer. High quality steel means that the drum can be built out of a slightly thinner steel and by pairing it with Hardox it helps to reduce wear. This also results in the weight reduction of the complete mixer itself compared to the normal thicker type of steel drums.

"Lower quality drums use thicker steel drums to try and compete with the longevity the quality Putzmeister drum

achieves. Putzmeister prides itself on importing fully built and primed units, meaning that the quality aspect is as thorough as a German quality check can get and with back up service and parts readily available, this plays a big role in deciding on a mixer." It is also easy to carry out daily maintenance checks to ensure the utmost output is enjoyed, he notes.

By looking at the life span of how many cubes of concrete, over how many years of life you got out of a mixer and by applying repair costs and other maintenance, one arrives at the total cost of ownership on the mixer itself. "Over the past nine years that Putzmeister has been in the mixer truck market, we can confidently say that our heat-treated steel offers high wear protection for a good price. The truck mixer therefore withstands difficult conditions and ensures a long service life compared to mixers manufactured with lower quality steel by some market players," he suggests.

EFFICIENCY AND SUSTAINABILITY

The improvement in the latest designs of mixer drums makes them more efficient in respect of mixing time, quality of the mixing and with minimal wear. This assists with turnaround times. "Putzmeister is at the forefront of innovative design and fine tuning our product," says Myburgh.

The spiral setup in the mixer drum is extremely important to facilitating the mix as quickly and efficiently as possible.



MT 0.35 Batching Plant
in Namibia.



The Putzmeister P6 Truck Mixer and the 36 meter reach Concrete Boom Pump

“This avoids idle standing of the truck and produces well mixed concrete. In essence if mixing time is reduced it could in turn reduce wear on your drum and lower your diesel consumption on the mixer truck. We are of the opinion that Putzmeister’s spirals are dimensioned for a very good mixing and discharge performance with Hardox coated spiral tips to ensure long life cycles on the drum itself,” says Myburgh.

“I believe that the answer to faster turnaround time and mixer truck efficiency lies with wet batch plants. Wet process batching plants are more popular across the world for various reasons compared to dry process batching plants. The answer to reducing the time a truck mixer spends at the yard before being able to leave to go to a client’s site lies in these wet batching plants. Due to the mixing cycle happening in the twin shaft mixer of the batching plant itself, the perfectly mixed ‘wet’ concrete is deposited into the truck mixer drum while the mixer drum is in slow agitating mode and not having to spin the mixer truck drum as fast as possible to mix dry material. This reduces the wear on the spirals and the drum itself. The truck consumes less diesel as it is idling. The consistent quality of the concrete out of the wet batch plant is also much better. There have also been cases where clients with wet batching plants observed savings in cement usage for various reasons.”

Putzmeister offers a full range of wet batching plants producing between 21m³/h to 120m³/h of perfect wet concrete. Putzmeister offers anything from 6m³ – 12m³ mixer units dependent on a client’s needs and chassis, road ordinances, local weight restrictions.

REDUCING WEAR AND TEAR ON DRUM AND TRUCK

Putzmeister uses TBL Boron Manganese steel in its drums and Hardox coated spirals as standard for longer lasting units. The use of a wet batch plant eliminates the need of mixing dry concrete in a mixer drum due to the fact that the concrete is already mixed by the twin shaft mixer of the plant itself, as explained, and ready for transportation. This will reduce wear on the drum and truck significantly with a huge cost saving in diesel consumption as mentioned.

This is important in a market that is highly competitive, says Myburgh. “Pricing also plays a big role in the ready-mix industry, with every little saving helping. That’s why it is crucial to have the best quality mixer unit possible for longevity and cost saving in the long run. Our competitive value is the quality we guarantee, and that this enables us to justify the price differences quite easily.”

WHERE TECHNOLOGY IS HEADED

“I would not call it technology as such, but rather engineering genius. Not much technology goes into a concrete mixer, but the engineering aspect of it plays a big role. Putzmeister is forever re-engineering our product line as a whole to increase productivity, decrease weights while not compromising quality and longevity,” says Myburgh. “In regards to how mixers and concrete pumps will be powered in the future, Putzmeister already has the New IONTRON hybrid truck mounted concrete pump that can operate using the construction site electric power supply. Putzmeister is also developing their first entirely electrically driven mixer trucks and will be available soon in Europe.” ■



A night scene at a typical batch plant



- ➔ Robust design for extra long lifetime
- ➔ Availability of more maintenance and working space
- ➔ Possibility to increase aggregate storage capacity if required
- ➔ Availability of Skid frame for mobile application
- ➔ Advanced calibration system for cement, water and fly-ash
- ➔ Remote Operation through tablet available

BATCHING PLANT

21 – 120 m³/h

World Leading Concrete Solutions:

Boom Pumps | Boom Placers | Stationary Pumps | Mobile Pumps | Belt Conveyors | Batching Plants | Plastering and Underground | Truck Mixers | Tunnelling

As a pioneer of research and development in concrete pumping technology PUTZMEISTER offers the latest and the most comprehensive range of concreting solutions. PUTZMEISTER has developed advanced technologies and high quality services of the highest standards. With a world-wide sales and service network PUTZMEISTER now also offers the ultimate Batching Plant.

