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## FROM THE DESK *of the president*



John Matthews  
President, Master Builders South  
Africa

# A DIFFERENT PERSPECTIVE

Through the months of 2019, our concern, as an industry, was how to survive amid a welter of negative influences that included lack of new contracts, non-payment by public and private clients, continued degeneration of the economy and along the way, hijacking of building sites by the so-called construction mafia. How could things get any worse?

Well things got worse and I can only confess that I have nothing to add to the millions of words that have been generated about what to do to protect yourself from this pandemic. The often-repeated advice is simple, sometimes flawed, often contradictory. We must be wary of the over-confident quick fixes or the veteran remedies and other past cures or preventions that may or may not help in some way in this instance. Wait for verification.

What I can say, though, without any doubt, is that something changes in one's outlook when the problems that you believe are particular to your own life suddenly become universal. You can't claim any exclusivity on frustration, fear, anger or resentment. That the world we are now experiencing will turn out to be a social life lesson that humanity learns and profits from, remains to be seen. But right now, most of us are trying to work out just how tough that lesson will become, while every tiny sliver of good news is grasped and debated.

One thing is for sure, however, we cannot give up. Our history is full of stories just like the one we're experiencing, and humanity has survived, notwithstanding casualties that are a built-in component of our existence on earth. Every day, we move on from tragedies and disappointments and huge setbacks. We have to keep doing that.

We must also, as leaders, keep a focus on the foundation members of our industry, the people on the ground who face not only the fears of the pandemic, but downtime and financial deprivation.

We have an obligation to continue supporting those who give us their service. They rely on us for income as we rely on them to be the dependable workforce when we're eventually back to full production.

Finally, faced by something as dreadful as Covid-19, the thing foremost in one's mind, along with a preoccupation with survival, is: "What next?"

What will I have left, will I still be here, and if so, who will be here with me?" Much of that introspection is fueled by physical isolation, time alone, when the darkest thoughts somehow overwhelm our normally optimistic attitude.

The announcement by the President on Thursday 9 April that the shutdown would be extended by another two weeks, was not unexpected but it does add an enormous burden on the corporate, commercial, professional, and informal sectors of our economy, already reeling from losses of many millions and billions in income. It's a cold prospect, even with financial help for some, from State funding - and the future from the perspective of our enforced isolation, is bleak.

We can't do much about the isolation, but we can fight against the acceptance of defeat. We owe it to those who are part of our wider family, the friends and colleagues, the people we hold dear. The people we love.

We live in hope.



## Call For The Designation Of Construction Sector As Essential Service

The construction industry has potential to create employment opportunities to cushion the impact of an anticipated increase in unemployment in the immediate aftermath of the current nation-wide lockdown. This is according to a submission made by the Construction COVID-19 Rapid Response Task Team (CCRR19TT) to motivate for a phased reactivation of the construction Sector. The task team is body representing major organisations in the sector including contractors, property developers, construction professionals, suppliers, and service providers.

The submission is calling for an immediate re-activation of live construction sites that were at various stages of completion when the lockdown came into effect on 27 March, under strict safety requirements. This would be followed by a phased re-opening of the industry at the beginning of May.

The Chairperson of the Task Team, Mr John Matthews acknowledged the necessity of the lockdown and the positive impact it had in preventing cases of occupationally acquired infections on construction sites. He also admitted that the lockdown period had provided the industry an opportunity to augment existing health and safety systems in the construction industry in view of the threat posed by the pandemic.

"It was necessary for the industry to cease all operations at that time and there is no doubt that the decisive action taken by the government contributed significantly towards flattening the curve of new infections. We used this period to adapt health and safety systems to ensure that we safeguard the health of employees on construction sites. We have also identified qualifying construction sites that are ready for immediate re-activation," said Matthews.

He added that the industry had already submitted a detailed COVID-19 Risk and Mitigation Plan to the Department of Public Works and Infrastructure as part of the motivation for a phased re-opening. This includes a requirement for every company that is to be considered for re-opening to present a suitable operational plan to prevent transmission of the infection.

On the extended lockdown and its impact on the construction industry, Matthews commented that they were concerned about irrecoverable damage to critical infrastructure projects and possible loss of equipment and material that remains on live construction sites that were at various stages of completion when the nation-wide lockdown came into effect.

