CONCRETE CONNECT

BUILDING THE FUTURE – LAYER BY LAYER

ISSUE: 2/2025

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PMSA SOLUTIONS ARE BUILT TO LAST

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BUILT TO LAST
THE PMSA ADVANTAGE

Alexander Ebeling - PMSA Business Manager

"After returning from retirement, I found that our three PMSA machines – which we originally bought brand new 17 years ago – had not been well maintained. I turned to PMSA for help, and they came to our rescue. Through their Refurbishment Centre, they completely upgraded our VB4X and RE1400 plants with new software and components. The cost of refurbishing all three machines was equivalent to the price of just one new unit, which saved us a fortune. Over the past four years, they've helped us rebuild and return to full production capacity. Thanks to PMSA, we're once again a major player in Johannesburg's brick and block industry – doing good business and running profitably."

- Hennie du Preez, Owner, West End Cement Bricks

Toughness and durability is at the heart of every PMSA machine manufactured in South Africa with the advantage of cost-effective refurbishments that extend the useful lifespan of its equipment. PMSA machinery is engineered for longevity and built to be rebuilt for profitable second and third lifecycles.

Since its establishment in 1976 PMSA machines have been Built To Last with unique DNA that is upgradeable with end-of-life extensions in mind. This future-focused design makes PMSA equipment easy to upgrade and rebuild offering customers a smart, cost-effective way to renew their plants with the latest-technology components for improved productivity and hassle-free operation.

By investing in a PMSA-certified refurbishment, operators can rest assured that their machines will continue to deliver exceptional performance for decades. With rigorous quality control, advanced engineering solutions and a commitment to sustainability, PMSA ensures that its equipment remains a powerful asset, supporting customers' businesses for years to come.

Based in Jet Park, the sprawling family business is rooted in customer satisfaction and building long-lasting relationships with its customers. From the first machines designed and built by founder, Heinrich Ebeling, to his sons and current directors, Walter and Robert, the company has made quality and durability synonymous with the PMSA brand. The addition of Walter's son, Alexander, to the team extends the company's 50-year history to three generations of commitment to quality and care for its customers.

"PMSA has been at the forefront of manufacturing Built-to-Last brick, block and paver-making equipment and we have set the industry benchmark for durability and performance. In recent years our PMSA Certified Refurbishment and Remanufacturing Program has enabled owners of our machinery to extend their equipment's operational lifespan and achieve like-new performance at a fraction of the cost of new machines."

"Investing in PMSA-certified refurbishment is significantly more cost-effective than purchasing new equipment or opting for non-certified rebuilds. A PMSA refurbishment restores your machine to peak operational efficiency while integrating technological upgrades that enhance performance beyond its original specifications," says Alexander.

He explains that the benefits include extended lifespans with PMSA rebuilds able to operate at high productivity levels for a second and even third life. This significantly reduces the cost of ownership as certified refurbishment costs a fraction of a new machine and upgraded componentry enhances efficiency and output beyond initial factory specifications.

The slick operation of PMSA Certified Refurbishment and Remanufacturing Program provides fast turnaround that minimises production interruptions and ensures seamless operations. Simultaneously, certified machines come with comprehensive after-sales service and parts availability for worry-free operation.

In contrast, unauthorized refurbishments often result in unreliable performance, frequent breakdowns, extended installation times and compromised safety due to substandard components and improper rebuild techniques. Over time, these inefficiencies drive up repair and maintenance costs, reduce plant performance and efficiency and ultimately negating any perceived initial savings.

The PMSA Certified Refurbishment Process

PMSA's comprehensive three-step refurbishment process ensures that each machine is restored to optimal performance levels:

Step 1: Comprehensive Disassembly & Inspection

- Each machine is stripped down and components are meticulously assessed for wear and functionality.
- Parts that do not meet PMSA's strict engineering standards are earmarked for refurbishment or replacement.

Step 2: Advanced Refurbishment Techniques

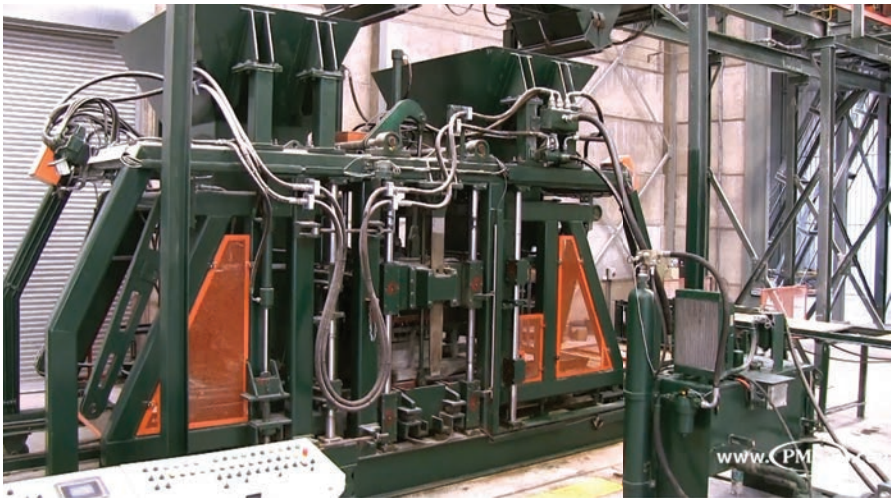
- Worn-out parts are restored or replaced with brand-new PMSA-certified components.
- Machine performance is enhanced with technology upgrades for improved efficiency and longevity.

Step 3: Reassembly & Quality Testing

- The machine is reassembled and tested rigorously to ensure it meets PMSA's operational and safety standards.
- Only after passing stringent performance tests is it certified ready for operation.

In addition to these procedures, PMSA's Certified Refurbishment Program encompasses a wide range of services to ensure every component functions at peak efficiency. These include restoring or replacing tank, valve bank, hosing, piping and cylinders as well as upgrading control cabinets and automation systems for enhanced precision.

Thereafter mechanical components are checked and all moving parts are re-engineered for extended durability. This includes vibration systems which are rebuilt to optimise production efficiency, mixers and loaders restored to deliver consistent, high-performance mixing and product handling systems improved for seamless, high-speed operation. PLC and SCADA Upgrades are also undertaken and incorporate the latest automation technologies for better process control.



With its roots firmly in South African soil, PMSA is dedicated to sustainability and this aligns with its Certified Refurbishment Program, which emphasizes its circular economy approach that reduces waste, conserves energy and minimizes raw material usage. By refurbishing and upgrading existing machines instead of replacing them, PMSA extends the lifecycle of its equipment and lowers the environmental impact of manufacturing new units.

Contact PMSA today to learn more about its Certified Refurbishment and Rebuild Solutions and maximize the lifespan of your equipment!

Beware of Unauthorized Refurbishments

While some third-party refurbishers may offer perceived lower initial prices, their work lacks the quality, reliability and safety assurances of PMSA's certified rebuilds. Key risks of unauthorized refurbishments include:

- **Unreliable Performance** – Inferior rebuilds result in frequent breakdowns and costly downtime.
- **Reduced Productivity** – Non-certified components often fail to meet PMSA's precision engineering standards, decreasing plant efficiency.
- **Compromised Safety** – Substandard refurbishments increase operational risks, potentially endangering workers and damaging equipment.

To verify whether your PMSA machine has undergone official refurbishment, simply submit its serial number via PMSA's website or contact PMSA's support team.

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SAINT-GOBAIN REAFFIRMS ITS COMMITMENT TO AFRICA

Saint-Gobain Africa recently announced its renewed commitment to the African continent through a new unifying program – Make it in Africa to Build Africa (MABA).

This regional commitment is an extension of the Group's purpose - Making the World a Better Home - and underscores its dedication to empowering the continent by prioritizing local production, nurturing local talent and encouraging economic growth within the industry.

"Make it in Africa to Build Africa is our drive and the lens through which we view everything we do. It's about partnering with all construction market stakeholders to build a sustainable Africa from within, where local solutions meet local needs, reinforcing our belief in the potential of African markets and communities," says CEO Othman Benjelloun-Touimi.

He adds that MABA translates into actionable and impactful goals tailored to Africa, addressing its unique realities and opportunities. It is based on four main pillars, each linked to specific examples of how Saint-Gobain aims at bringing all partners and stakeholders along in building Africa.

The company's goal below:

1. Sustainability

Inviting the entire ecosystem to transform industry: sustainability is no longer an option! The Group is committed to innovation with products and solutions that maximize our contribution to people's health and well-being while minimizing our impact on the planet.

In line with this commitment, Saint-Gobain Africa is excited to introduce The FutuRE range; a new selection of sustainable construction solutions designed to enhance efficiency and minimize environmental impact, while maintaining the same cost. This range currently includes RhinoBoard 9 mm, RhinoBoard 12.5 mm, RhinoBoard FireStop (12.5 & 15 mm), Isover Cavitylite, and Weber WB11, each with a third-party verified Environmental Product Declaration (EPD) and a positive contribution to at least one strategic sustainability criteria such as a minimum of 10% reduction in CO2.

2. Local Production

From Africa, For Africa: producing locally and creating opportunities within communities. By investing in local manufacturing and expanding production lines, Saint-Gobain Africa aims at reducing dependency on imports, creating jobs, and driving economic growth.

In line with this commitment, the opening of our new South African fiber cement plant in the third quarter of 2025 marks a major milestone. This facility will not only create more than 60 permanent jobs in its first phase and empower local communities but will also ensure access to high-quality, durable building solutions at the right cost.

Need Caption


Othman Benjelloun-Touimi - CEO Saint Gobain

3. Our People

Saint-Gobain Africa is dedicated to empowering local talents through initiatives like our Graduate program, which nurtures future African manufacturing leaders. Saint-Gobain Africa also supports community development projects, provides contractors & applicators training and offers education opportunities throughout the continent.

4. Our customers

Saint-Gobain Africa is committed to understanding its customers across the value chain and partnering with them to better meet their needs. The MABA commitment will enable us to offer meaningful innovations and locally produced materials that meet international standards, while also strengthening our support and technical knowledge to better serve our customers every step of the way.

Saint-Gobain Africa will collaborate with local businesses, governments, communities, and all construction industry stakeholders who share the same commitment to driving innovation and development. "The future of Africa lies in the hands of its people," says Othman Benjelloun-Touimi.

More than a statement, MABA is our collective vision for Africa's future, setting new standards for sustainable growth and uniting all those dedicated to building Africa.

WORLDCLASS PRECAST FACILITY OPENS IN PRETORIA

The official opening of Global Precast and its expansive new production facility was a happy moment for all those that worked so hard to make it happen

A new concrete powerhouse has been established in Pretoria with the opening of Global Precast and its expansive new production facility within the old Iscor steel plant in Townlands.

The large site within the industrial complex provides enough space for large precast concrete production to take place with plenty of room for curing and stockpiling a standard range of products as well as customised products as per customer needs.

The sheer scale of the operation was evident at the recent official opening of the plant that was well-attended by customers and stakeholders eager to witness the unveiling of the impressive facility.

Here attendees were treated to extended tours, providing an up-close view of the advanced manufacturing processes and the meticulous attention to detail that Global Precast employs in its operations. The atmosphere was notably friendly and reflects the company's commitment to building strong relationships within the industry.

Perched on a nearby hillside, observers could fully appreciate the vast scale of the new plant and its extensive stockholding yards. The panoramic view highlighted the company's substantial investment in infrastructure and underscored its dedication to meeting the growing demand for high-quality precast concrete products throughout Southern Africa.

Manufacturing is in full swing

Global Precast came about as a result of the merging of two companies that shared similar business ethics and techniques. By combining their expertise and resources they have streamlined the operation and made it more efficient and customer friendly. The alliance also aims to simplify service delivery and ensure that clients experience a seamless process from consultation to product delivery.

Director of sales and marketing, Willem-Daniel van Dyk, says that as of 1 September 2024, Eldocrete has changed its name to Global Precast and entered into a joint venture with Aminto Precast to supply and manufacture precast concrete products. The success of this venture was immediate and led to a formal merger of the companies on 1 January 2025. The joint business will continue to operate under the Global Precast brand and aims to be the market leader in the field of manufacture and supply of precast concrete products. The companies have a combined 30 years of experience in the precast concrete sector including unmatched technical expertise and adherence to stringent quality control measures.

"By joining forces we aim to enhance our product offerings and better serve the needs of all our customers. This merger will also enable us to leverage our combined strengths to deliver an even broader range of precast concrete solutions to the market. Whether it's our pipes, portal culverts, manholes, toilets, wall panels or custom-designed products, the combined capabilities of the newly merged operation will ensure that we continue to exceed the diverse requirements of customers across various industries.

"This extends to strategic partners and customers as we understand that success in the precast concrete industry is not solely dependent on product quality but also on the strength of our partnerships. By fostering these relationships with open communication and trust we hope to ensure that we remain responsive to the changing needs of our customers," he says.

The company's product portfolio is diverse, catering to various sectors within the construction industry. Their offerings include pipes, jacking pipes, culverts, culvert base slabs, manholes, sewer chambers, toilet structures, security walling and a wide variety of special products. Each of these is manufactured precisely and adheres to stringent quality standards to ensure durability and reliability.