Want to know more? Please feel free to contact one of our area sales managers for assistance on:

Ashley Gerstner

Ashley.Gerstner@putzmeister.com

+27 60 906 8994

Llewellyn Edwards

Llewellyn.Edwards@putzmeister.com

+27 72 271 5936

Ninnette Pozzan

Ninnette.Pozzan@putzmeister.com

+27 82 048 6571



Close to
your business





Revelstone's Devon Cobbles in a grey blend and charcoal combine in an attractive pedestrian crossing linking the pedestrian island to the hotel entrance

Ageing aids port cochere paving

Text and photography by David Beer, on behalf of the Cement Manufacturers Association (CMA)

The paved port cochere at the Southern Sun Waterfront Hotel off Lower Buitenkraacht Street in Cape Town has lost none of its dazzling appeal since it was laid in 2012. Quite the contrary, after 10 years of weathering and usage, the paving looks better today than it did when first laid.

Designed by Louis Karol Architects who specified cast-stone pavers manufactured by CMA member, Revelstone, the vehicle and pedestrian forecourt comprises a circular pedestrian island fringed by a ring road for car and bus access.

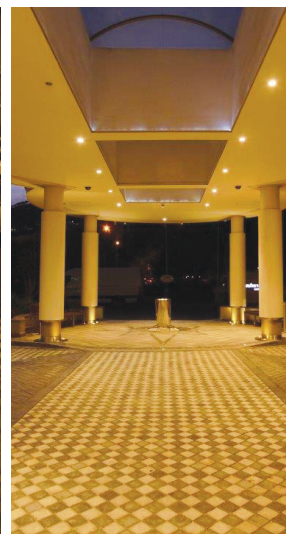
Revelstone's Devon Cobbles, Jura Pavers and Jura Edging were skilfully deployed in combination with granite inlays in

eye-catching configurations. Laid by Progressive Paving, the paving harmonises with the port cochere, using a blend of colours and patterns to create a forecourt with distinct Roman influences.

Adrien Desmarais, managing director of Progressive Paving, said that the original red brick pavers had to be removed before the new pavers were laid.



Revelstone's Devon Cobbles in a grey blend and charcoal mix (foreground) and a triangle of charcoal Devon Cobbles. All three Devon Cobble section in this picture are flanked by Jura Edging



The Devon Cobble walkway flanked by Jura edging

"Owing to the intricate nature of the paving layout, the project required detailed planning and careful execution. We operated under a tight time constraint and the actual construction had to be executed in two phases to allow vehicular and pedestrian access during construction."



Jura pavers with V-shaped granite and circular Devon Cobble insets



▲ *Jura pavers in a grey blend*

◀ *Devon Cobble (outer ring) frame a water fountain in the pedestrian island*

"We used 75mm thick pavers for the trafficked sections and 60mm pavers for the pedestrian layouts. Paved with Devon

Cobbles, the traffic sections show no signs of creep or buckling even though doubled axle tourist busses exert considerable lateral pressure on the paved surfaces, especially when executing sharp turns.

"We paid particular attention to the correct and accurate lining of the pavers and we made sure that the paved road sections had very solid side-wall support. And besides natural weathering, one of the reasons for the improved appearance of the cast-stone pavers over time is the gloss created by the polishing effect of rubber tyres." ■

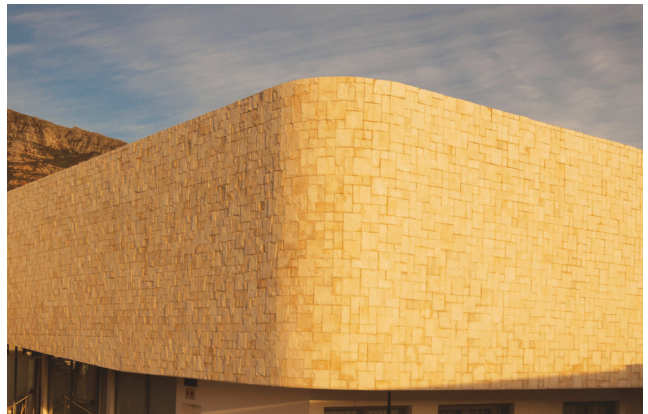


The circular walkway (left) covered with Jura Pavers and flanked with Devon Cobbles

Cast-stone cladding connects wine estate building to the natural environment

Text and photography by David Beer, on behalf of the Cement Manufacturers Association (CMA)

The external façade of the upper section of a new winery's security and cooling rooms at Constantia Uitsig Wine Estate has been embellished with Constantiaberg, natural-looking cast-stone cladding supplied by CTM as part of its Stonewall cladding range. The cladding material was produced for CTM by cast-stone manufacturer, Revelstone.





The winery formed part of a new-building programme on the estate which included Heritage Restaurant Cottages and The Bike Park.

Completed in 2019, the cladding work was done by Denobriga Tiles as a sub-contractor to Cape Additions, which constructed this and other new buildings on the estate.