Prior to the COVID-19 outbreak, the construction industry faced significant challenges including the lack of work, late and non-payment and uncontrolled illegal construction site invasions that resulted in reported company closures and loss of jobs. The industry is now calling for activation of planned public infrastructure spending as announced in the medium-term expenditure framework (MTEF), for positive knock-on effects on economic recovery and growth through the multiplier effect. This is a proven model for economic recovery that has



John Matthews - President, MBSA

been used by many countries emerging out of periods of crisis. Despite bearing some of the highest burden of the pandemic, the governments of the United Kingdom, USA, Australia, New Zealand, Germany, China and Italy have re-opened their construction industries and committed to increased public infrastructure spending as part of their post-pandemic economic recovery plans.

The Construction COVID-19 Rapid Response Task Team ("CC19RRTT") is an industry grouping that was convened to charter a recovery plan for the construction sector. It incorporates the entire construction value chain covering suppliers, manufacturers, property developers, built environment professionals and contractors (main contractors and subcontractors).

It is made up of Master Builders South Africa (MBSA), Association of South African Quantity Surveyors (ASAQS), Western Cape Property Development Forum (WCPDF), South African Institute of Architects (SAIA), Black Business Council in the Built Environment (BBCBE), Consulting Engineers of South Africa (CESA), Association of Construction Project Managers (ACPM), South African Institution of Civil Engineering (SAICE), South African Black Technical and Allied Careers Organisation (SABTACO), South African Women in Construction (SAWIC), The Concrete Institute of South Africa (TCI), Cox Yeats Attorneys and Master Builders KwaZulu-Natal (MBA KZN) as the convener. ■



**SA Builder**  
is available online.

Visit: [www.sabuilder.co.za](http://www.sabuilder.co.za)

1137th issue - Established 1923 - April 2020

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**Subscription rates:**  
Local: R360,00  
Africa: R390,00  
Overseas: R2 050,00

**Printer:**  
CG Print  
Whilst every effort is made to ensure accurate and objective reporting, the publisher cannot be held responsible for inaccurate information published.

The opinion expressed by contributors are not necessarily those of the publisher or MBSA.

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The official journal of Master Builders South Africa

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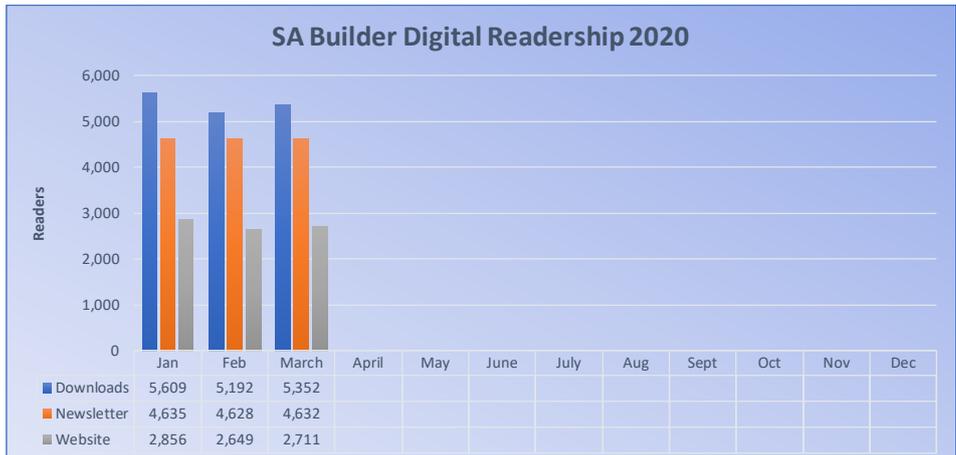
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# Lockdown Set To Hit Hard-Pressed Construction Industry Hard

**T**he Master Builders Association (MBA) North warns that the lockdown and its aftermath are set to raise all sorts of issues for an industry that is already in trouble. "The fact that all construction work has been put on hold for the lockdown period has caused an immediate cash flow crunch, but there are longer term impacts that must also be considered," says Mohau Mphomela, Executive Director of the organisation.