On top of all this Global Precast is committed to sustainability and integrates eco-friendly practices into its production processes, including recycling waste materials, sourcing local resources, investing in energy-efficient machinery and minimising water usage. These initiatives reduce environmental impacts and enhance the efficiency and cost-effectiveness of their products.

"Global Precast boasts an extensive network of local and regional agents, ensuring personalised service and prompt product delivery. In South Africa we have representatives in the Western Cape, Northern Cape, Free State, Eastern Cape and KwaZulu-Natal. Our reach also extends to several Southern African Development Community (SADC) countries, including Namibia, Botswana, Zimbabwe, Mozambique, Lesotho and Eswatini," concludes Willem.

Global Precast's massive site in Pretoria

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LETTER TO THE EDITOR

RESPONSE TO ARTICLE ON WHEELBARROWS

I know the article in your Jan/Feb 2025 issue's main emphasis is "you pay for what you get" regarding the products durability but contractors should be aware of the following which the article does not cover and is of more importance in the long run.

A normal South African wheelbarrow as made by Lasher or the like is of 65 litre capacity and all mixing ratios of cement: building/plaster sand uses this wheelbarrow as a standard of measure.

Note that a standard local builders wheelbarrow holds 2 bags of cement meaning a specified mixing ratio of 1:6 is two pockets of cement: 6 wheelbarrows of sand. We are now seeing more and more wheelbarrows coming in from Asia and they are bigger and less durable than a Lasher builders wheelbarrow but they are also cheaper. As such if we still use the 2 pockets of cement, we are putting in excessive sand (depending on the size of the w/barrow used if it is not the standard South African sized wheelbarrow).

The results is a weak friable mortar or plaster. This needs to be addressed by institutions such as the professional industry bodies.

Considering the amount of houses we are building and the financial burden of the people buying these houses this weaker, poorer quality of masonry construction should be addressed. The long-term maintenance of such houses regarding cracking, damp proofing, painting, moisture ingress etc is potentially a major burden especially if the house is bonded.

Yours sincerely

Calvin Billett

Quantum ready mixed concrete

SOCIAL MEDIA SCAMS ON THE RISE

Sonja Styger of SAIA

Facebook Marketplace and social media scams are on the rise and construction goods buyers should be aware of items, especially vehicles, that are advertised well below market value or claimed to be available for reservation prior to being auctioned.

Scamsters use several variations of a technique that involves posing as a legitimate auctioneering company and using pictures of random vehicles or equipment off the internet to lure potential buyers. They then request a large upfront deposit to "reserve" the item and by doing so it will not go to auction.

"One giveaway is that they usually ask a set price and as we know in the industry this is not possible under South African law which states that no asset sold on auction may be sold at a fixed price. Rather these will be determined by the highest bidder upon the fall of the auctioneers hammer," says South African Institute of Auctioneers' (SAIA) chief administration officer, Sonja Styger.

She adds that these operations are becoming increasingly sophisticated with some run as fully functional enterprises and using ever evolving techniques to entrap potential victims. For this reason buyers should exercise extreme caution when buying assets on social media sites and whenever items for sale seem too good to be true, they probably are.

Alternatively one can make contact with the institute who has a register of SAIA members and can assist in identifying whether the social media adverts are legitimate.

Buyers should be aware that scamsters who even use sophisticated techniques to counterfeit existing auctioneers websites and populate it with their own details to garner their trust. That is why it pays to do thorough research upfront or make contact with SAIA to establish the credentials of companies claiming to be auctioneers before parting with hard earned cash. Go to the SAIA website www.auctioneering.co.za for more information and contact details.

WORLDCLASS FACILITY FOR WORLD LEADING BRANDS

Working hard to get the new branch in ship-shape condition is Smith Power Equipment's Albert Lombaard, Retail Sales Manager (Agri), Os du Randt, Branch Manager, Camron Watts, Service Manager, Stephan Gerber, Retail Sales manager (Turf), David Kelder, Managing Director, Rikus de Beer, General Manager Finance, Calista Maas, Marketing Manager and (Middle) Geoffrey Green, Projects and Facilities Manager.

Smith Power Equipment is making a significant investment in the Western Cape with the opening of a state-of-the-art facility in Cape Town to serve the ever growing industrial sector.

Representing famous brands such as Kubota tractors, TLBs and mini excavators, as well as Toro turf care equipment and a variety of off-road vehicles for use on large construction sites, the new branch in Klapmuts is designed to be a landmark featuring modern architecture with world-class interiors to showcase the company's dedication to quality and innovation.

Located with prime frontage along the N1 highway, the building will serve as a brand statement for Smith Power Equipment to showcase its growing aspirations, both in the Western Cape and nationally. With its customer-centric approach plans are also underway to acquire adjacent land for future expansions, which includes a test farm and an RV track, enabling customers to experience the equipment firsthand.

According to Smith Power Equipment managing director, David Kelder the extensive facilities of the new premises will allow the company to relocate the majority of its Kubota assembly and distribution operations to Cape Town in a move that allows it to reduce transportation costs significantly. Currently Kubota products are shipped through Durban, transported to Johannesburg for assembly and then distributed nationwide. The new setup will enable direct shipping to Cape Town where assembly and distribution will take place.

"This is a strategic shift for the company aligning with our vision of expanding our retail presence with a world-class showroom, sales and support facilities under one roof. It will streamline our operations within the agriculture-dominated Western Cape region and being in the heart of such a naturally beautiful area will provide a strong launchpad for our adventure oriented offroad vehicles, golf carts and landscaping equipment."

Artist impression of new facility

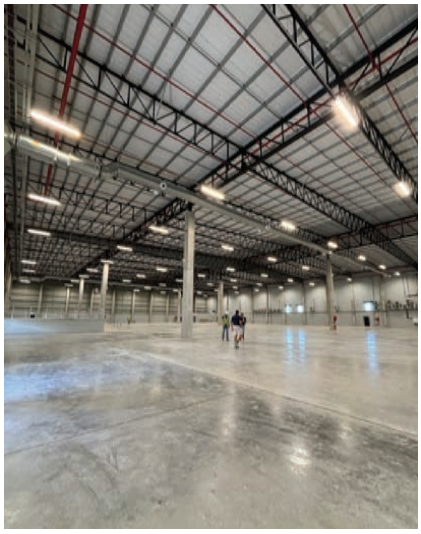
With the move to the Cape Town facility, this will also strengthen our dealer network, by having majority parts in the new warehouse, insuring less downtime and easier access to parts/support.

The company plans to offer practical training programs complementing the theoretical education provided by the nearby education facilities, ensuring the next generation of operators are well-equipped with hands-on skills.

General manager for finance of Smith Power Equipment, Rikus de Beer, adds that by 2026 Smith Power Equipment plans to establish the Cape Town facility as its new head office and plans to relocate senior management and other key departments to the region. Plans are already well advanced and the initial opening is set for the second quarter of 2025. This will include the large new 9,000-square-meter workshop and spares distribution centre and corporate offices located strategically nearer to customers in key agricultural zones, such as Stellenbosch and surrounding vineyards and orchards, where its equipment has become essential for farming applications.

The Cape Town facility will house a full complement of services under one roof including:

- Kubota assembly and distribution: Ensuring faster delivery and reduced logistical complexities.
- Retail and showroom space: Offering Kubota equipment, newly launched Tara golf carts, RVs, and turf equipment directly to customers.
- Parts distribution: Enhanced availability of spare parts to support regional dealers and end-users.
- Technical support and workshop: Providing comprehensive after-sales service.



The newly built facility occupies almost 7000sqm of prime commercial space next to the N1 highway

CAPE TOWN'S CONRADIE PARK IS A URBAN DESIGN PIONEER

A standout feature of Conradie Park is the adoption of a perimeter block design, which not only enhances aesthetics but also prioritises safety, accessibility and fostering community connections

With schools, sports fields and retail spaces integrated into the community, residents at Conradie Park enjoy convenient access to essential services right on their doorstep.

The site of Cape Town's old Conradie Hospital is today buzzing with the sounds of a community being built, with over 1,250 families now enjoying new homes and the final phases of construction lying ahead.

Concor has pioneered the Conradie Park project in close partnership with the architectural consortium of dhk Architects and Jakupa Architects and Urban Designers. This has ensured a holistic urban design philosophy that underpins the planning and construction work and creates a firm foundation for its success.

Mark Schonrock, property development executive at Concor, highlights that the project was made possible by the Western Cape Provincial Government's Better Living Model Game Changer initiative, which was driven by the Premier's office.

"A key directive was to create a mix of tenures including open-market housing and grant-funded or affordable units," says Schonrock. "This allows the project to cater to different income groups, promoting economic inclusion and improving lives."

dhk Architects partner Peter Stokes says it was important to include a multidisciplinary team of urban design experts, architects and landscape designers in the conceptual and planning stages of Conradie Park.

"We were guided by global best practice, drawing inspiration from understanding the developmental context, and referencing urban planning models in cities like Barcelona and Amsterdam," says Stokes. "These environments prioritise walkability, security and access to public spaces – which is the approach we have taken at Conradie Park."

Gabs Pather, a director at Jakupa Architects and Urban Designers, reflects on the many lessons learned throughout the project: "While the approach is in the natural course of development in mature cities, curating the mixed-use, mixed-income neighbourhood required considerable testing and tweaking to ensure the viability of the financial model and the development's buildability."

These lessons included managing housing standards and consequential architectural qualities, using architectural expression to blur income disparities. "The result is a very liveable environment for children and adults alike. Watching the neighbourhood come to life brought us endless joy, reinforced by our learnings and the tools we have developed so that the model can be replicated elsewhere," he says.

One of the defining features of the project, for instance, is the use of perimeter block typology which is aesthetically pleasing and also addresses critical issues like safety, accessibility and community interaction.

"The use of perimeter blocks and well-defined streetscapes creates a hierarchy of defensible spaces that enhance a sense of security and connection between residents," he explains. "We also used landscaping to deliver functional green infrastructure such as surface waterways and swales to act as stormwater channels while also enhancing the aesthetic value of the neighbourhood."

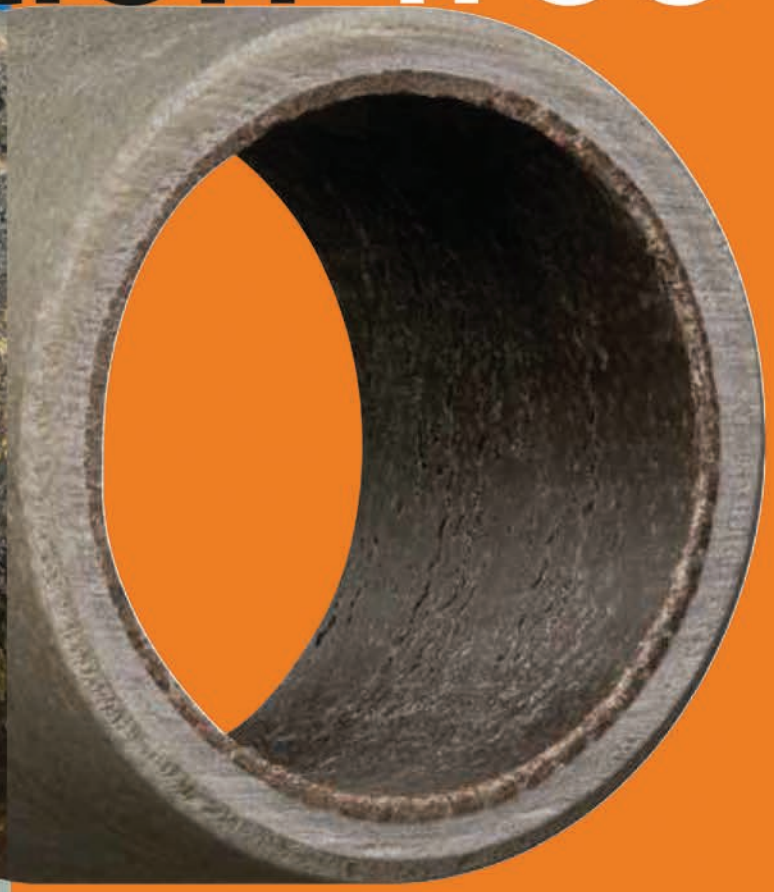
The project's mixed-use character facilitates a self-sustaining neighbourhood, with schools, retail spaces, green areas and sports fields giving residents access to essential services on their doorsteps.

Construction on the remaining development – The Pines – will begin in 2025 and will include five residential towers and 12,000 m2 of retail space designed for convenience and accessibility. In addition to the retail facility will be 2,200 m2 for co-working facilities and play areas, 230 open parking spaces at ground level and 330 covered parking bays on the first floor.

The residential buildings around The Pines will add another 650 units to the Conradie Park complex. Completion is expected in early 2026.