Uitsig Wine Estate owner, Anthea Erasmus, said that obtaining Heritage approval for the various projects on the estate was a protracted process and caused long delays.

“This and the fact that none of the existing buildings had any heritage value was why we decided on futuristic designs for the new winery. We did consider natural stone for the cladding, but the cost was exorbitant. And given the height of the wall, the cladding process with natural stone would have been decidedly dangerous.

“My inspiration for the cladding resulted from a visit to the Getty Museum in Los Angeles where the stone cladding softened a large flat building façade. Similarly, Revelstone’s cladding has tempered the harshness of the ground-floor glass frontage and the rectangular shape of the Uitsig winery.

“Chris Marshall of Cape Additions was the mastermind in achieving the look that I wanted; it’s close to perfect and our visitors love it.”

Uitsig Wine Estate was first planted in 1685. Besides crafting some of the Cape’s finest wines, the estate is involved with several corporate social responsibility programmes which address education, unemployment and wildlife conservation. ■

New life for waste plastic as concrete aggregate

Text and photography by David Beer, on behalf of the Cement Manufacturers Association (CMA)

CRDC South Africa, a wholly owned subsidiary of CRDC Global (Center for Regenerative Design and Collaboration), is in the vanguard of a global initiative to divert plastic waste from landfills and convert it into RESIN8, a man-made Eco aggregate. RESIN8 is currently being produced at four pilot plants globally, in Cape Town, Costa Rica, the USA, and the United Kingdom.

Founded in 2018, CRDC Global works with leading waste management and construction companies around the world and partners with international organisations such as Habitat for Humanity and the UNDP (United Nations Development Programme). Headquartered in Ireland, the company also operates out of offices in Australia, Mexico, New Zealand, Hong Kong and the UK.

In September 2021, the AEPW (Alliance to End Plastic Waste) and CRDC Global announced a partnership to expand CRDC's footprint in North America with the development of a full-scale 1 300m² production plant in York, Pennsylvania, as well as expanding the facility in Costa Rica to a full-scale production plant that will absorb the majority of Costa Rica's plastic waste.

CRDC also intends ramping up its South African plant in Cape Town to full-scale commercial capacity by mid-2022, followed by full-scale plants in Gauteng and Durban.

Tested rigorously for two years, RESIN8 meets stringent building standards in the US, African and Latin American

countries and exceeds ASTM standards, the international benchmark for material performance. CRDC Global's patented low-carbon process accepts any type of plastic waste for conversion into RESIN8.

"RESIN8 is a working example of the circular economy with the potential to scale globally," says Donald Thomson, the founder and chairman of CRDC. "We are successfully transforming the plastic waste stream into an appreciating value stream for the concrete, construction and housing industries.

"RESIN8 can be used in precast and in-situ concrete applications and is the only material sourced from plastic waste which improves the performance of concrete, increasing compression strength, fire resistance, thermal performance and acoustic properties."

HOW RESIN8 IS MANUFACTURED

Developed by and for the construction industry, RESIN8 is produced by grinding waste plastic into flakes and mixing it with two additives. This material is melted, extruded and granulated



Waste plastic prior to processing



Plastic waste is ground into flakes

into aggregate-like particles in various sizes ranging from 2mm to 25mm. A rough and open-cell structure combined with the additives enhances the mechanical and chemical adhesion properties of RESIN8 in a concrete mix.

The performance of RESIN8 in the production of concrete bricks has been tested locally by The Department of Civil Engineering at Stellenbosch University. The tests were conducted to the SANS 1215:2008 standard by Dr John Babafemi and Adhem Kotze using RESIN8 as an alternative material to stone-based aggregate (6mm Greywacke) at replacement ratios of 5%, 10%, 15%, 20% and 30%. These were measured against a conventional RESIN8-free mix design which achieved a compressive strength of 7,2MPa after 28 days.



Plastic flake feedstock

The results of the experiment revealed that the compressive strength of the concrete bricks made with the varying RESIN8 content ratios compared well with the control sample. Strengths of 7,5MPa and 7,7MPa were realised at RESIN8 contents of 5% and 15%, respectively, whereas in the 10% sample, a negligible strength drop to 7.1MPa was observed. According to Dr Babafemi, this could have resulted from

variation in compaction. Strengths dropped further to 7MPa at a 20% content and at a 30% RESIN8 content, the strength reading was 6MPa. These tests suggest that RESIN8 can be substituted for natural aggregate at ratios of up to 15% for structural concrete and up to 30% in non-structural concrete.

However, results differ from country to country. According to Ross Gibby, chief operating officer of CRDC Global, depending on local conditions, RESIN8 has demonstrated an increase in compressive strength of up to 20MPa in some parts of the world.

Additionally, local testing is being conducted by chemical scientist and independent researcher, Cyril Attwell, a global pioneer in the development of cement-free concrete. He has found that when mixing concrete using fly ash as an alternative component to cement, the potential for using RESIN8 as an aggregate substitute rises dramatically to 50% for structural concrete, (>25MPa) and 100% for non-structural concrete, (<25MPa).