"The sector is already weakened by a sustained lack of spending on infrastructure, and many of its largest players have gone into business rescue or liquidation. Those that remain do not have the cash reserves to survive for long, especially given the way that payments are structured on construction projects," he says. "The MBA North has been speaking to members to understand the full implications of the lockdown, particularly on smaller firms and their workers."

**Payments are linked to project progress.** Although contractors and subcontractors can declare *force majeure* and so will not be penalised for not meeting deadlines, payments are only made when project progress is met. "All our clients have approved the project extensions, this is not the issue. The issue is that we will only get paid when the work is complete," says Nwabejana Mohlaba of Belo Projects in summary. This temporary cessation in payments is passed down the line, from principal contractor down to subcontractors and ultimately the workforce.

Wayne Albertyn, Director of Gothic Construction and President of MBA North, also points out that while some contractors will have invoiced for work completed during March, they will not be in a position to invoice at the end of April. This might mean that for some the cash crunch will come after the current lockdown period has ended.

An added complication is that the industry is already plagued with a culture of late payment. Many contractors and subcontractors are likely to have entered the lockdown with existing cash flow issues, which will be exacerbated by the lay-off.

**A large proportion of the workforce is temporary.** Temporary workers have little protection under the labour laws and are thus particularly

vulnerable to non-payment when work is halted. Most live from hand to mouth, and so have few financial reserves to tide them over a lean period.

Even those workers working for larger companies are likely to be paid at a reduced rate. Albertyn says that his company is paying workers during the lockdown, with individuals being able to claim from the Unemployment Insurance Fund (UIF) where applicable which has made R30 billion available via a National Disaster Benefit Fund.

Albertyn stresses that this arrangement is not sustainable over the long term, and would have to be reviewed if the lockdown is extended.

Other options include forcing employees to take their annual leave now and using the traditional December-January builders' holidays to catch up, and moving payday to the end of the month to preserve cash flow.

**Schemes for assisting SMEs are not well understood and may not be fit for purpose.** Mohlaba says that payment holidays might actually pose a long-term risk to the business as they will have to be repaid eventually. Mphomela adds that the MBA is providing guidance for its members and practical assistance in accessing any help that is available. "The lockdown period should be seen as a time in which smaller firms that qualify for SME relief engage with the MBA and get their applications in. There are many SMEs out there, so it's likely that there will be delays in processing applications, so don't waste this time," he says. "Our staff are standing by to assist electronically, and their contact details are posted on our site."

**Lack of time to plan.** Because the lockdown was implemented with little warning, some building material suppliers say that they were not able to conclude delivery terms on existing contracts and agree on the way forward. Musa Shangase, Director at Corobrik, says that his company will have to attend to renegotiating supply term contracts with clients post lockdown.

On a more positive note, Mphomela argues that the industry-wide hardships caused by the lockdown should be seen as an opportunity for all players, including clients, to come together to thrash out a common response designed to maximise the industry's ability to recover. ■

# Aurecon Assists Government With National Covid-19 Response

Engineering, design and advisory company [Aurecon](#) is collaborating closely with the South African government to offer assistance during the national lockdown from 26 March to 16 April as the country strives to curb the coronavirus outbreak in the country.

“Over a million people have been infected with the coronavirus. Luckily in our country and on the continent, measures have quickly been put in place to slow the pace and mitigate the impact of the pandemic.

“Our continent faces a crisis. As engineers, designers, advisors and consultants, now is the time to help our clients to safety in any way possible,” Kate Roper, Client Director, Health and Education, Aurecon, comments. Aurecon itself is currently in the process of rebranding as Zutari, after officially announcing the separation of the African business from the Aurecon Group, effective from 1 January 2020.

Half of humanity is now in lockdown in 90 countries, including Aurecon operations in Uganda, Rwanda, Kenya, Ghana, Nigeria, Botswana and Southern Africa. “In crisis situations we have the opportunity to overcome challenges. In this regard, Aurecon has been supporting our government during the crisis and assisting it in being proactive during a critical time in our country – and the world’s – history,” Roper highlights.

The Gauteng Emergency Medical Services in Midrand is using Aurecon’s GEMC3 emergency readiness system, usually used to deploy ambulances, to monitor Covid-19 patients.