Concor, in collaboration with dhk Architects and Jakupa Architects and Urban Designers consortium, is bringing an innovative urban vision to life at Conradie Park in Cape Town

Lubrication-free



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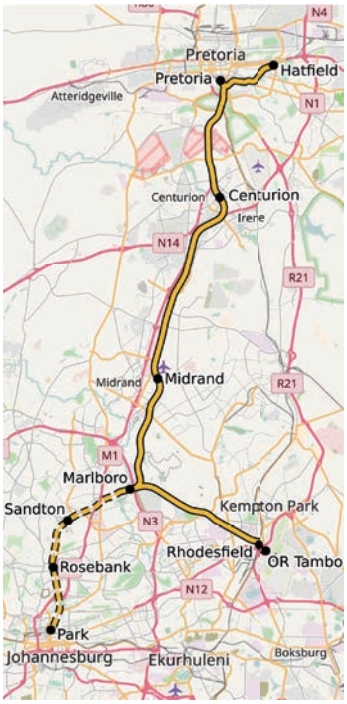
GAUTRAIN EXPANSION BOOST FOR GAUTENG

By Calvin Nchabeleng, partner & Tshepang Mphela, associate from Webber Wentzel



The Department of Roads and Transport in Gauteng recently issued a Notice of Route Determination of a Railway Line for the Soweto Extension and Cosmo City Junction of the Gauteng Rapid Rail Integrated Network Extension Project.

The Gautrain Rapid Rail Link Network (Gautrain) is an 80-kilometre high-speed commuter rail system managed by the Gautrain Management Agency (GMA) under a concession agreement between the Gauteng Provincial Government and a private operator. The Gautrain currently connects Johannesburg, Pretoria, Kempton Park and OR Tambo International Airport. The Project aims to expand the Gautrain network by adding new routes and stations.

Thus far the GMA has recorded significant benefits on Gauteng's economy including 34,800 direct jobs created during the construction phase and 922 sustainable jobs since operations began, an estimated R46-billion contribution to the province's gross domestic products, increased property development around Gautrain stations and the value of property near Gautrain stations is growing 3% faster than in surrounding areas and rental rates in places like Rosebank have in some cases experienced a 100% appreciation.

According to the Notice, the proposed railway routes include:

- Little Falls Station to Jabulani Station (Soweto) via Roodepoort Station.
- Cosmo City Station to Samrand Station via Fourways Station, Sunninghill Station and Olievenhoutbosch Station.
- Cosmo City Station to Lanseria Station via Cradle Station and Smart City Station.

The Notice was published under section 6 of the Gauteng Transport Infrastructure Act 8 of 2001 (GTIA). The GTIA (i) consolidates the laws relating to roads and other types of transport infrastructure in the Gauteng province, (ii) regulates transport infrastructure and (iii) vests the obligation to finance, construct and manage the province's transport infrastructure in the MEC.

The publication of the Notice marks the first phase in a two-phase process of establishing a railway line. The first phase is the Route Determination, followed by the Preliminary Design phase.

Section 6 of the GTIA outlines the required process for determining a new route. In terms of section 6(1), the MEC must initiate a preliminary route alignment study in the form of a written report containing recommendations on the proposed route. Under section 6(2), the MEC must also conduct an environmental investigation and compile a report before finalising the route determination. In addition, section 6(3) requires the MEC to publish a notice that includes:

1. Broad description of the proposed route
2. Particulars of the times and places at which the preliminary route report and environmental report can be inspected and copies be made
3. An invitation to all interested and affected parties to comment in writing before a date, not less than 30 days after publication of the notice, on the recommended route and
4. A reference to the regulatory measures which take effect in terms of section 7 on the publication of the route in terms of subsection (11)."

Section 6 further requires the MEC to consult all municipalities affected by the pro-

posed route and request them to submit written comments on the preliminary route and environmental reports. These comments must include the potential impact of the proposed route on spatial planning and strategic municipal development frameworks. Additionally, the MEC must review all public and municipal comments before determining the final route. If necessary, the MEC may refer specific issues raised in the comments to a public inquiry commission, which will provide recommendations within a specified timeframe. Once the MEC has considered the inquiry findings (if applicable) and finalised the route, the determined route must be published with reference to its centre line.

Under section 7 of the GTIA, once a route is published, certain regulatory measures must be applied:

- No application may be granted for the establishment of a township, the subdivision of land, or any change of land use in terms of any law or town planning scheme, as well as for any authorisation contemplated in the National Environmental Management Act, 1998 (NEMA), as amended, without due consideration of, among others, the MEC's comments on such application.
- No service provider may, after commencement of this section, lay, construct, alter, or add to any pipeline, electricity line or cable, telephone line or cable, or any other structure on, over, or under areas within 200 metres of either side of the centre line and within 500 metres of the intersection of the centre line of any other route determined in terms of section 6, except with written permission from the MEC, which may be granted with such conditions as the MEC may prescribe or in terms of a registered servitude.
- No service provider may construct, alter, or add to any structure of any nature whatsoever on, over, or under areas within 200 metres of either side of the centre line and within 500 metres of the intersection of the centre line of the route with the centre line of any other route determined in terms of section 6, except with written permission from the MEC, which may be granted with such conditions as the MEC may prescribe or in terms of a registered servitude.

Any application for the establishment of a township, the subdivision of land, or any change of land use in terms of any law or town planning scheme, as well as for any authorisation contemplated in NEMA, must be submitted to the MEC. It must be accompanied by a written report from a consulting civil engineering firm specialising in road design and transportation engineering, detailing the effect and impact of granting such an application, including, among others, its impact on the route published by the MEC.

The second phase in establishing the railway line for the Network Extensions will commence with a preliminary design for the extensions.

In line with the legislative requirements outlined above, the MEC has also published a draft Route Determination Report for public comment. This report includes a preliminary route alignment study and an environmental investigation report (the Route Determination Report).

The Route Determination Report highlights, among other aspects, that the Project will be undertaken in phases. A preliminary route alignment study for Phase 1 was conducted in 2021, and the determined route was published in a Provincial Gazette on 25 May 2022.

The Route Determination Report further emphasises that route determination is the first step required by the GTIA. Following this step, the process will proceed as follows:

- Preliminary design: This phase will provide further details on how the proposed extension will be structured, including the extent to which it will be at grade, on viaducts, or underground, as well as the width of the rail reserve within the 400-metre corridor. This process will determine the land or properties impacted. It will also include a full Environmental Impact Assessment (EIA), incorporating a public participation process as legislated under NEMA. The EIA will include specialist studies and provide recommendations on mitigation measures and management plans to be incorporated into the design and subsequent operations plan.
- Proclamation: Property owners and occupiers identified as falling within the future railway reserve will be consulted and given an opportunity to submit comments or representations for consideration by the MEC before the proclamation of the rail reserve.
- Expropriation: The provisions of the Expropriation Act 13 of 2024 will apply, including, among others, serving notices to owners or mortgagees, who may accept or dispute the compensation offered or request further particulars regarding the notice.

Interested and affected parties were given until 31 March 2025 submit written comments on the proposed routes by. Given the impact of the Notice on land use authorisations within the proclaimed route, municipalities as well as interested and affected stakeholders were encouraged to submit comments as invited.

The expansion also aligns with broader national efforts to modernise rail infrastructure at a time when investment in public transport is at an all-time high. It represents a step in the right direction toward infrastructure development promoting the shift from road to rail, and contributing to South Africa's international climate commitments, including the Paris Climate Accords.

WINNING THE FIGHT AGAINST CORRUPTION

Master Builders Association Western Cape (MBAWC) has joined the counteroffensive against the so-called "construction mafia" terrorising legitimate building industry stakeholders across South Africa.

The Western Cape has not been spared the scourge of deadly extortion and intimidation wrought by sophisticated crime syndicates who prey relentlessly on contractors for personal gain. Six significant projects valued at more than R400 million have been halted in the province recently due to syndicate activity. At the same time, 22 of the country's 200 extortion cases being investigated by police occur in the Western Cape.

Figures from Deputy Minister of Public Works Sihle Zikalala show that project disruptions by construction mafia groups cost South Africa R63 billion between 2019 and 2024. Murder and building sites being set on fire when contractors fail to comply are now an industry reality.

In June, Stefanutti Stocks coastal manager Matthew Horwill miraculously survived a hit-style shooting in Pinetown, KwaZulu-Natal, where his vehicle was sprayed with bullets as he approached his office. At a recent National Construction Summit on Crime-Free Construction Sites in Durban, Andile Zondi, CEO of the South African Forum of Civil Engineering Contractors, told delegates that an entire construction site in Mossel Bay had been burnt to the ground in an act of construction mafia sabotage.

Public Works Minister Dean Macpherson called the summit in response to the industry crime wave. It resulted in the signing of the Durban Declaration of Crime-Free Construction Sites, a collective agreement between the departments of public works, police and finance and the Construction Industry Development Board to end the rampant criminality pervading the sector. The MBAWC has joined the fight against syndicates by recommending measures construction stakeholders can take to protect themselves and bring perpetrators to justice.

According to MBAWC Executive Director Petra Devereux, the organisation has participated in various forums where numerous insights have been gathered into a collective. A common recommendation is that affected parties should engage in preventative measures and with communities, Vispol (visible policing) at the police station nearest the site and SAPS sector commanders prior to projects being undertaken.

Aside from companies knowing their rights, where possible they should install cameras to monitor sites. Should site invasions occur, these measures would enable them to collect vehicle registration numbers and perpetrator identities so action can be taken against invaders either through interdicts or police interventions.

A devastating consequence of mafia activity is that, in addition to the hundreds of millions of rands already lost to delays, future revenues are also dented as investors become less inclined to invest in projects. In this regard, one of the greatest weapons construction companies have at their disposal are globally recognised standards that fall under the International Organisations for Standardisation (ISO). ISO 37001 helps organisations prevent, detect and address bribery and corruption. It provides guidance on how to establish, implement, maintain, review and improve an anti-bribery management system.

Muhammad Ali, managing director of South African ISO specialist World Wide Industrial & Systems Engineers (WWISE) explains that

MBAWC Executive Director Petra Devereux

ISO 37001's anti-bribery management system assures stakeholders that an organisation has taken suitable measures to prevent bribery.

"Businesses will also be able to implement the necessary measures to reduce the bribery risk. These measures detect the risk before it negatively impacts the business," Ali says.

The system includes a zero-tolerance policy, which the company ensures through effective consequence management. The company works alongside law enforcement agencies and prosecutors to publicly demonstrate the consequences of breaking the law.

Chandre Abrahams, the MBAWC's Marketing Committee Chairperson, is adamant that companies must pursue transparency and a community engagement policy. By doing so, residents of these communities will understand that projects ultimately benefit them in terms of infrastructure and employment opportunities.

Government contracts stipulate that 30% of spending on public infrastructure projects and procurements worth more than R30 Million should go to local community subcontractors. Ironically, criminal organisations are exploiting this stipulation.

In his address at the National Construction Summit, MacPherson said the syndicates used the 30% rule to demand that 30% of a construction cost be paid to them directly or that only "their people or their contractors" were hired for construction to continue. "In many cases, these syndicates demand the 30% payment without ever doing any work." However, the MBAWC is now urging a proactive rather than reactive approach to the syndicates, and on 20 February next year will host a Security Summit in Cape Town to further empower affected role players, together with industry partners.

Devereux says contractors who are intimidated or threatened do not have to report cases to the police station in the precinct where the specific incident occurred; they are within their rights to lodge complaints at stations in other areas if they feel unsafe.

She also emphasises that industry collaboration is essential to eradicating criminal elements. "We need to work together with organisations like Business Against Crime, professional industry bodies and government. We need to be informed, know who to call and stand in unity. We must send out a powerful message to these criminals that we will not tolerate them as we rebuild our country." The MBAWC has also encouraged sector stakeholders to note that law enforcement agencies, including SAPS, are starting to make inroads against corrupt organisations.

At the end of last year, SAPS confirmed that the 712 cases referred for investigation had resulted in 722 arrests and 52 convictions, with hundreds of these cases still in court. In the Western Cape, metro police and SAPS have also signed a cooperation agreement to stamp out mafia activity. The MBAWC has called for the construction industry to embrace a zero-tolerance approach centred on collaborative law enforcement and willingness to participate in eradicating criminal syndicates.

To report incidents of extortion call Western Cape SAPS' toll-free number 0800 31 4444.

EVERYTHING TO KNOW ABOUT CEMENT IN SA

Cement is a finely ground powder that when mixed with water forms a paste capable of binding aggregates like sand and gravel into a hardened mass known as concrete.

In South Africa like most of the world the primary type of cement used is Portland cement. This consists mainly of clinker (produced by heating limestone and clay in a kiln), gypsum and supplementary cementitious materials like fly ash, slag or silica fume.

When water is added to cement a series of chemical reactions occur, known as hydration. The key compounds in cement, primarily tricalcium silicate (C3S) and dicalcium silicate (C2S), react with water to form calcium silicate hydrate (C-S-H) and calcium hydroxide (CH).

1. *Tricalcium silicate (C3S) reaction:* This is responsible for early strength development:
2. *Dicalcium silicate (C2S) reaction:* This contributes to long-term strength:

The calcium silicate hydrate (C-S-H) forms a gel-like structure that provides most of the strength in a hardened cement paste. Calcium hydroxide, on the other hand, is a byproduct that contributes to alkalinity but does not enhance strength.

When Does Cement Become Concrete?

Cement becomes concrete when it is mixed with aggregates and water. The curing process allows the hydration reaction to continue gradually strengthening the material. Concrete usually achieves most of its strength within 28 days, but hydration can continue for years and keeps improving durability. Proper curing is critical as inadequate moisture can lead to shrinkage cracks and reduced strength.

In everyday language, people often use the words "cement" and "concrete" interchangeably, referring to a "cement wall" or "cement floor" when they actually mean "concrete wall" or "concrete floor." Cement is only a component of concrete and using the terms incorrectly can create confusion.