Extruded plastic 'sausages' prior to granulation

HYBRID CONCRETE MIX TECHNOLOGIES

"By deploying hybrid concrete mix technologies using standard aggregate we can reduce concrete's carbon footprint by 85%, almost eliminating the need for cement. And when RESIN8 is added to the mix a negative emission concrete, one that actually absorbs CO₂ in its design matrix, can be achieved," said Attwell.

CRDC South Africa currently employs eight people and its pilot plant is situated at Cape Concrete's premises in Blackheath where trials and experiments on RESIN8 have been conducted since September 2020. And in addition to the Stellenbosch University and Cyril Attwell tests, RESIN8 is being sampled by several Cape precast concrete producers.

Cape Concrete is experimenting with the plastic-based aggregate in kerbs, concrete pipes, channels and concrete toilet cubicles.

Cape Concrete managing director, Darty Louw, says RESIN8 works well with small unreinforced diameter pipes.

"We are achieving a 200% design strength with the pipes and we are getting good results with kerbs and toilet cubicles."



CRDC CEO, Abraham Avenant (left) and Andre Jameson next to a bag of 6.5mm Resin8 aggregate

CRDC South Africa CEO, Abraham Avenant, says that the company's main focus prior the establishment of a full-scale plant next year is on testing and experimentation.

"Subsequent to the Stellenbosch and Cyril Attwell research work, we have gained a better understanding of the performance curve and we are currently experimenting with concrete blocks and kerbs using a 6.5mm RESIN8. One of the huge pluses of RESIN8 is that it can be produced with non-recyclable plastic, which normally ends up in landfill sites. We plan to roll out 20 plants during the next five years and each plant will require 800 tonnes of waste plastic monthly for our financial model to work. Our first full-scale plant will have two lines producing three tonnes per hour.

HELPS INCREASE RECYCLING RATES IN SOUTH AFRICA

"We are reaching out to private property developers, architects and consulting engineers as well as to local governments and

the Department of Human settlements as they will be the primary drivers in RESIN8 usage. Local government involvement would be a major boost in preventing plastic waste from being dumped in landfills, and it will certainly be of benefit to them because they are running out of landfill space."

Over 1,5 million tonnes of waste plastic are generated annually in South Africa, of which only 21% is recycled. The remaining 1,1 million tonnes ends up in landfills or as unsightly plastic litter. The SA plants will be fed with plastic waste from several sources; waste management companies, post-industrial/consumer waste companies, environmental NGO's and informal waste pickers.

CRDC Global is working with partners such as the UNDP (United Nations Development Programme) to test simpler and more effective plastic recovery programmes so that waste plastic is kept out of landfills and not incinerated, which can cause harmful emissions being released into the atmosphere.

To that end CRDC Global has launched 'The Bag That Builds (TBTB)' waste collection program, which is currently being run across select locations around the world. It has been designed so that any type of plastic waste (Resins 1-7) can be placed into a single recycled bag.

People will be asked to fill TBTB bags with all types of plastic and the bags will be collected either as part of regular waste collection or at designated collections points. The collectors will be paid and incentivised for every TBTB bag collected via a cell-phone-based digital banking system.

Cape Town's initial TBTB program will include informal settlements, schools, clean-up NGOs, sports events and various communities, and several communication initiatives will be used to ensure effective collection protocols.

Visually benign, RESIN8 is a light eco-aggregate with thermal and sound insulation properties which make it an effective building insulator with no leaching, abrasion or micro-plastic release. It is fully circular recycled product with a low embodied energy production footprint. And at the end of its concrete life, it can be crushed and re-used.

General manager of the Concrete Manufacturers Association (CMA), Henry Cockcroft, says it is encouraging to note that South Africa is playing a leading role in the development of RESIN8.

"Plastic is widely acknowledged as one of the world's most



A bag of 6.5mm RESIN8 aggregate



Experimental concrete blocks and kerbs made with varying quantities of RESIN8

pressing environmental issues and any initiative such as RESIN8 which addresses the problem head-on is to be welcomed. South Africa has always been among the leaders in concrete technologies, therefore it comes as no surprise that we are involved with the development of RESIN8.

“It is particularly gratifying that CRDC will be involving the unemployed through the ‘The Bag That Builds’ programme and that plastic which can’t be recycled into ‘new’ forms of plastic can be used in the production of RESIN8,” concludes Cockcroft. ■

CREATIVE CONCRETE

- Bonding Agents
- Chemical Anchors
- Concrete Bonding
- Concrete Crack Repairs
- Concrete Release Agents
- Concrete Repair Mortars
- Curing Compounds
- Epoxy Adhesives
- Epoxy Grout
- Joint Sealants
- Non Shrink Grouts
- Pre Cast Repairs
- Water Proofing

For that lasting impression and quality finish!



- Tel: + 27 11 822 2320
- Fax: + 27 11 822 2354
- e-mail: cindy@ashak.co.za



Revelstone pavers enhance positive urban spaces at Bridgewater

Text and photography by David Beer, on behalf of the Cement Manufacturers Association (CMA)

Jura Cobbles, manufactured by Concrete Manufacturers Association (CMA) member, Revelstone, have been used extensively for paving outdoor spaces at Bridgewater, a mixed commercial, hotel and residential project at Canal Walk, Cape Town, designed by Vivid Architects for Rabie Property Group.