Kate Roper - of Aurecon

Aurecon has updated the system to specifically track Covid-19 cases. This allows patients to stay at home while medical teams check up on them every day, and record their vital signs on GEMS.

An Aurecon Industrial Engineer is providing project management support and supply chain governance for the R100 million SPIRE fund established by RMB and First Rand Bank. SPIRE will help accelerate the scaling of South Africa’s Covid-19 critical-care capacity and support its medical structures and resources.

Meanwhile the Department of Basic Education (DBE) is using Aurecon’s Education Facilities Management System (EFMS) to capture and report on the status of school infrastructure and learner numbers. The Aurecon Programme Advisory unit, who is seconded to the DBE, has prepared lists of schools and hostels that could be used as temporary healthcare facilities should the Covid-19 pandemic result in large numbers of patients that need care outside of their homes.

Aurecon is also providing advisory support to the National Department of Health on the provision of temporary facilities; how to convert buildings into healthcare facilities, healthcare worker hostels, quarantine sites; and how to upgrade existing hospital space into ICU and high-care units.

“Many others within our business are looking for opportunities to become involved and see how we can help. Congratulations to our local heroes who are helping make South Africa a safer place,” Roper concludes.



# Call For Level Playing Field After Sobering Budget

As the Finance Minister Tito Mboweni painted a sobering picture of the country's economic future in his recent Budget Speech, AfriSam has encouraged government to foster industrialisation through a level playing field.

"For a number of reasons, South Africa is unfortunately de-industrialising its economy," AfriSam CEO Rob Wessels said. "As committed corporate citizens, we are up to the social challenges and want to keep our industries thriving as an engine for upliftment."

Speaking after AfriSam's Annual National Budget breakfast event held in Sandton recently, Wessels emphasised the need for fair competition in the cement sector. He said industry was engaging government and trade authorities to ensure fair conditions over the import of cement, including the enforcement of existing port tariffs for these goods.

He also noted that the recent imposition of carbon tax in South Africa meant a further cost added to local producers which many importers did not face. AfriSam sales and marketing executive Richard Tomes noted that cement imports were rising and were having a negative impact on job creation in the country.

In his address to the event, Econometrix chief economist Dr Azar Jammine warned that the signs for any recovery in the construction sector this year were not good – with the International Monetary Fund (IMF) predicting a growth rate of only 0,8% for the local economy. This was even before the impact of the coronavirus outbreak factored into this estimate.

"Most of the upturn in cement demand that we hope for, in the immediate future, will come from infrastructural investment projects rather than from the building industry," Dr Jammine said. "The outlook for the building industry in the coming year looks very



Dr Azar Jammine

bleak. Building completion statistics – especially for flats and townhouses – are declining sharply."

In the previous financial year, the construction sector had performed even worse than the broader economy, which grew at just 0,4% according to the IMF. The sector lost about 131 000 jobs in 2019, representing 8,8% of the workforce. This was the most jobs lost by any sector in the economy.

According to Jammine, cement sales had fallen by about 5% over the past year. However, he was "reasonably hopeful" that cement demand might achieve about 2% growth over the next few years. While there was "no total collapse", he did acknowledge that the cement industry was one of worst-hit sectors during the current downturn.

Tomes noted that AfriSam had already removed inefficient capacity and right-sized to cope with the current challenging environment. "Unless we see an upturn in demand soon, we might have to revisit other cost saving initiatives," he said.

In his recent budget speech, Minister Mboweni committed government to redirect spending towards infrastructure and away from public sector wages. The state's wage bill was one of the main reasons behind the "huge expansion" in South Africa's budget deficit.

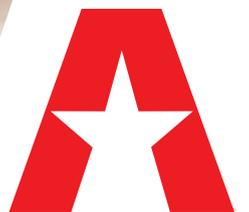
Dr Jammine argued that the fate of the economy now relied on President Ramaphosa's ability to implement the plans announced by Minister Mboweni, and to push reforms that could attract investors and make government spending more efficient. ■



AfriSam's Annual National Budget breakfast event

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**AfriSam**

# A Guide To Industrial Flooring

The correct flooring choice for industrial sites is mission critical, delivering a secure, sterile, and well-organised operative workflow. But, selecting the appropriate industrial flooring presents challenges as floor failure may be inevitable within 14 months, with attendant client headaches and capital outlay, as well as legal issues.