The cement market in South Africa

South Africa has a well-established cement industry with major local manufacturers including:

- *PPC Ltd (Pretoria Portland Cement)* – The largest cement producer in South Africa.
- *AfriSam* – A major supplier of construction materials.
- *Sephaku Cement* – A newer entrant supported by Dangote Cement.
- *Lafarge South Africa* – Part of the global Holcim Group.

The local market is however facing challenges due to a flood of imported cement from countries like China, Vietnam and Pakistan. These imported products are often cheaper due to lower production costs and government subsidies in their home countries.

Imported cement has put pressure on local manufacturers, reducing their market share and profitability. This has led to:

- Job losses in local production facilities.
- Calls for increased tariffs on imported cement to protect local producers.
- Reduced investment in new cement plants and infrastructure.

The South African government has taken steps to impose anti-dumping duties on some imported cement but enforcement remains inconsistent.

Cement pricing predictions

Cement prices in South Africa are likely to be influenced by several factors:

- *Inflation and energy costs:* Cement production is energy-intensive and rising electricity prices from Eskom and high fuel costs continue to push prices higher.
- *Increased infrastructure projects:* Government-led infrastructure initiatives could drive demand, stabilising prices.
- *Import restrictions:* If stronger tariffs or import bans are introduced, local cement prices could rise due to reduced competition.
- *Economic downturns:* If the construction sector slows, excess supply may lead to price reductions.

Given these factors, a moderate price increase is expected in the short term due to production cost pressures. However, in the long term, market regulation and demand fluctuations will determine overall price stability.

POSITIVE ECONOMIC SHIFTS FOR SOUTH AFRICA?

Despite ongoing challenges in the construction sector, South Africa's economic outlook is showing encouraging signs of improvement.

This was one of the key messages at AfriSam's Annual Budget Breakdown event held in Johannesburg recently where Dr Azar Jammine, Econometrix director and chief economist highlighted a renewed sense of business confidence.

As a leading supplier of construction materials, AfriSam has long been at the forefront of industry developments. Speaking at the event, Dr Jammine noted that indicators such as the Bureau for Economic Research's Business Confidence Index and Absa's Purchasing Managers' Index reflected a marked improvement in sentiment over the past six months.

"The latest data shows increased optimism with businesses expecting better conditions ahead," he said. "Key factors include reduced load shedding and a government more open to private sector collaboration."

Dr Jammine attributed part of this shift to Eskom's recent leadership changes which have prioritised skills and expertise as well as the formation of the Government of National Unity (GNU) which is fostering greater oversight and reducing corruption. He also pointed to stronger cooperation between government and business as an essential step in revitalising economic growth.

However, significant challenges remain particularly in the construction sector. Structural constraints, such as inefficiencies in logistics and the continued decline in investment, continue to weigh on economic growth. Gross fixed capital formation – a key driver of demand for cement and other construction materials – remains well below international benchmarks. This has had a direct impact on infrastructure projects and commercial developments.

Despite these concerns, AfriSam remains committed to supporting the industry. AfriSam executive chairman Eric Diack said that AfriSam has strategically positioned itself to weather industry fluctuations while safeguarding its expertise and operational capacity.

"We understand that maintaining a strong foundation of skills, experience and technical proficiency is critical to ensuring long term sustainability," he said. "By continuing to invest in our people, processes and infrastructure, AfriSam has remained resilient, ready to support the industry's growth as market conditions improve."

From left pictured at AfriSam's Annual Budget Breakdown event in February 2025, political and economic analyst and strategist Frans Cronje, leading economist Dr Azar Jammine and AfriSam executive chairman Eric Diack.

This steadfast approach has allowed AfriSam to reinforce its role as a trusted partner in the construction sector, ensuring customers continue to receive high quality materials and reliable service. Diack added that AfriSam's commitment extends beyond its own operational stability, as the company also plays a proactive role in driving industry-wide progress.

"We recognise the importance of collaboration in revitalising the sector and we continue to engage with stakeholders across the value chain to find solutions that benefit everyone," he said.

Political and economic analyst and strategist Frans Cronje also addressed the event, reinforcing the theme of resilience and collaboration. He highlighted strong public support for pragmatic governance, noting that the GNU aligns with the economic aspirations of South Africans across demographics.

"The majority of South Africans want policies that foster stability, growth and job creation," said Cronje. "This reflects a positive long-term trajectory for the country."

AfriSam's Annual Budget Breakdown remains a key platform for industry insights reinforcing the company's role as a leader in South Africa's construction sector. With renewed optimism in the economic environment and a commitment to sustainable growth, AfriSam continues to support the development of vital infrastructure, helping to shape the country's future.

Frans Cronje, political and economic analyst and strategist addressed the AfriSam Budget Breakdown event, reinforcing the theme of resilience and collaboration.

THE BENEFITS OF QUANTUM READYMIX MORTAR

- Plastering and bricklaying teams are immediately productive from the time of delivery, resulting in a huge increase in productivity, as well as less mixing labour. An earlier completion of the wet trades and project is entirely feasible.
- Use the truck-mounted conveyor to deliver mortar to upper floors, enabling faster startup for plastering teams.
- Reduced cracking and remedial work due to conformity of the product.
- Superior quality: A far more homogeneous mix that has been weigh batched eliminating inconsistent smaller batch mixing and associated variables
- No need to store dry materials; Total footprint size is 5M x 5M for 6M^3 of mortar.
- Special mixes i.e. scratch plaster can be produced on request.
- Less site administration and management.
- No unsightly bags or disposal costs.
- By blending sands, cements & admixtures an optimum mix is achieved creating a more cohesive, workable product & less wastage.
- Quality assured, raw materials as well as the final product conforms to relevant specification.
- Raw materials, especially cement is far less prone to pilferage.
- Schedule late afternoon delivery of retarded mortar for next-morning use (remember to cover the mortar).

TOP TIPS FOR READYMIX MORTAR

Always pre-wet bricks before plastering or bricklaying, especially clay-bricking in dry weather.

Limit evaporation

Avoid placing dagha on absorbent surfaces like shutter boards to limit evaporation.

Sun protection

Protect plaster from direct sunlight, especially on hot days. North facing walls are more prone to drying and cracking.

Brickwork alignment

Ensure brickwork is perpendicular and flat to use the least amount of plaster possible.

Extra dagha

Extra dagha must be accounted for when using bricks with cavities, as they require almost double the amount of dagha (as much as 175% more).

Wheelbarrow volume

A wheelbarrow holds 65 litres. Two pockets of cement fill one wheelbarrow.

Mix ratio

For a 6:1 mix, use 6 level wheelbarrows of sand to two pockets of cement (one wheelbarrow).

Product Use

The product is discharged into either mortar tubs or a pre-prepared DPC plastic lined dished area which has been set out on the ground as close to the working area as possible. A dished area of 5M X 5M X 200 mm high brickwork can accommodate 6M^3 of mortar. If the mortar is not being used or overnights, it should be covered with a thin plastic film so as not to dry out. Black plastic is more effective than translucent clear plastic as an insulator.

Shelf life and Open Time

Standard mortar or plaster: Open time 7-9 hours depending on weather conditions.

Retarded mortars: Recommended is the retarded mortar of 12 hours to 18 hour retardation as this is the least susceptible to hot/cold weather conditions. Mortars can however be extended for as much as 24 to 36 hours on request.

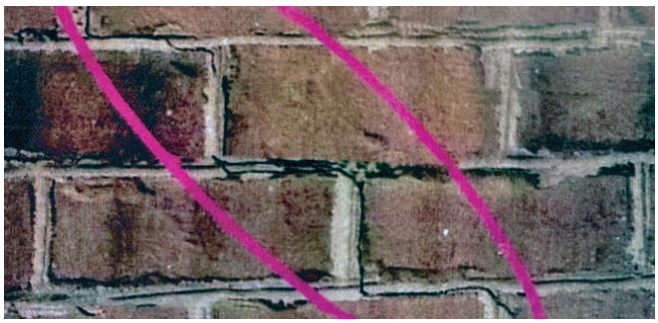
WET MORTAR TESTING PRECAUTIONS

The difference between mortar cubes and concrete cubes

Alongside standard concrete cube testing precautions, consider these issues specific to mortar testing ONLY.

- Mortar cubes have low strength even less than 2MPa at 7 days, making them more susceptible to crushing than concrete. A hand-operated press is not ideal for testing.
- During transportation, mortar cubes can be easily damaged, especially as the strength is often less than even 1 MPa.
- Stripping cubes at 24 hours can damage them, particularly retarded mortars during winter.
- Moisture evaporation triggers the initial set of retarded mortar; do not cover cubes on the first day.
- Mortar strength is less predictable than concrete; 7-day strengths might reflect 5 or 6 day strengths. Mortars are designed for a prolonged shelf life.
- Mortar strength should be less than the strength of the brick to allow structural movement within the brickwork.
- Stock bricks need a 7 MPa strength, and mortar should be weaker than this, but not too weak either.
- The specified correct tamping bar is hardwood or hard rubber (50mm x 25mm). Vibrating cubes gives more consistent results.
- Cubes are often made without consideration given to re-tempering that may have taken place.
- Discrepancies between cubes made on delivery of the mortar or at the end of the products retarded shelf life will be compounded.
- Mortar testing should be done by a laboratory accredited for testing mortar.

In the above case mortar is stronger than the brick and results in vertical cracking



The mortar is weaker than the brick and displacement is better accommodated in the mortar in the above case

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TO GET OUR POSTER WITH USEFUL INFORMATION ON QUANTUM READYMIX MORTAR OR FOR ANY MORE INFORMATION PLEASE CONTACT US AT 010 447 7100

AUTOMATED BRICK MAKING PLANT SLASHES REMOTE LOCATION BUILDING COSTS

A small house under construction using Click Brick™ blocks.

Transport is a major construction cost; the further the delivery, the greater the cost.

Take the case of bricks and blocks. If the building site is close to the brick plant transport costs are bearable. But when the blocks are needed in remote or inaccessible locations, transport becomes the major cost component.

A solution to this problem is at hand. Rather than delivering bricks and blocks at prodigious cost it is now possible to produce them on site with the Click Brick™ system, a fully automated and portable brick and block making plant.

Designed and manufactured in South Africa by Machinecorp Industrial (Pty) Ltd, Click Brick™ plants are housed in shipping containers which are easily transported to site. Moreover, they produce specially designed interlocking bricks and blocks which don't require mortar.

Instead, the blocks are cast with ridges and furrows, allowing them to slot into each other in a similar fashion to Lego blocks and accelerating construction times by a factor of two. The blocks are also cast with two vertical cavities which means less weight, easier handling and better thermal properties, and, if needed, the cavities can be filled with concrete for door and window frame support.

Click Brick™ plants are available in two models, the M1 which produces an average of between 1 500 to 2 000 masonry units per eight-hour cycle in a 6m container, and the M2, which produces up to 4 000 masonry units per eight-hour in a 6m container.

Unlike other portable brick making plants which are labour intensive, a Click Brick™ plant only requires two-to-three operators. What's more it only uses two materials, soil and cement in a ratio of 90% soil to 10% cement, to produce blocks with a compressive strength of 6-7MPa. In most instances, suitable soil is sourced on site which translates to considerable delivery-cost and carbon-footprint benefits.

Click Brick™ containers are fully equipped to begin production within two hours of delivery to site and, where necessary, operational training can be provided.

Comprising a six-metre standard shipping container with double doors at either end, both models house a generator, rotary sieve, mixer, conveyor and casting machine. They also come with shovels, brick cutter, diesel jerry can, cement container and a compressive strength tester. And there is enough room to accommodate a bobcat for digging and feeding soil into the plant and for conveying cast blocks to the curing yard.

Joachim Kofahl, Machinecorp founder, managing director, and Click Brick™ inventor, says Click Brick™ blocks are ideal for affordable housing schemes and for rural areas where bricks are either unavailable or prohibitively expensive.

A Click Brick™ masonry block.

Freshly-cast Click Brick™ building blocks are conveyor-fed for easy retrieval and stacking.

"With locally sourced soil often freely available, Click Brick™ facilitates cost-effective on-site brick production. It is also ideal for short-term leasing and is perfect for business start-ups," advises Kofahl.

A mechanical engineer, Kofahl has had over 30 years' experience in manufacturing and supplying portable soil and cement-based brick-making equipment. He founded Hydraform, which during his 20-year tenure as CEO, supplied over 6 000 mortar-free soil and cement brick production units into Africa, Argentina, Columbia and India.

Kofahl says that another major advantage of mortar-free walls such as Click Brick™ is that they have a flexibility which makes them considerably more earthquake resilient than conventional brick and mortar walls.

"While I was with Hydraform we designed an earthquake test facility together with the University of The Witwatersrand. It involved placing a 4x4m building onto a testbed to which a 450kw motor was attached. The motor vibrated the testbed simulating an earthquake, and the structure withstood forces up to seven on the Richter Scale. Had the building been constructed with mortar it would have lacked the flexibility to withstand the induced vibratory forces."

"The Click Brick™ system is being marketed into Africa by Machinecorp and into the rest of the world by our Columbian agent, and we will be presenting the system at a Ukraine re-construction conference in April," concluded Kofahl.