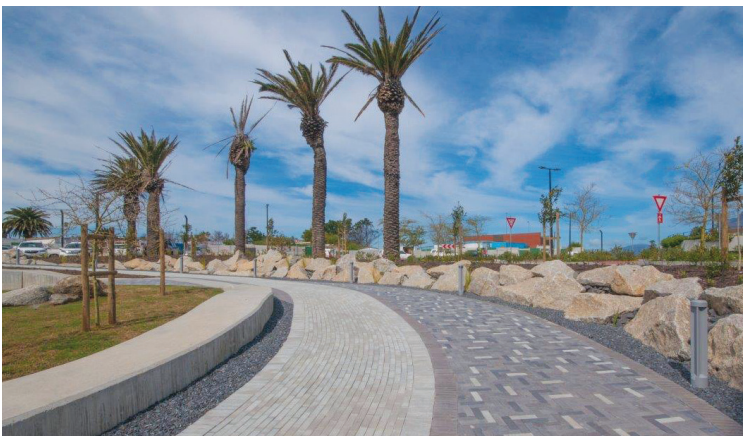
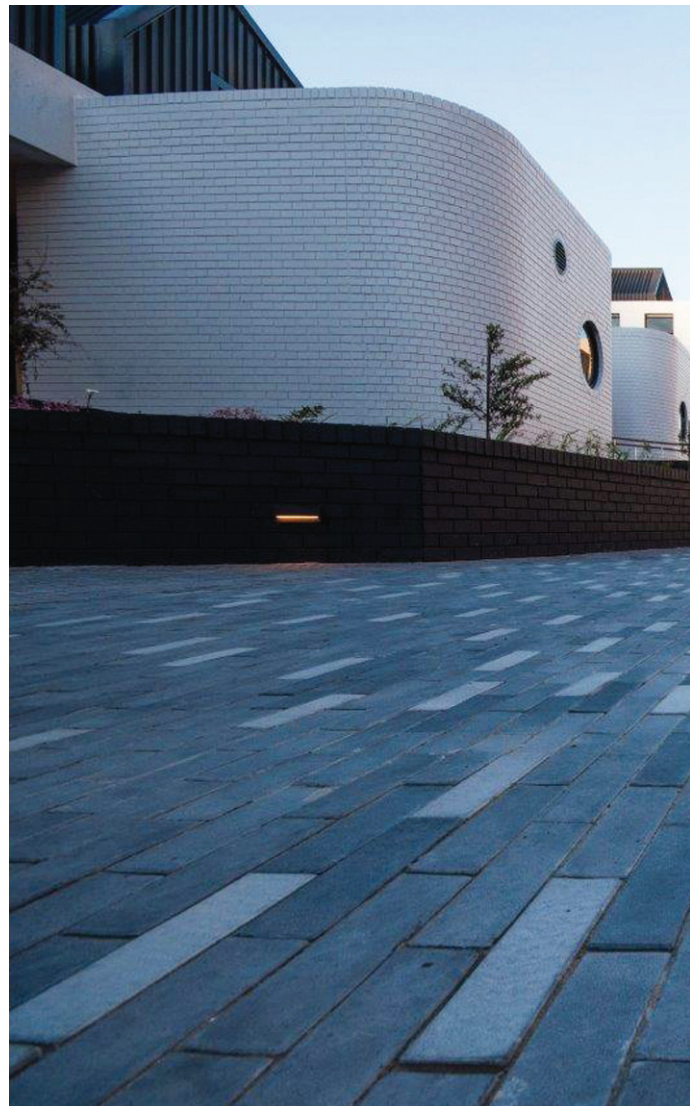
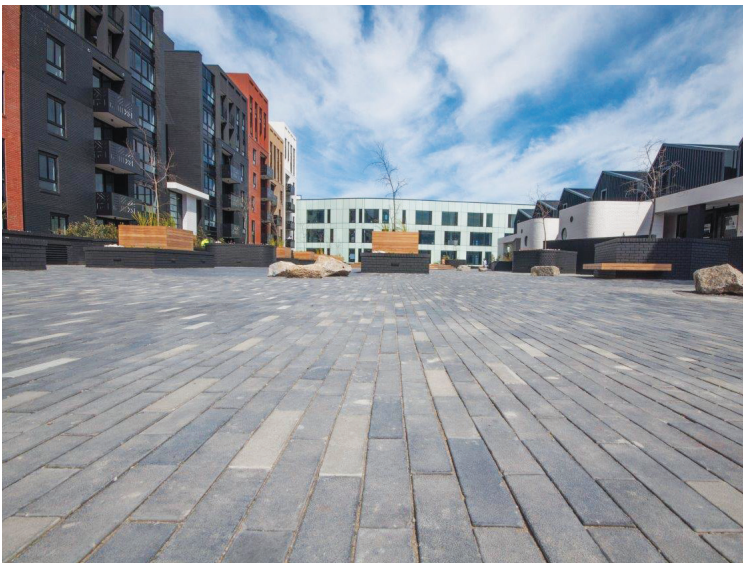
Completed in August 2021 and covering an area of 4 000m² on three levels, the paving was installed by Seymour Paving. The civils and the preparation of the subgrade were done by Cornfield Construction.