Ameliorating potential disaster depends on following the correct procedure in choosing the most appropriate flooring that satisfies the mandates of the context-specific work environment with regard to the rules of the particular industries' well-being, security, sanitation and accordance.

Some pointers to avoid during the ordering procedure comprise selecting a finish based solely on looks, choosing the least expensive option, going with the identical previous choice, and ignoring the state of the substrate or the practical use of the site. These criteria will result in a floor that snaps, powderises and disintegrates when used for the daily operations it is intended.

Look at flooring properties (anti-bacterial agents, anti-slip aggregates and the dissipation of electricity) when considering industrial floor destruction triggers such as chemical abuse from a water, dust, fuels, sanitizers, acids, lubricants, and in certain industries, by-products from foodstuffs including sugars, hot oils, blood and grease. Finish as well as substrate and soil degradation may result, and the corrosiveness of contaminants depending on their temperatures must be factored in.

Another consideration is risk auditing the degree to which the floor is exposed to corrosion, divided into immersion, intermittent spillage or infrequent contact. And, traffic loading, equipment being moved, dropped tools, dragged pallets and forklift traffic places extra strain on the floor. Here, determining the compressive floor strength defines the suitable flooring needed per task.

Industrial facilities are subject to stringent cleaning with hot water / steam to get rid of grease and fuel – these factories usually experience room temperatures, so heated cleaning produces thermal shock with



Industrial flooring

flooring exposed to unusually hot temperatures

Flooring comprising epoxy, vinyl or MMA is unsuited to thermal shock, leading to cracking, delamination and material damage / failure during temperature fluctuations, including thermal cycling (temperature raised or lowered seasonally or during cleaning).

Successful flooring finishes hinge on correct substrates underpinning them, and inferior substrate / concrete results in delamination (smooth concrete, failure to remove the laitance, ineffective bonding of resin to substrate).

Concrete absorbs ground moisture and new concrete has a significant moisture content until dried, so its pH level and moisture content adversely affects flooring (causing blistering and debonding), necessitating the analysis of the moisture level during specification, and the use of a damp-proof membrane (DPM) if necessary, which smooths the moisture vapour transition).

## Floor Screeds

Following a 1:3 or 1:4.5 ratio of cement to sharp sand, floor screeds comprise cementitious matter, spread over precast concrete flooring or in-situ concrete ground flooring. Options for application include direct base bonding, unbonded laying over a moisture-proof membrane that is positioned over the slab. Another method is to apply it on a layer of firm insulation material for application with cast-in water pipes to deliver underfloor heating.

For fortification, use a fine metal or glass mesh; the screed may be kept as is or floated to enable smooth surfacing to lay the finish over.

If reinforcement is required, this can either be in the form of a fine metal mesh, fibres which are normally polypropylene or a fine glass mesh. Ready, factory-mixed sand / cement screeds trump site-mixed ones in terms of consistency. Pumpable flowing screeds deliver more level surfaces. These are calcium sulphur binder-based, applied (with varying minimum thickness) more



Industrial flooring



Floor screeds

quickly than sand / cement screeds, and can be used in combination with underfloor heating

### Cement Sand Screeds

The most likely cause of bonded screed failure to the below substrate is if the screed is too thick, and an unbonded screed fails by lifting or curling, which happens if the screed is too thin. The ideal bonded screed thickness is >50 mm and unbonded < 70 mm to 100 mm to avoid curling.

Criteria for screed design (depth and type) include specified floor finishes, the construction tolerances and the provision of falls. Included is structural dictates like mitigating disproportionate collapse and the actioning of composite movement with the slab below.

Screed use can be avoided by stipulating more stringent construction tolerances that ensure direct flooring material flooring reception. If screeding is required, use cement sand screed or the more contemporary proprietary self-smoothing type.

The following definitions apply to specific screed types:

- Levelling screed – screed finished to specified level to receive final flooring.
- Wearing screed – screed that functions as flooring.
- Bonded – screed laid onto a mechanically prepared substrate.
- Unbonded – screed deliberately kept apart from substrate by membrane.
- Floating - type of unbonded screed laid on acoustic / thermal insulation.
- Cement sand screed – contains sand up to 4 mm maximum aggregate size.