Palletised blocks are cured prior to laying.

RETAINING WALLS TRANSFORM LIFESTYLE ESTATE

Some of the retaining walls built with Terraforce L-12 Rock Face blocks.

Nestled against the picturesque slopes of the Tygerberg Nature Reserve, De Plattekloof Lifestyle Estate stands as a testament to innovative terracing. With breath-taking views of Table Bay, Cape Town City Bowl and Table Mountain, this five-star retirement estate offers a wide range of accommodation, amenities and care facilities.

The estate's sloping terrain has been converted into a luxurious living environment through the construction of some 2 300m² of gravity walls using Terraforce L12 and Decorwall blocks. The walls have not only created stable platforms – linked with staircases and ramps - for the construction of elegant homes, apartment and community buildings, but have also carved out serene, verdant garden terraces.

Delivering striking aesthetic appeal and remarkable versatility, the success of De Plattekloof's landscaping project was buttressed by the judicious selection of Terraforce Rock Face blocks in combination with the Decorwall blocks. Besides creating terraces for estate gardens, retaining garden walls were built at the front of individual homes.

The estate walls were built in three phases. Phase 1 began in 2016, and Phase 3 is still in progress. Wall heights, which were determined by the site's natural topography and structural requirements, vary from 1m to 6m.

The retaining wall blocks were supplied by Klapmuts Concrete, and Decorton Retaining Systems used them to build the walls. The latter were designed by Freddie Laker of iCOS Engineers cc and were landscaped seamlessly into the estate by Intebe Landscaping. This included selecting suitable vegetation to stabilize the slopes, enhance aesthetics, and ensure long-term sustainability of the walls.

"One of our main challenges was adapting our design to the site conditions and switching from the originally specified L11 blocks to the lighter L12 blocks. Moreover, some walls were constructed using a cut-and-fill technology while in others, engineered fill was used to build up levels. The latter ensured proper compaction and stability.

"The foundations varied based on ground conditions, with some sections requiring reinforced concrete bases, while others were supported on existing concrete retaining walls. Some of the higher walls needed additional structural support in the form of starter bars and concrete infill to enhance their load-bearing capacity and improve overall stability, particularly in high-stress sections of the walls," advised Laker.

SP van Blerk, managing director of Decorton Retaining Systems, said that geogrid reinforcement was placed at every second layer of block intervals.

"This extended from 750mm on the lower walls to as much as 2 000mm behind the higher walls. Geogrid reinforcement was introduced from a wall height of approximately 2,5 meters and above, depending on the specific engineering requirements.

"Drainage was incorporated behind all walls, irrespective of wall height, to prevent pore pressure from building up behind the walls and ensure long-term durability. The drainage system included perforated pipes placed at the base of the walls, backed by drainage aggregate, and covered with geotextile fabric to prevent clogging. Weep holes were also integrated into the design to allow water to escape.

"One of the retaining walls was constructed on a piled concrete beam. The wall, which supports the load of a wheelchair access ramp above it, required precise alignment and additional structural reinforcement to maintain long-term stability," said van Blerk.

Terraforce managing director, Karin Johns, says Terraforce blocks are designed to create one of the most energy-efficient segmental retaining wall systems.

"Being hollow yet strong they require less concrete to do the job when compared to solid block systems. They are also plantable, and if an irrigation system is properly installed, a Terraforce wall can be completely covered in vegetation," advises Johns.

A Concrete Manufacturers Association (CMA) member for over three decades, Terraforce, has maintained a strong foothold in the South African retaining wall market for over 40 years. And during the past decade the company has seen a steady expansion into the international retaining wall market with a footprint extending to Australia, Canada, Egypt, Ghana, India, Lesotho, Morocco, Namibia, Nigeria, Spain, Swaziland, and United Arab Emirates.

A staircase built with Terraforce Multi 4x4 Step Blocks integrates seamlessly with a Terraforce wall.

Built on a piled concrete beam, this L-12 Rock Face wall supports a wheelchair path

A planted wall built with Decorwall blocks.

A paved garden path fringed with L-12 Rock Face walls.

Project Team

Engineer:	Invictus Engineering Services
Retaining Wall Engineer:	Fred Laker, iCOS Engineers cc
Main Contractor - current:	Mastec Construction
Sub-Contractor:	Decorton Retaining Systems
Landscaping:	Intebe Landscaping

Text and photography:
David Beer on behalf of the Concrete Manufacturers Association and Cape Concrete Works.

POSTER HELPS USERS UNDERSTAND READYMIX MORTARS & PLASTERS

In response to widespread misconceptions in the construction industry regarding the differences between mortars, plasters and concrete, Quantum Ready Mixed Concrete has developed an informative poster to address these misunderstandings.

This initiative aims to educate contractors, plasterers and site managers on the correct application, handling and expectations of readymix mortars and plasters, ensuring improved efficiency and structural integrity in construction projects.

It addresses common misconceptions that mortar and concrete are synonymous materials which they are not. Major differences occur in a number of areas namely; Mortar is specifically designed to achieve a compressive strength of approximately 5 MPa at 28 days, whereas concrete is rarely specified at such a low strength. This is only one of some fundamental distinctions that significantly impact testing, application and performance.

Laboratories conducting mortar strength tests require specialised accreditation distinct from concrete testing as mortar exhibits unique performance characteristics. Unlike concrete, which follows a predictable strength gain from 7 to 28 days, mortar, particularly retarded mortar, can display substantial variations in early strength. Factors such as the timing of sample collection, the effect of retempering at the end of the retarded life cycle can further complicate accurate strength assessment. In some cases, cube stripping within 24 hours is impractical and may necessitate specialised handling protocols.

It is also worth noting that shortfalls in mortar supply often lead to construction disputes and cost overruns. Industry bodies recommend a wastage factor ranging from 20% to 200%, depending on the experience of site supervisors and management efficiency. Failure to account for variables such as perforated bricks or bricks with frogs in the bill of quantities can more than double the required mortar volume of mortar required.

Furthermore, deteriorating building sand quality has necessitated the use of higher-grade cement, making testing essential to ensure adequate bond strength and durability. Poor material selection, inadequate precautions, and improper post-application handling significantly increases long-term maintenance costs. Attempting to cut costs by neglecting thorough material analysis and corrective measures is a false economy that will inevitably lead to increased repair expenses or even structural failure.

Another common issue the poster helps to address is inconsistencies in on-site mortar mixing, particularly when different wheelbarrow sizes are used. Standard builder's wheelbarrows have a 65-litre capacity, but with the influx of imported models of varying volumes, the incorrect cement-to-sand ratio often results in substandard mortar. Site labourers typically add a standard 50 kg bag of cement per wheelbarrow, unaware that a larger wheelbarrow requires proportionally more cement to maintain the correct mix ratio. This oversight leads to weaker, less durable mortar, compromising structural integrity.

The Advantages of Quantum Readymix Mortar Supply

Quantum Ready Mixed Concrete highlights the benefits of using freshly mixed mortar delivered via concrete trucks. A batch of as little as 3 m³ of readymix mortar, supplied first thing in the morning, offers several advantages over on-site mixing:

- **Optimised Mix Design:** The mortar is blended with carefully selected sands to meet industry specifications, reducing the risk of plaster cracking when handled and cured correctly.
- **Increased Productivity:** Immediate mortar availability eliminates delays caused by on-site mixing, adding up to two extra hours of productivity per day, or the equivalent of an additional workday per week.
- **Reduced Labour Fatigue:** Workers no longer need to manually mix mortar, allowing them to focus solely on transportation of the mortar, resulting in higher efficiency and better-quality workmanship.
- **Minimised Waste and Pilferage:** With no cement on site, material theft is totally eliminated, and the disposal of unsightly empty cement bags is eliminated.
- **Enhanced Delivery Efficiency**: The use of the truck-mounted conveyor can deliver mortar directly to the worksite, up to two storeys high, further streamlining the construction process and saving valuable time.
- **Consistent Quality:** The homogenously mixed mortar remains usable for up to eight hours, ensuring uniform performance throughout the workday as opposed to smaller batches haphazardly mixed and of dubious quality.

Quantum Ready Mixed Concrete has compiled these insights and best practices into a comprehensive poster, available free of charge to building and plastering contractors who wish to enhance their understanding of readymix mortars. This technical resource provides essential guidance on correct application methods, mix design considerations and site management strategies to maximise efficiency and structural performance. Concrete Connect has also included a version of the poster on page 20-21 of this issue.

To request a copy of the poster contact Charlene at Quantum Midrand on Tel: **010 446 6745.**

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Readymix Concrete

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MORTARS, RETARDED MORTARS & PLASTERS

EAST / WESTRAND 010 447 7100
PRETORIA / MIDRAND 010 446 6745

MAJOR BENEFITS OF QUANTUM READYMIX MORTAR

- Plastering & bricklaying teams are immediately productive from the time of delivery, resulting in a huge increase in productivity, as well as less mixing labour. An earlier completion of the wet trades and project is entirely feasible.
- Use the truck-mounted conveyor to deliver mortar to upper floors, enabling faster startup for plastering teams.
- Reduced cracking and remedial work due to conformity of the product.
- Superior quality: A far more homogeneous mix that has been weigh batched eliminating inconsistent smaller batch mixing and associated variables.
- No need to store dry materials: Total footprint size is 3M x 5M for 6M³ of mortar.
- Special mixes i.e. scratch plaster can be produced on request.
- Less site administration and management.
- No unsightly bags or disposal costs.
- By blending sands, cements & admixtures an optimum mix is achieved creating a more cohesive, workable product & less wastage.
- Quality assured, raw materials as well as the final product conforms to relevant specification.
- Raw materials, especially cement is far less prone to pilferage.
- Schedule late afternoon delivery of retarded mortar for next-morning use (remember to cover the mortar).

TIPS

Product Use
The product is discharged into either mortar tubs or a pre-prepared DPC plastic lined dished area which has been set out on the ground as close to the working area as possible. A dished area of 5M X 5M X 200 mm high brickwork can accommodate 6M³ of mortar. If the mortar is not being used or overnights, it should be covered with a thin plastic film so as not to dry out. Black plastic is more effective than translucent clear plastic as an insulator.

Shelf life and Open Time
Standard mortar or plaster: Open time 7-9 hours depending on weather conditions.
Retarded mortars: Recommended is the retarded mortar of 12 hours to 18 hour retardation as this is the least susceptible to hot/cold weather conditions. Mortars can however be extended for as much as 24 to 36 hours on request.

Pre-wet bricks
Always pre-wet bricks before plastering or bricklaying, especially clay-bricking in dry weather.

Sun protection
Protect plaster from direct sunlight, especially on hot days. North facing walls are more prone to drying and cracking.

Extra dagha
Extra dagha must be accounted for when using bricks with cavities, as they require almost double the amount of dagha (as much as 175% more).

Limit evaporation
Avoid placing dagha on absorbent surfaces like shutter boards to limit evaporation.

Brickwork alignment
Ensure brickwork is perpendicular and flat to use the least amount of plaster possible.

Wheelbarrow volume
A wheelbarrow holds 65 litres. Two pockets of cement fill one wheelbarrow.

Mix ratio
For a 6:1 mix, use 6 level wheelbarrows of sand to two pockets of cement (one wheelbarrow).

Due to high variability in mortar test results, use only an accredited lab. Refer to SANS 0255 for mortar specifications. Use a 50mm x 25mm hardwood or steel tamping rod for mortar cubes; avoid using the concrete cube tamping rod.

SPECIFICATIONS

Mortar classes, mix proportions and strength (most common mortar used is Class II)

1	2	3	4	5	6
Mortar class	Compressive strength at 28 day, MPa, min.		Portland cement 32,5 or 42,5 preferable	Lime (if necessary)	Sand (measured loose and damp)
	Preliminary (laboratory)test	Works test	Kg	Litre	Litre, max.
I	14,5	10	50 (42,5)	0-10	2 w/barrows 3 w/barrows 130 lt 200 lt
II	7	5	50 (42,5)	0-40	

Recommended limits for various properties of sands for use in bedding mortar and plaster

PROPERTIES OF SAND	TEST METHOD	LIMIT	
		BEDDING MORTAR	PLASTER
Fineness modulus.	SANS 201 : 2008	0,8-2,0	1,0-2,0
Size of sieve through which all particles must pass		2,36 mm (maximum)	2,36 mm(A) (maximum)
Preferred maximum fraction of material between any two successive standard sieve sizes(%)		35	35
Content of material passing 75-µm		3-25 (B)	3-20(B)
Methylene blue absorption	SANS 6243 : 2008	0,7 (maximum)	0,7 (maximum)
Content of material with equivalent particle diameter ≤ 5µm(%)	SANS 6241 : 2006	0,6(C) (maximum)	3 (maximum)
Content of material with equivalent particle diameter ≤ 2µm(%)		2,0(D) (maximum)	2,0(D) (maximum)
PROPERTIES OF FRESH MORTAR/PLASTER			
Preferred maximum water requirement of mix made with 5 parts sand to 1 part cement by mass (l/m³)	PCI TM 5.17	360	330
Bleeding capacity of mix (%)	ASTM C232-09	0,35 (maximum)	0,35 (maximum)
Suggested range for water retentivity for non air-entrained mortar (%)	BS 4551	85-95	85-95
Dry shrinkage of mix (%)	SANS (E) 6254 : 2006	0,12 (maximum)	0,10 (maximum)

(A) Maybe increase to 4,75 mm for masonry (natural) plaster (B) These values assume that the natural clay contents are not exceeded (C) 3% for unrendered exterior work (D) These values refer to active clays such as smectites and can be exceeded if less active clays are present (E) Except that specimens are 50 x 50 x 165 mm.