Vivid Architects, director, Charles Louw, said that all the hard landscaping on Bridgewater was designed and specified by Vivid, as it does on most of its projects.

“We firmly believe it is our responsibility as architects to design not only buildings, but positive urban spaces that con-

nect these buildings to the public realm. For this project we collaborated with Planning Partners, who designed the soft landscaping.

“We seek to add value for our clients and aid them in selling or letting the commercial space. We do this by designing contemporary buildings and landscapes that have a stylish yet timeless appeal; spaces with a sense of place that people will want to inhabit. If people want to be there, the development will almost sell itself.



Enhancing urban spaces- Revelstone’s Jura Cobble was specified by Vivid Architects to assist in the creation of positive urban spaces at Bridgewater, a Rabie Properties Group development in Canal Walk, Cape Town

“Our landscape design ethos for Bridgewater was fairly simple. Where people need to walk, run and move, hard surfaces were created using Jura Cobble. We also specified timber decking in spaces where people can sit and pause. Other spaces comprised constructed planters and soft landscaping.

“Through the years we have specified clay pavers, natural granite cobbles and granite tiles for a variety of hard surfaces. For this project, precast concrete pavers, specifically the Jura Cobble range, provide the necessary robustness, size format, colour variations and the costing we sought to complement the architecture.

“We felt strongly from early on that the ground surfaces should be used to unify the development. The brief from the client, which we fully agreed with, was to design the buildings with separate identities within one development, the paving providing a unifying cobbled surface. We mixed three colours in an intentional design mix to appear random, but consistently random, and to create visual interest.

“We would apply this design ethos regardless of economic status of the development. If the project could afford the paver, we would push for this design. The design creates enough visual interest to handle the inevitable dirt on the surface, similar to speckles on a carpet, and helps maintain a neat appearance.

“We have been specifying the Jura Cobble for years. I recall The No 1 and 3 Bridgeway which was completed in 2014 Offices for Rabie Property Group, being the first. We specified the Jura Cobble again for the pavements and an internal retail street for the Signatura WEX1 project in Woodstock. The size format, surface finish, and grey colour variations are our prime reasons for choosing Revelstone,” said Louw. ■

PROJECT TEAM (PAVING)

Architects	Vivid Architects
Landscape Architects	Planning Partners
Civil Engineers	Zutari South Africa and Cornfield Construction
Main Contractor	WHBO Construction
Quantity Surveyors	B&L Quantity Surveyors (Cape Town)
Paving Contractor	Seymour Paving



One worker supporting another

For more than 30 years, Lemaitre has supported South African workers with locally manufactured, top-quality safety footwear, and responsible sourcing that supports local industries. Now more than ever, it's about one worker supporting another in order to play our part in boosting the economy and getting South Africa back on its feet.



Lemaitre Safety Footwear, as part of the BBF Safety Group, has long been a staunch supporter of not just manufacturing locally, but sourcing local suppliers and components as far as possible to support the people and communities of this great country. With the economic potential our country holds, it is essential for us to support local products, services and businesses wherever possible, to fast-track the route to an economically strong South Africa.

LOCAL MANUFACTURING

We believe in what we can accomplish locally. With over 400 employees, we are serious about job creation. Most of the work and labour required in manufacturing our safety footwear goes into the upper construction. Lemaitre uppers are produced in South Africa in our factory in Port Elizabeth and also through various independent CMTs. Together, we produce proudly South African safety footwear that protects workers across various industries and lays the foundations of positive change.

LOCAL DISTRIBUTION

Our safety footwear is in demand throughout Africa, so we use the capability of local companies to get it there – which includes transporting, warehousing and reselling. After all, South Africans have always shown the ability to go the extra mile.

KEEPING WORKERS SAFE ACROSS INDUSTRIES AND APPLICATIONS

By manufacturing and distributing safety footwear products of the highest quality, we are looking out for the hardworking people who are building a stronger South Africa. Lemaitre Safety Footwear is proudly manufactured by workers, for workers and we continue to build a stronger South Africa through supporting local suppliers across various industries.

Our local procurement aims to contribute to the social and economic development of the communities we operate in by creating an enabling environment for job creation and skill development. We believe achieving this requires collaborative ways of working with our suppliers, workers and communities to secure stronger community bonds for another 30 years and counting.

Lemaitre has been working behind the scenes on a number of new ranges for various applications. Follow Lemaitre Safety Footwear on Facebook or visit www.lemaitre.co.za for more details or to find your nearest distributor. ■



LOCAL PROCUREMENT

Lemaitre is committed to playing our part and if we're serious about building a strong and sustainable local economy, it starts with our procurement processes. We recognise our responsibility to earnestly support local businesses and SMMEs by sourcing key components, and outsourcing some of our production work. This ensures that Lemaitre is contributing to the local economy and the communities beyond even our own workforce.