Floor level laser scanning

- Fine concrete screed – contains concrete with maximum aggregate of 10 mm.
- Pumpable self-smoothing screed – mixed to a liquid that can be moved by pump to site and will flow adequately to deliver the desired level accuracy and surface regularity (also known as self-levelling screeds).
- Curling – upward deformation of screed edges.

### Leveling equipment

The level and flatness of any concrete floor is of major concern for structural engineers, flooring inspectors, superintendents, finishing foremen and construction contractors.

Extreme concrete floor flatness (FF) and floor levelness (FL) are mandatory for sites containing carefully calibrated equipment, as well as for warehouses, offices and distribution centres. Even, level surfaces are conducive to secure lift truck activity, as well as guaranteeing that high-level vertical storage shelves are able to support electronic picking setups.



Ride-on power trowel

Electronic floor profilers were patented in the '70s in order to streamline floor flatness and levelling, and were manually operated wheeled machines that created new floor measurement codes, known as F-numbers, which became standardised indicators of FF and FL for industry.

Other pour concrete floor finishing enhancers, eg the laser screed and ride-on power trowel, were also developed, as well as laser scanning. The latter assists in "reality capture" and has immense use in digitally capturing the surface topography of a freshly minted concrete pour in 3D form.

Aberrations in floor flatness and level can be analysed with computer software for the benefit of inspectors and concrete contractors. The exactness, rapidity, ease and flexibility of laser scanning is replacing traditional floor profiling devices as the new standard for FF/FL measurement

Practical floor application tools include spike shoes, spike rollers (For the removal of air bubbles from and cementitious floor coatings, epoxy floor coatings and self-leveling screeds), rakes, adjustable levelers, squeegees and spatulas and mixing machines. ■

# New Self-Leveller From Mapei

**M**apei South Africa is excited to announce the launch of its new locally manufactured self-levelling compound – ULTRAPLAN ECO 20. As a direct result of requests from the market, the decision was taken to add this innovative new product into our basket as an add on to the existing ULTRAPLAN range which has been available for some time.

“ULTRAPLAN ECO has proven to be a fantastic product and will continue to be ideal for use in the environments that are subjected to heavy traffic due to its 26-30 Mpa compressive strength. MAPEI subsequently encountered requests for a solution for residential and light traffic areas which lead to the development of ULTRAPLAN ECO 20 which has all the benefits and features of ULTRAPLAN ECO, but with a lower compressive strength of 18-20 Mpa.” explains Chad Tosen – Technical Sales Consultant for Soft Coverings and Industrial Flooring.



ULTRAPLAN ECO 20 is available in 20kg bags



ULTRAPLAN ECO 20 being applied with a trowel

This high-quality, self-levelling solution is a rapid-setting compound which can be used to correct substrates with thicknesses of between 1 to 10mm. Furthermore, it has very low emissions of volatile organic compounds making it safe to use internally without any additional safety equipment and minimal impact on the environment. Once mixed with water, ULTRAPLAN ECO 20 becomes an easily workable self-levelling compound which can be applied via either a trowel or pin rake. For larger applications in excess of 100m<sup>2</sup>, an automatic pressure pump can also be used.

ULTRAPLAN ECO 20 will be easily identifiable on site as the finished product is pale pink in appearance. This will be a benefit to all end users as it ensures the correct product is used for the correct application.

Mapei South Africa has extended the ULTRAPLAN range to include ULTRAPLAN MAXI which will be available to the local market in the near future. ULTRAPLAN MAXI has 30-35 Mpa and accommodates thicknesses from 1 and 40mm in a single application whilst still encompassing all the standard features of the ULTRAPLAN range.

### About Mapei South Africa

Mapei South Africa is part of the Mapei Group, an Italian-based multinational that is a leading manufacturer of chemical and adhesive products for the construction industry. As part of the multinational group, Mapei South Africa passes numerous benefits onto its client base by having access to knowledgeable technical experts, research capabilities and product specialists. Mapei South Africa distributes its products throughout sub-Saharan Africa. ■

# Fluke Laser Levels – Rugged, Precision Tools For Efficient Layout

Comtest is offering Fluke laser levels. Designed and tested to survive a one-metre drop, users have come to rely on Fluke's professional-grade tools that provide precision and accuracy. The 3-point laser level delivers accuracy to 6mm at 30 metres, and the continuous line lasers are accurate to 3mm at 10m. The fast settling, self-leveling gimbal gives users accurate reference points and lines almost instantly, making long and tedious layouts a thing of past.