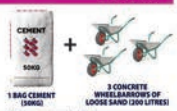
REFERENCE SANS 1090 : 2009

SITE MIXING & TESTING PROPERTIES

QUALITY PLASTER — THE MIX

Plaster has consistently proven to be one of the greatest problems in building. Poor quality plaster often leads to cracks, dusting, crazing, and poor adhesion to the wall surface.
These problems can usually be avoided by carefully selecting conventional products and sand. Preparing walls and brickwork must also be attended to. Failure to take these actions or use appropriate techniques and finishes may result in recurring maintenance issues.

Quality plaster sands are becoming extremely difficult to source in Gauteng especially, and it is recommended that users consider the use of Cem 42,5 admixtures or even the partial addition of a finer crusher sand (minus 2.36mm) where possible.



Mix proportions should be:
- 50kg cement (1 bag)
- 200 litres (maximum loose damp sand (approx. 3 wheelbarrows filled level with the top).

UNDER NO CIRCUMSTANCES SHOULD MORTAR BE RE-TEMPERED

SITE TEST FOR PLASTER SAND

Cement
USE ONLY THE FOLLOWING CEMENTS CARRYING LOA/SABS

CEM I — Common cements
CEM I I A or B comply SANS 50197

Note:
Where masonry cements are used the quantity of sand mixed with a bag of masonry cement is reduced to a max of 2½ wheelbarrows.

If the sand lacks fine material, or is single sized, use masonry cement.

Step 1
Mix 1 litre of cement with 6 litres of dry sand

Step 2
Add 1 litre of water

- If after **Step 2** the mix is wet enough, the sand is ***GOOD***
- If not, add another ½ litre of water
- If the mix is wet enough the sand is ***OK***
- If not: try another sand

PREPARING THE WALL

- The wall should be clean (no oil or dust)
- The bricks or concrete should be saturated, but the surface should be dry

Cut through section of bricks showing saturation:

USEFUL INFO & SPECS

- (m²) of single leaf brickwork requires 52 bricks
- (m²) of mortar will lay 2000 bricks of single leaf brickwork (105mm) if it is ±10mm thick
- (m²) of mortar will lay 2030 bricks of single leaf brickwork if it is 15mm thick
- (m²) of plaster will cover 95m² (15mm thick) or 100m² (10mm thick)

Notes
1. Assuming standard brick is 222mm x 106mm x 73mm
2. Wastage depending on site control can vary from 20% to 200% in extreme cases
3. The above estimates allow for zero wastage

Referred Documents
- SANS 1090 Sand for plaster & mortar
- SANS 1242 Concrete masonry construction
- SANS 1215-4 & 7 The structural use of masonry
- SANS 10197-1 Specification for common cements
- SANS 5233 Mortar tests
- SANS 10243-1 Specification for masonry cement

COMMON PLASTER PROBLEMS

DEBONDING (HOLLOW) SPOTS
This is the seperation from the brickwork and can be determined by lightly tapping the wall with a hammer and listening for hollow sounds

Causes are
1. A surface that was overly wet, dusty or oily
2. A very smooth brick surface

SOFT WEAK SURFACE
This can be determined by rubbing one's fingers over the plastered surface.

Causes are
1. Not enough cement in the mix.
2. A poor quality sand.
3. Bricks were dry (unsaturated).
4. Mix was re-tempered.
5. Rapid drying

CRAZE CRACKS
This can appear in various forms, depending on the reasons that they occur.

Causes are
1. Plaster was trowelled too early or over-trowelled
2. Mix was too rich.
3. Early drying occurred (wind and sun on a north facing wall)
4. The sand was of poor quality.
5. Troweling rest cement onto the surface.
6. High water absorption of bricks.

WET MORTAR TESTING PRECAUTIONS

The difference between mortar cubes and concrete cubes

Alongside standard concrete cube testing precautions, consider these issues specific to mortar testing ONLY.

- Mortar cubes have low strength-even less than 2MPa at 7 days, making them more susceptible to crushing than concrete. A hand-operated press is not ideal for testing.
- During transportation, mortar cubes can be easily damaged, especially as the strength is often less than even 1 MPa.
- Stripping cubes at 24 hours can damage them, particularly retarded mortars during winter.
- Moisture evaporation triggers the initial set of retarded mortar; do not cover cubes on the first day.
- Mortar strength is less predictable than concrete; 7-day strengths might reflect 5 or 6 day strengths. Mortars are designed for a prolonged shelf life.
- Mortar strength should be less than the strength of the brick to allow structural movement within the brickwork.
- Stock bricks need a 7 MPa strength, and mortar should be weaker than this, but not too weak either.
- The specified correct tamping bar is hard-wood or hard rubber (50mm x 25mm). Vibrating cubes gives more consistent results.
- Cubes are often made without consideration given to re-tempering that may have taken place.
- Discrepancies between cubes made on delivery of the mortar or at the end of the products retarded shelf life will be compounded.
- Mortar testing should be done by laboratory accredited for testing mortar.

In the above case mortar is stronger than the brick and results in vertical cracking

In this case the mortar is weaker than the brick and displacement is better accommodated in the mortar

WASTAGE & YIELD

Most sites experience vast differences regarding the quantity of mortar actually used as opposed to the calculated quantity. Discrepancies are typically in the range of 20% - 30% but can be much higher depending on supervision. Typical areas of concern are:

- The area where the sand and cement is stored and batched. Use a level concrete surface and good security especially with regard to cement. Mechanical mortar mixers are always preferred to hand mixing. The mixing area must be contained and not be allowed to spread out
- Where sand is being bought by volume, measure the truck, this is often overlooked.
- Mixing from pockets is inefficient as a full gauge must be mixed and used every time, this is not always possible. Are mix proportions consistently batched and homogeneously mixed?
- Counting wheelbarrows is not accurate. Whilst a builders wheelbarrow is designed to hold 65 litres of damp mortar the most a wheelbarrow of freshly mixed mortar will carry without spillage is 30-35 litres. In addition imported wheelbarrows are not in sync with SA industry norms i.e. 2 pockets of cement = one wheelbarrow (see below). Poorly supervised mixing, transporting and placing of mortar are the most common reasons for unacceptable losses.
- Irregular brickwork will require a far thicker plaster coat than the normal 15-20mm normally allowed for.

YIELD

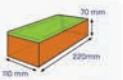
Wheelbarrows of sand versus wheelbarrows of dagha

Counting wheelbarrows of mortar is an inaccurate method of determining yield. Whilst a full wheelbarrow will yield 65 litres of damp sand, mortar being visually liquid will only be able to convey some 30 litres before spillage occurs during transportation.

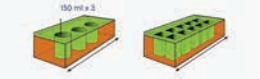
ONE WHEELBARROW OF DAMP SAND (65 LITRES) ≠ ONE WHEELBARROW OF MORTAR (30-35LITRES)

SOLID BRICKS VS PERFORATED BRICKS

Often overlooked is the amount of extra mortar required when laying bricks with frogs or perforated with cavities. Illustrated below are examples of how mortar quantities can escalate.



Amount of mortar required to cover one vertical and one horizontal surface = **320ml**



Amount of mortar required to cover two surfaces plus an additional 3 cavities = **770ml (140% extra)**

Amount of mortar required to cover two surfaces plus an all wafer cavities = **820ml (156% extra)**

CRACKS

DIAGONAL, STEPPED CRACKS.

Causes are
1. Wall under the plaster is cracked

SLUMP CRACKS

Causes are
1. Mix was too wet
2. Layers were too thick.
3. Surface was to wet.

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CONCRETE CONNECT

BUILDING THE FUTURE – LAYER BY LAYER

Dear Reader

We have now published our 6th edition of ***Concrete Connect*** since starting at the beginning of 2024 and we are excited at the support and contributions we have received from the market so far. We are excited about where we are headed with our publication and believe we have a major role to play in the industry.

We invite all roleplayers, stakeholders and supporters to allow us the opportunity to meet face-to-face and introduce you to our brand-new ***Concrete Connect.***

Over the past few years, we have witnessed division in the cement, concrete and precast industries and seen a steep decline in real order and growth of the construction industry. As the market returns to a new phase of growth, we think it is critical to reignite interest in the sector, to build communication bridges and stimulate interest among suppliers and users of concrete products and the tools and services that go with it.

Our aim for the concrete industry is to facilitate a sustainable sector that is resilient and able to withstand the onslaught from competing construction projects such as steel, plastic, clay and other synthetic materials competing against concrete and precast concrete.

Concrete Connect is all about cooperation, collaboration and spreading the word of concrete's many advantages among clients and developers. Allowing them to form opinions based upon facts and expertise of our customers and contributors while communicating and explaining why concrete is the foundation of civilizations through the ages, while modern advances continue to elevate it to being the most exciting construction material of tomorrow.

We also want to introduce you to the team of publishing professionals leading the ***Concrete Connect*** team who have worked in the industry and understand what is needed to build and assist with effective communications and marketing.

Publisher: Andrew Meyer, past founder and publisher of Precast magazine. Andrew also served as MD of a design & marketing company with amongst its clients SASOL, The Jewellery Council of South Africa, Edgars, CMA and numerous others for many years.

Editorial: Raymond Campling is a past editor of Precast magazine and currently owns a PR and advertising agency, Media Savvy. His experience as a journalist, editor and publisher spans more than 30 years.

We do need your support to ensure that the ***Concrete Connect*** is sustainable and we will be seeking six sponsors who will be asked to contribute an amount towards the running of the publication.

Sponsors will have the opportunity to get great value for their sponsorship of R13,980.00 per issue (6 issues per year) which ensures that publishing costs are covered. Sponsorship will be based on a one-year contract.

In return each sponsor gets a logo on the content page, logo on letterhead, a page in every issue, editorial coverage and first refusal rights on sponsorship of any events. This funding will cover essential operational costs and as such ensure we are sustainable.

Advertising will also be sold to generate development costs.

Our long-term view is to develop other exciting elements to add to the ***Concrete Connect*** portfolio to strengthen the cement, concrete and precast markets. As a group we will be offering an array of marketing, PR, video and photography services at special rates to our clients.

South Africa now has a publication serving all aspects of the cement, concrete and precast industries under one cover.

We look forward to hearing from you and meeting in person to share information on ***Concrete Connect***.

The ***Concrete Connect*** team.

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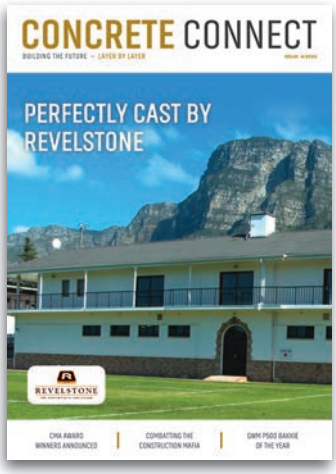


CONCOR JV BUILDS BRIDGES TO GROWTH IN LESOTHO

Precast beams are being manufactured on site close to the project's concrete batching plant, allowing the beams to be transported just 1 to 2 km to the bridges.

Work is surging ahead on the two bridges over the Mabunyaneng and Khubelu Rivers, part of the Polihali Dam programme of the Lesotho Highlands Water Project Phase II.

Driving this progress is the Concor-Nthane Brothers M&K Bridges Joint Venture, which began work in January 2024 on the two structures. The bridges will provide crucial access to the town of Mokhotlong once the existing roads and tracks are inundated by the Polihali reservoir. The road network is being realigned to accommodate the expected full supply water level of this dam.

In terms of dimensions, the Khubelu Bridge will comprise nine spans of 30 m each, making up a 270 m stretch across the Khubelu River. The bridge across the Mabunyaneng River is 120 m long with four 30 m spans. Both bridges will have two abutments and will be 13,5 m wide. Located in the higher regions of the valleys, the bridges will be 30 to 35 m above ground level. According to Concor contracts manager Jaco Verreynne, much of the work to date has been creating the foundation structures for the bridges.

"There has been a more or less even spread of piling and founding on competent rock," says Verreynne. "The basic design includes standard pillar type piers, with a pier head to receive the precast beams, completed by a reinforced concrete deck."

At the Khubelu Bridge, piers are dowelled into competent rock while the abutments each receive 12 piles. While the one abutment on the Mabunyaneng Bridge is on competent rock and can be dowelled, the other will be piled – as with the piers. He notes that the pile depth is between 8 m and 12 m.

"We drive a metal casing through the soft material after which the drilling can be conducted through the casing," he says. "Once we reach the required rock strength, we can socket into this competent material. Steel reinforcement is then put in place, followed by the casting of concrete using the tremie method, ensuring that the concrete does not segregate."

Rivers have been relatively low during the winter of 2024, which is the dry season, but the rainy season from September brought more challenging conditions. There is always a risk of flooding, says Verreynne, but the project has planned for the piers in the river to be at least 6 m high by the time the rivers rise. This will ensure that the structure remains secure, and work can continue safely.