CONCRETE MANUFACTURERS ASSOCIATION (CMA) – MEMBER LIST

Producer Members

PI – Precast Infrastructure PB – Precast Building



BERTS BRICKS
TEL: (018) 292 1615
PROVINCE: NW | PILLAR: PB



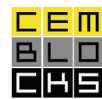
BETA HOLDINGS
TEL: (018) 292 1615
PROVINCE: NW | PILLAR: PB



C.E.L. PAVING PRODUCTS (PTY) LTD
TEL: (021) 905 5998
PROVINCE: WC | PILLAR: PI



CAPE CONCRETE WORKS (PTY) LTD
TEL: (021) 905 1200
PROVINCE: WC | PILLAR: PB/PI



CEMBLOCKS (PTY) LTD
TEL: (014) 538 0311
PROVINCE: NW | PILLAR: PB/PI



CEM BRICK MANUFACTURERS (PTY) LTD
TEL: (051) 433 4479
PROVINCE: F/STATE | PILLAR: PB/PI



CONCRETE UNITS (PTY) LTD
TEL: (021) 386 1923/ (016) 362 2236
PROVINCE: WC/GAUT | PILLAR: PB/PI



CONTICRETE
TEL: 041 365 7616 / 041 365 0062
PROVINCE: EC | PILLAR: PB



CORESLAB (PTY) LTD
TEL: (087) 232 2462
PROVINCE: LMP | PILLAR: PB/PI



CONFRAMAT (PTY) LTD
TEL: (0861) 33 5599
PROVINCE: GT | PILLAR: PB/PI



COROBRIK (PTY) LTD
TEL: (031) 560 3252
PROVINCE: KZN | PILLAR: PB/PI



DERANCO PRECAST (PTY) LTD
TEL: (041) 463 3338
PROVINCE: EC | PILLAR: PB/PI



ECOCRETE TRUST
TEL: (051) 435 3590
PROVINCE: GAUT | PILLAR: PB/PI



EAGLE ROOF TILES (PTY) LTD
TEL: (044) 874 0290
PROVINCE: WC | PILLAR: PB



ELEMATIC SA (PTY) LTD
TEL: (011) 423 2700
PROVINCE: GT | PILLAR: PB/PI



A FICK SEMENT WERKE BK
TEL: (022) 913 1921
PROVINCE: WC | PILLAR: PB



FLEXIBLE RETAINING STRUCTURES
TEL: (011) 608 4321
PROVINCE: GT | PILLAR: PB/PI



HORIZON BRICK & CONCRETE
TEL: (012) 943 3701
PROVINCE: NW | PILLAR: PB



AGW TRADING T/A KOLBE BLOCKS
TEL: (041) 406 7900
PROVINCE: EC | PILLAR: PB



LATEGANS CEMENT WORKS (PTY) LTD
TEL: (021) 873 1154
PROVINCE: WC | PILLAR: PB/PI



MOBICAST (PTY) LTD
TEL: 086 111 2346
PROVINCE: WC | PILLAR: PB/PI



MVA BRICKS CC
TEL: (012) 386 0050
PROVINCE: GAUT | PILLAR: PI



NORTHWEST BRICK
TEL: 053 927 1034
PROVINCE: NW | PILLAR: PI



PORTLAND HOLLOWCORE SLABS (PTY) LTD
TEL: (021) 972 1111
PROVINCE: WC | PILLAR: PI



PAVECON MANUFACTURING (PTY) LTD
TEL: 087 940 3631
PROVINCE: LMP | PILLAR: PI



REMACON PRODUCTS CC
TEL: (011) 393 5504
PROVINCE: GAUT | PILLAR: PI



REVELSTONE (CAPE) (PTY) LTD
TEL: (0861) 173 835/ (021) 761 9737
PROVINCE: WC | PILLAR: PI



ROCLA (PTY) LTD
TEL: (011) 670 7600
PROVINCE: GAUT | PILLAR: PB/PI



RIETSPRUIT CRUSHERS (PTY) LTD
TEL: (017) 801 1912
PROVINCE: MP | PILLAR: PB/PI



SHUKUMA BRICKS (PTY) LTD
TEL: (041) 372 1013
PROVINCE: EC | PILLAR: PB



SHUKUMA FLOORING SYSTEMS T/A ZITTLAU EIENDOMME (PTY) LTD
TEL: (041) 372 1933
PROVINCE: EC | PILLAR: PB



TECHNICRETE (PTY) LTD
TEL: (011) 672 1425
PROVINCE: GAUT | PILLAR: PB/PI



VIBRO BRICKS & PAVING (PTY) LTD
TEL: (012) 374 5533
PROVINCE: GAUT | PILLAR: PB/PI



WEST END CEMENT BRICKS (PTY) LTD
TEL: (011) 851 1005
PROVINCE: GT | PILLAR: PB/PI



VANSTONE PRECAST (PTY) LTD
TEL: (012) 541 2056/1808
PROVINCE: GT | PILLAR: PB/PI



WZ BETONWERKE
TEL: (057) 733 1626
PROVINCE: FREE STATE



CONCRETE MANUFACTURERS ASSOCIATION (CMA) – MEMBER LIST

Non-Producer Members Machinery, moulds, technology, admixtures, chemicals, etc



ABEL EQUIPMENT CC
TEL: (044) 874 1876
PROVINCE: EC



BIRKENMAYER H (PTY) LTD
TEL: (011) 970 3880
PROVINCE: GT



CHRYSO SOUTHERN AFRICA (PTY) LTD
TEL: (011) 395 9700 /
(031) 564 0325 / (021) 928 1660
PROVINCES: GT / KZN / WC



CVZ CONSULTING TRAINING
TEL: 083 701 4167
PROVINCE: GT



DICK KING LAB SUPPLIES (PTY) LTD