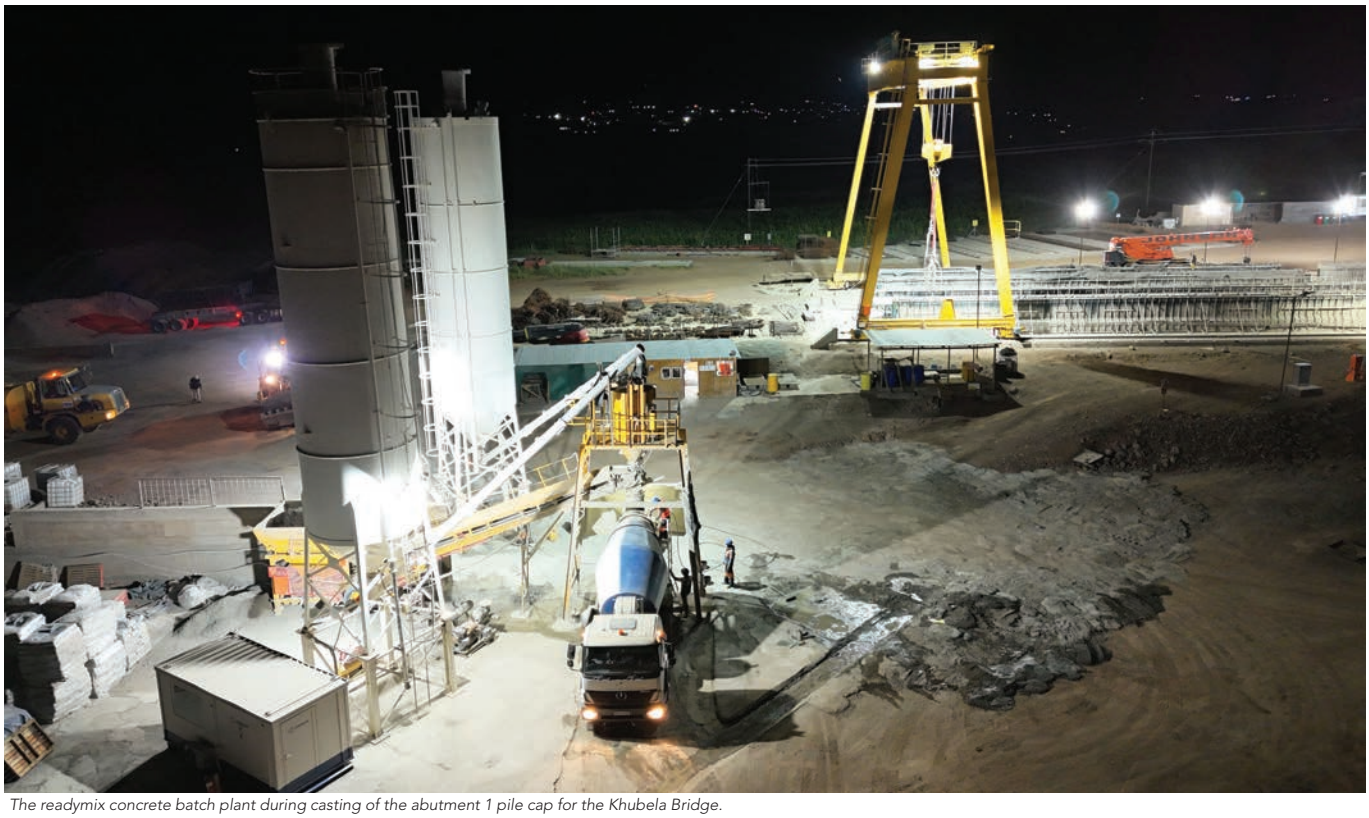
"Another component of the project is a reinforced earth wall at the eastern abutment of the Mabunyaneng Bridge, where a vertical wall is being built next to the new road to accommodate traffic during bridge construction," he says. "This retaining wall is about 8 m high and will run for some 180 m long."

The Concor-Nthane Brothers M&K Bridges Joint Venture has also been tasked with several road cuttings involving blasting and earthworks. Bypasses are also being constructed at the outer abutments to allow traffic to continue as some of the bridge abutments are in the existing road.

Precast beams are being manufactured on site close to the project's concrete batching plant, allowing the beams to be transported just 1 to 2 km to the bridges. There will be a total of 91 beams cast – 28 for the Mabunyaneng Bridge and the balance for the Khubelu Bridge. Each beam will measure 2,130 m in height and 30 m in length.

"We will manufacture and stress the beams on site, using two 275 tonne cranes to move these onto bogey-type trucks with self-steering dollies," he says. "This will allow us to navigate the turns in the road as we transport the beams to the bridge areas."

Cement and fly ash for the concrete is ferried by road to site, with aggregate coming from a source near the Senqu Bridge as well as from local suppliers.



The readymix concrete batch plant during casting of the abutment 1 pile cap for the Khubela Bridge.

"By the end of the project, we will have used about 11,000 m3 of concrete for the two bridges, with another 2,000 m3 for the temporary works that we executed in establishing infrastructure such as the batch plant and gantry crane," he explains. "The piling work consumes about 1,000 m3 of concrete."

The Concor-Nthane Brothers M&K Joint Venture is planning to start installing precast beams imminently with a manufacturing programme to have the beams ready in good time. This will allow the bridge decks to be completed by the middle of 2025.

The contract includes the upgrading of community roads and maintenance of the main A1 road where small contractor packages are being managed by the joint venture. This work includes fixing of guardrails, potholes, line markings and signage.

"We will have about 20 subcontractors in various disciplines on site at different times in the project," he says. "These are mainly small businesses, for tasks such as gabions and minor concrete works."

This is an important part of the joint venture's commitment to train and upskill small subcontractors, and forms part of Concor's ongoing efforts to build capacity in the local areas around each project. He emphasises that site work is the basis upon which these businesses can build their experience and establish sustainable operations into the future.

"Concor sees all our projects as valuable opportunities not only to build economic infrastructure for growth, but to enhance skills and livelihoods in local economies," says Verreynne. "This includes the approximately 230 workers on site, of which about 70% are Lesotho nationals."

The bridges are scheduled to be competed in October 2025.

A view of the Khubela Bridge showing the abutment 1 pile cap.

Readymix concrete being poured for manufacture of the precast beams; each beam measures 2,130 m in height and 30 m in length.

SOLID PARTNERSHIP DRIVING LOCAL CRUSHING & SCREENING MARKET

ELB Equipment & Powerscreen solid 30-year partnership has driven the local market for decades

This year Powerscreen celebrates three decades as the single most dominant force in crushing and screening in all industries across the country.

The manufacturer's longstanding relationship with its sole distributor, ELB Equipment, has been the driving force behind Powerscreen' s dominance and established itself as a market leader with an estimated 50% to 60% market share in southern Africa and an unmatched range of mobile crushing and screening solutions.

Powerscreen remains the top-selling brand of mobile crushing, screening and conveyors in the country. Its products are a mainstay of the local mining and construction industries with ever-growing applications in recycling, agriculture and other industries.

Wakefield Harding, divisional director at ELB Equipment and Heath Dickson, mining product application manager, say the machines are the ideal match for local operations combining worldclass productivity with rugged and durable equipment that is tough enough for harsh African conditions.

In addition, they attribute the success to ELB Equipment expertise with years of experience, deep product knowledge and a team driven by application-focused solutions. "With Powerscreen approaching its 60th anniversary and ELB Equipment celebrating 30 years as the Southern African agent, it is a significant milestone," says Wakefield.

He adds that one of ELB Equipment's key strengths lies in its extensive product range that caters to everyone from startup operations needing small screens for sand mining, composting or agricultural screening, right up to large-scale mining. This kind of versatility ensures their customers get the right machine for their needs without having to overinvest or compromise.

"We also hold by far the largest stockholding of machines in South Africa. This translates into fast delivery times and minimised downtime. Our inventory and well-organised logistics also mean we can help clients immediately and our team runs like a well-oiled machine in terms of application

Heath Dickson and Wakefield Harding of ELB Equipment

knowledge as well as scaling new machines, maintaining parts supply throughout the region and providing maintenance and servicing of equipment.

"Our vast regional footprint further strengthens our service capabilities with three parts and service branches in major regions and a total of eight Sales and Service branches across the country. Whether a client is working in Witbank, Cape Town or Port Elizabeth our branches provide consistent, high-quality service wherever it is required."

Recent additions to the Powerscreen line include the Chieftain 1700X triple-deck incline screen and the Premiertrak 450 jaw crusher which demonstrates Powerscreen's commitment to staying ahead of the game and evolving to meet changing market demands. For instance, the Premiertrak 450 offers a massive jump in crushing capabilities, handling up to 500 Newton-metre crushing strength. The Chieftain 1700X also raises the bar with the unique patented four bearing double or triple deck screenbox and its ability to reverse the direction of the screenbox for difficult screening applications

With decades of application experience in the screening and crushing market, Heath says that throughout the years it has been service excellence that remains a cornerstone of ELB Equipment's offering.

"We're increasingly selling service agreements with our machines, which gives customers peace of mind with predictable costs over 2 000 or 3 000 operational hours and reduces unexpected expenses. Our finance options have also evolved to support client needs as many sales today hinge on offering flexible finance solutions and as a result, we are geared to provide various options to make acquiring equipment more accessible," he says.

As the dominant player in crushing and screening in southern Africa and as the company expands its reach into larger mining operations with its new range of LiuGong excavators and dump trucks, the future looks bright. "We're excited about the doors this opens for us. We've laid the groundwork and now it's time to show the market what we're truly capable of."

Despite all the recent developments and successes, Wakefield explains that ELB Equipment's foundation remains strong. "Our relationship with Powerscreen is a key pillar of our success. We've been market leaders for 30 years and our experience and expertise are second to none.

"Our efforts have also been recognised by Powerscreen and we were recently announced as Regional Dealer of the Year. We see this as a testament to our team's dedication and the strength of our partnership and we look forward to building on this legacy and delivering even greater value to our customers in the years to come," he says.

Looking ahead, ELB Equipment remains committed to growth and innovation. It has been on an impressive growth path over the past five years and it is not stopping, The company's new 'Future Now, Future Next' strategy is being implemented at all levels and as part of its drive will see the introduction of new equipment and advanced solutions through partnerships with brands like LiuGong and Furukawa alongside Powerscreen's evolving technology.

ELB EQUIPMENT

NEW VAN FOR CONTRACTORS

Ford SA is bolstering its Tourneo Custom range with the addition of a new Active model that offers even better value while retaining the exceptional comfort, space and versatility that this practical people-mover is renowned for.

"The current Tourneo Custom Trend was launched last year and has been very well received by the market, but we saw that there is a gap for a slightly lower specification model at a more accessible price point for prospective customers," says Sunil Sewmohan executive director, product marketing at Ford SA.

"For the Tourneo Custom Active, we removed some of the 'nice-to-haves' but not essential interior features, while retaining the impressive list of standard driver assistance, passive safety and connectivity technologies that are fundamental to the Tourneo Custom platform. There's no change to the vehicle's outstanding interior space or the flexibility it provides for carrying people and goods. As a more affordable offering, we are confident that it will appeal to a wider range of both private and fleet customers."

Externally, the only differentiating feature on the Tourneo Custom Active, compared to the Trend model, is the deletion of the privacy glass for the side and rear windows, with a light tint applied instead. In the cabin, the dual sliding side doors are now equipped with pull-up blinds that provide a measure of privacy for passengers.

The Active is equipped with automatic climate control in place of the dual-zone system used on the Trend, while with the heated front seats, driver and passenger armrests and wireless charger are removed from the standard specification.

For the rest the features set is identical between the two models, including the flexible track-mounted seating system for the second and third rows that allows the cabin layout to be adapted according to the people and load-carrying requirements. There are three second-row seats that can be moved independently, and the third row has a two seat/one seat split.

The tracked seating enables customers to slide the second and third row seats forward or back along notched tracks set into the rear cabin floor. The seats can also be rotated to create a six-person conference layout or removed from the vehicle to free up a massive 6.8m3 load volume. Along with Tourneo Custom's overall vehicle height of under two metres and lower floor height with integrated side steps, the flat floor in the front of the vehicle further enhances practicality and cross-cab access.

Although the Tourneo Custom Active comes in at a lower price point than the Trend, there is no compromise on the core vehicle features. The impressive list of standard safety equipment includes LED headlights and daytime running lights, Electronic Stability Programme with Traction Control, ABS brakes with Electronic Brakeforce Distribution and Emergency Brake Assist, as well as Hill Launch Assist.

This is supported by the Driver Assistance Pack comprising Intelligent Speed Assistance with cruise control and Speed Sign Recognition, Collision Mitigation System, Driver Impairment Monitor, Lane Keeping Aid, front and rear parking sensors with digital rear view camera and Ford's Tyre Pressure Monitoring System.

Occupant protection includes front and side airbags for the driver and passenger, rear curtain airbags and three-point seatbelts all round. ISOFIX points are available on all three seats in the second row as well as the two outboard seats in the third row. Standard security features comprise keyless entry and start, a Thatcham Category 1 alarm system, immobiliser, two-stage door unlocking and power door dead-locking functions.

The new Active model is powered by the same 2.0-litre Single Turbo EcoBlue diesel engine that incorporates Auto Stop/Start and the AdBlue diesel exhaust additive to transform nitrogen oxide into harmless nitrogen and water. A 20-litre AdBlue tank is standard.

The 2.0L SiT diesel engine produces 100kW of power along with 360Nm of torque and is mated to an eight-speed automatic transmission that drives the front wheels. Four selectable Drive Modes are available to tailor the vehicle's performance, comprising Normal, Eco, Slippery and Tow/Haul. The Tourneo Custom range is rated to tow a braked trailer up to 2 500kg.

Pricing (includes VAT):

Tourneo Custom Active LWB Bus 2.0L SiT 8AT: R1 050 000
Tourneo Custom Trend LWB Bus 2.0L SiT 8AT: R1 076 000

The recommended Retail Price includes a 6 year/90 000km Ford Optional Service Plan, four-year/120 000km Ford warranty, four-year/unlimited distance Roadside Assistance and five-year/unlimited distance corrosion warranty. In addition, over the counter (OTC) parts and service parts warranty (SPW) are covered for two-year/unlimited distance. The recommended service interval is 15 000km or annually, whichever occurs first.

TRUCK MANUFACTURER TACKLES LOGISTICS CHALLENGES

The logistics industry is undergoing significant transformation, driven by evolving global trends and emerging challenges. As a leader in the commercial vehicle manufacturing sector, FAW Trucks Southern Africa has committed to addressing issues providing innovative solutions to support the industry's growth and resilience.

According to a recent analysis by Seabourne Logistics, the logistics sector faces several critical challenges as it moves towards 2025. These include the increasing demand for sustainability, the integration of advanced technologies, supply chain disruptions and the need for enhanced efficiency in operations. FAW Trucks believes it is strategically positioned to help businesses, and the industry at large navigate this complex landscape.

As environmental concerns take centre stage, the logistics industry is under pressure to adopt greener practices. FAW Trucks is at the forefront of this shift offering a range of fuel-efficient and eco-friendly commercial vehicles designed to reduce carbon emissions without compromising performance. Its commitment to sustainability is further demonstrated through state-of-the-art manufacturing facility in

Gqeberha, Eastern Cape, which prioritises energy efficiency and environmentally conscious production processes.

The integration of technology, including automation, artificial intelligence and data analytics is also reshaping logistics operations. As a result, the company is embracing these advancements by equipping its vehicles with cutting-edge telematics and fleet management systems. These innovations empower businesses to optimise routes, reduce downtime and enhance overall operational efficiency.

Global supply chain disruptions, exacerbated by geopolitical tensions and the lingering effects of the COVID-19 pandemic, remain a pressing concern. FAW has set itself up so its robust dealer network and local manufacturing capabilities will ensure its customers have access to reliable vehicles and spare parts that will minimise disruptions and maintain business continuity.

The Southern African logistics sector faces unique challenges, including rugged terrains and varying road conditions. The manufacturer's diverse range of commercial vehicles, from small to extra-heavy trucks, is specifically designed to meet these demands. Its locally assembled vehicles are built to withstand regional conditions, ensuring durability and reliability for businesses operating across the continent.

TRUCKING GURU TAKES THE HELM

Daimler Truck Southern Africa (DTSA) announced the appointment of Wolf Edmayr as the new general manager of their used truck and bus division: TruckStore.

Wolf brings extensive sales and retail experience to the role, which will be instrumental in guiding the organization through the current used market conditions. He began his career in 2003 in sales at Stucky Motors (Pty) Ltd and was promoted to Branch Manager in 2009. In 2014, he joined Motus: Mercedes-Benz East Rand as a Commercial Vehicle Sales Executive and later moved

to Bidvest: McCarthy Kunene Witbank in 2016. Wolf rejoined Motus: Mercedes-Benz East Rand in 2017 as a Brand Sales Manager and was promoted to Dealer Principal in 2018, where he was responsible for the overall management of Maemo Commercial Vehicles Rustenburg and Cargo Commercial Vehicles Klerksdorp. Throughout his career, Wolf has achieved numerous milestones, consistently demonstrating a 'can-do' attitude that drove success and inspired those around him.

Wolf Edmayr on his appointment: "I have a deep-rooted passion for the trucking industry. My career has primarily focused on new truck sales, and I am excited to take on a new challenge by leading one of the largest used truck and bus dealerships in South Africa. Despite the significant challenges the used truck market has faced in recent months, I am committed to navigating these complexities and driving TruckStore towards success alongside our highly experienced team. I eagerly anticipate the opportunities and challenges ahead and am dedicated to contributing to the continued growth and excellence of TruckStore. I look forward to engaging with our customers, who can expect fantastic deals, first-class service, and swift turnaround times at TruckStore."

Maretha Gerber, president and Group CEO adds: "We are pleased to welcome Wolf to our team. With his extensive retail experience and innovative strategies, we have full confidence that he will play a pivotal role in driving the success of our used truck and bus business. Our customers can rest assured that they are in capable hands."

DTSA would like to congratulate Wolf and wish him all the best in his new position.

GETTING DOWN TO BUSINESS: ESSENTIAL TOOLS FOR A STRONG START

As the new year continues at pace South Africa's builders, contractors and construction professionals are working hard to complete their projects and make the most of a good start.

Following their successful return to the site, these workmen have come to rely on an essential ingredient: the right tools. For decades, reliable and durable hand tools have been the backbone of industries like construction, mining, and forestry.

Whether breaking ground on a new project, tackling maintenance tasks or completing heavy-duty jobs, having dependable tools in their arsenal makes all the difference. Lasher Tools, with its reputation for quality and durability, have long been trusted by South African professionals to deliver the reliability needed on every job site.

Founded in 1929, Lasher Tools is synonymous with quality and innovation. As South Africa's leading hand tools manufacturer, Lasher has built a reputation for producing tough, ergonomically designed tools that are engineered for performance. From hammers and shovels to wheelbarrows and hacksaws, its products cater to the needs of professionals who demand reliability.

One of Lasher's standout features is its commitment to local manufacturing. Proudly South African, its tools are designed to meet the unique challenges faced on job sites across the country. Each product undergoes rigorous quality testing, ensuring they meet the highest standards of durability and safety. Selected tool categories and products are quality approved by the South African Bureau of Standards (SABS), ensuring they meet strict safety, durability, and performance standards

With over 90 years of experience and a catalogue featuring more than 1,000 hand tools, Lasher remains a trusted partner for builders nationwide.

Here is a detailed checklist of must-have construction tools and their key benefits:

Hammers

Claw Hammers: These versatile tools are staples for tasks like driving and pulling nails. Durable heads ensure longevity, while comfortable handles reduce strain during extended use. They're perfect for everyday construction needs.

Club Hammers: Built for chiselling and breaking concrete, these hammers offer excellent control for precision work. They are indispensable for tasks requiring extra force without compromising safety.

Sledge Hammers: Designed for brute-force tasks, such as breaking large rocks or concrete slabs, demolition hammers feature reinforced handles and shock-absorbing grips for added safety and efficiency.

Shovels & Spades

Digging Spades: Essential for trenching and digging, these spades feature strong blades and long handles for increased leverage and control. They're especially useful for excavation work in compacted soil.

Material Moving Shovels: These shovels are efficient for handling materials like sand, gravel, and concrete. Built with wide, durable blades, they're capable of moving heavy loads without bending or warping.

Picks

C&D Picks: These dual-purpose tools feature flat blades for cutting roots and pointed ends for breaking tough soil or rock. They're invaluable for landscaping and ground-breaking tasks, making them a must-have for many projects.

Beater: Specifically crafted for breaking and clearing concrete or stone debris, beater picks are often used in demolition and renovation projects.

Cutting Tools

Hacksaws: Hacksaws are indispensable for cutting through metal, plastic, and wood.

Their sturdy frames allow for high-tension blades, ensuring clean and precise cuts.

Hacksaw Blades: High-speed steel blades are ideal for cutting through hard materials such as stainless steel, cast iron, and reinforced composites. Their durability makes them suitable for heavy-duty industrial applications.

Wheelbarrows

Heavy-Duty Wheelbarrows: Featuring reinforced frames and deep pans, these wheelbarrows are designed to carry dense materials like cement and bricks. Rubber wheels ensure smooth movement across uneven terrain.

Builder Wheelbarrows: Engineered for tough tasks, these robust and reliable wheelbarrows are perfect for professional builders tackling heavy loads with ease and efficiency.

Trowels

Brick Trowels: Essential for applying and spreading mortar evenly, brick trowels ensure precise brick placement. They're widely used by masons for building projects.

Plaster Trowels: Used for smoothing plaster or cement, these trowels achieve clean, professional finishes on walls and ceilings. Available in different sizes, they're versatile for varied applications.

Crowbars and Wrecking bars

Wrecking Bars: Ideal for demolition work, wrecking bars provide the leverage needed for removing nails, lifting boards, or breaking apart stubborn structures. Heavy-duty models are better suited for large-scale projects.

Crowbars: Compact and versatile, flat pry bars are excellent for prying, lifting, and scraping. They're suitable for smaller tasks where precision is required.

How Lasher Tools support your needs

Having the right tools isn't just about convenience – it's about safety, efficiency and getting the job done right the first time.

1. Prioritise Quality and Durability: Construction sites demand tools made from high-quality materials like tempered Carbon steel. Safety certifications ensure reliability, giving you peace of mind on the job.
2. Match the Tool to the Task: Different tasks require specialised tools. For example, use heavy-duty hammers for demolition. Assess your project's specific requirements to choose tools that will deliver the best results.
3. Focus on Ergonomics: Long workdays can take a toll on your body. Look for tools with ergonomic designs, such as non-slip handles and balanced weight distribution. These features reduce fatigue and enhance efficiency.
4. Leverage Versatility: Multi-purpose tools save space and eliminate the need to carry multiple items. Combination hammers, adjustable spanners, and modular tools with interchangeable parts are excellent choices.
5. Consider Maintenance and Longevity: Opt for tools that are easy to clean and maintain. Models with replaceable parts, like hacksaw blades, are cost-effective in the long run. Keep a maintenance kit handy to sharpen or repair tools as needed.
6. Support Local Manufacturing: Locally made tools are often tailored to South Africa's conditions, making them more durable and effective. Supporting local brands also promotes the economy and ensures easier access to replacements or repairs.

With the right tools in hand, 2025 is set to be a year of growth and achievement for South Africa's builders and contractors. Lasher Tools will be there to support our builders every step of the way with reliable, high-quality tools to succeed in every project.

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CONCRETE OPPORTUNITIES FOR YOUNG PROFESSIONALS

The concrete industry is one of the cornerstones of infrastructure development offering young professionals a stable and rewarding career.

From batching and mixing to civil construction, testing and quality control there are multiple career paths within the concrete sector. With specialised training and certifications young individuals can gain the skills necessary to enter this high-demand industry.

Concrete is the most widely used construction material in the world forming the backbone of roads, buildings, bridges and infrastructure projects. As South Africa continues to expand and maintain its infrastructure the demand for skilled concrete professionals continues to grow. Careers in concrete offer competitive salaries, opportunities for growth and the potential to work on large-scale projects.

To begin a career in the concrete industry prospective professionals should enrol in relevant training courses. Below are some key institutions offering practical and theoretical training in concrete batching, mixing, testing and construction.

1. B-Safe Africa Training Academy

Course: Concrete Hand (NQF Level 1)

Duration: 1 week

Course Content:

- Preparation and mixing of concrete
- Understanding mix ratios & materials
- Post-mixing quality checks

Cost: Available upon request

Career Outcomes: Entry-level roles in concrete mixing, site labour and batching plant assistance

2. Hydraform Training Academy

Course: Interlocking Block & Paver Making Technology

Duration: 5 days

Course Content:

- Machine operation for block and paver production
- Concrete material selection and quality control
- Maintenance of production equipment

Cost: Available upon request

Career Outcomes: Block and paver production specialist, concrete quality technician

3. South African Road Federation (SARF)

Course: Concrete Pavement Design & Construction

Duration: 1 day workshop

Course Content:

- Concrete mix design for roads
- Construction techniques for pavement durability
- Testing and rehabilitation methods

Cost: Available upon request

Career Outcomes: Civil engineering technician, pavement specialist, site supervisor

Career Pathway in Concrete

1. **Entry-Level Roles (0–2 years experience):**

Concrete batcher

Site labourer

Mixer operator

Block and paver manufacturer

Salary Range: ZAR 8,000 – 15,000/month

2. **Mid-Level Roles (3–5 years experience + certification):**

Concrete quality control technician

Batching plant supervisor

Site foreman

Salary Range: ZAR 15,000 – 30,000/month

3. **Senior Roles (5+ years experience + advanced training):**

Concrete technologist

Civil engineering contractor

Project manager (concrete works)

Salary Range: ZAR 30,000 – 60,000+/month

With ongoing infrastructure projects, the demand for trained concrete professionals is expected to grow. Innovations in sustainable concrete and new construction technologies will create opportunities for young professionals to specialise in eco-friendly and high-performance concrete applications.

A career in concrete offers stability, growth and the opportunity to be part of South Africa's development. By enrolling in the right courses and gaining hands-on experience, young professionals can build a successful and lucrative career in this essential industry. If you're looking for a career that combines technical skills, problem-solving and practical work, the concrete industry might be the perfect fit for you.

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