TEL: (011) 499 9400 /
(031) 700 2551
PROVINCES: GT / DBN



HAWKEYEPEDERSHAAB
TEL: 00 459645 4193
COUNTRY: DENMARK



KERNEOS SOUTH AFRICA (PTY) LTD
TEL: (011) 444 3090
PROVINCE: GT



KOBRA MOULDS B.V.
TEL: 003111 356 2460
COUNTRY: NETHERLANDS



OLI ELECTRICAL VIBRATORS (PTY) LTD
TEL: (011) 392-1054
PROVINCE: JHB



Concrete Equipment Solutions and Technology
PAN MIXERS SA (PTY) LTD
TEL: (011) 578 8700 / 8600
PROVINCE: JHB



泉工 QGM
QUANGONG MACHINES CO LTD
TEL: +865 958 679 9557
COUNTRY: CHINA



REVARO CONCRETE EQUIPMENT
TEL: (011) 794 8271
PROVINCE: JHB



SIKA SOUTHERN AFRICA
TEL: +27 31 792 6500
PROVINCE: GT



TERRAFORCE (PTY) LTD
TEL: (021) 465 1907
PROVINCE: WC

Cement Member



AFRISAM
SOUTH AFRICA (PTY) LTD
TEL: (011) 670 5500
Website: www.afrisam.co.za

Associate Members Engineers, architects, quantity surveyors and associations.



AF CONSULTING ENGINEERS & ASSOCIATES (PTY) LTD
TELL: 079 245 0900
PROVINCE: JHB



ASPASA
Aggregate & Sand Producers Association of Southern Africa
TEL: (011) 791 3327
PROVINCE: JHB



INSITE LANDSCAPING ARCHITECTS
TELL: (012) 667 2780
PROVINCE: GT

JC PAVING CONSULTING
TEL: (011) 431 0727
PROVINCE: JHB

TACO VOOGT CONSULTING ENGINEER
TEL: (012) 669 0125
PROVINCE: PTA

SEKHUKHUNE & ASSOCIATES
TEL: (012) 346 1945
PROVINCE: PTA



STEFANUTTI STOCKS CIVILS
TEL: (011) 571 4300
PROVINCE: GAUTENG



YOUNG & SATHARIA CONSULTING CIVIL ENGINEERS (PTY) LTD
TEL: (031) 207 7252
PROVINCE: KZN

FIND THE CMA ASSOCIATE MEMBERS ONLINE HERE:



Contractor Members Installation experts



DECORTON RETAINING SYSTEMS (PTY) LTD
TEL: (021) 875 5155
PROVINCE: WC



VALCAL INTERNATIONAL EXPORT CC
TEL: (011) 867 2471
PROVINCE: GAUT



FLEXIBLE RETAINING STRUCTURES
TEL: (011) 608 4321
PROVINCE: GT



POWERGATE CONSTRUCTION
TEL: 083 576 1965
PROVINCE: GT

PLEASE NOTE:

The member list was correct at the time of going to print. If your details have changed, please contact the CMA at marketing@cma.org.za or give us a call on tel: (011) 805 6742.

IT'S TIME TO GET BACK TO BUSINESS... FACE-TO-FACE



7 - 9 JUNE 2022
GALLAGHER CONVENTION CENTRE,
JOHANNESBURG

CONNECTING SOUTHERN AFRICA'S CONSTRUCTION INDUSTRY

Southern Africa's construction industry will once again connect in person at the most important event on the industry's calendar, The Big 5 Construct Southern Africa, previously African Construction Expo. Join over 8,500 industry professionals for three days of valuable business connections, create lasting brand awareness and gain a competitive advantage.

Grow your business in the region

Get in touch with us to see how we can help you achieve your business objectives with a range of exhibiting and sponsorship opportunities to suit any budget.

Contact: KennethMasviken@dmgevents.com | T: +27 21 700 5509

Co-located with:



**1000 CHOICES.
MAKING ALL
THE RIGHT ONES.
1 QUALITY CEMENT.**

WHAT GOES INTO IT MATTERS.

ASK FOR AFRISAM

We know that building today only matters if we have a tomorrow to look forward to. As leaders in sustainability, we've undertaken significant initiatives in the areas of energy optimisation and emission reduction, including the rehabilitation of mines, optimally using resources and holistically reducing our carbon footprint. Our responsible attitude towards the environment informs everything we do in order to sustain life for future generations. **Ask for AfriSam.**