## Fluke-3PR and Fluke-3PG

- Self-leveling 3-point laser level allows for fast, accurate layout of reference points
- Accurate to 6mm at 30m
- Includes floor stand for fast, easy overhang and centerline measurements
- Green laser is up to 3 times brighter for improved visibility and long-range applications (Fluke-3PG only)

## Fluke-180LR and Fluke-180LG

- Self-leveling, horizontal- and vertical-cross line laser level for rapid, accurate leveling and layout
- Accurate to 3 mm at 10m
- Green laser for improved visibility. Up to 3 times brighter, and suited for long range applications (Fluke-180LG only)

## Fluke-LDR and Fluke-LDG Laser Line Detectors

- Laser line detector for use in high ambient light settings
- Visual and audible indicators for ease of use
- Rugged design
- Compatible with Fluke-180LR (Fluke-LDR) or Fluke-



Fluke-LDR Laser Line Detectors

## 180LG (Fluke-LDG)

- Includes mounting bracket for quick, steady positioning

## Fluke-180LR System and Fluke-180LG System

- Self-leveling, horizontal- and vertical-cross line laser level
- Includes laser line detector and detector bracket for use in high ambient light settings

For more information on **Fluke's range of laser levels** contact Comtest, local distributor of Fluke test and measurement tools, or for upcoming seminars, demos or to locate the dearest dealer, contact COMTEST on 010 595 1821 or sales@comtest.co.za

Video Link :

<https://www.youtube.com/watch?v=N56ax9V14HU>

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## Summit XPS Board – Above Expectations

**W**ell known supplier to the building industry, Swartland, will soon be launching Summit XPS Insulation Board as part of its Summit range of insulation and decorative ceiling products. We speak to Daneel Pretorius, Category Manager for Summit, about the many benefits of its new XPS insulation board.

If you are considering using green insulation in building or renovating a residential or commercial property – that’s great, not only because it will make the finished building a much more comfortable space to be in, but it will also reduce the energy required to keep the interiors at a comfortable temperature, and it is a better choice for the environment. There are currently several types of eco-friendly insulation to choose from – with extruded polystyrene, or XPS, being one of the most popular.

Daneel Pretorius, Category Manager for Swartland’s Summit range, elaborates: “XPS is a wonderful environmentally-friendly insulation solution – it is energy-efficient, easy to install and lightweight, which is why we are so excited to introduce the new Summit XPS Insulation Board

to the market. It is affordable, 100% locally-made and manufactured in the Swartland factory, following strict global warming potential protocol to ensure a zero ozone depletion potential rating.”

### What is Summit XPS Insulation Board?

“Essentially, XPS is extruded polystyrene foam board designed to create a single layer of thermal and moisture protection on a building’s walls, roof or floor, thereby greatly contributing to its overall energy efficiency,” explains Daneel. He says that XPS begins as solid granules of polystyrene resin, which are fed into an extruder where they are melted and mixed with additives to form a viscous fluid.

From there, a blowing agent is injected into the viscous liquid to enable expansion. Then under carefully controlled heat and pressure conditions, the mixture is forced through a die into a mould. Once hardened, the board is trimmed to various lengths and thicknesses to suit a wide gamut of commercial, agricultural and industrial thermal insulation applications. “This continuous process results in a closed-cell structure, which imparts excellent long-term strength and durability to the XPS boards,” says Daneel.

### The many benefits of XPS Insulation Board

There are so many benefits to this amazing building material – some of which include:

**Environmentally-friendly:** Summit XPS Insulation Board is a very green material as it not only makes buildings more energy-efficient, but its manufacture does not result in harmful wastes or by-products. The gasses used in the manufacturing process have zero ozone depletion potential, with no significant contribution to increasing greenhouse gasses. It is also 100% recyclable, and its exceptionally long lifespan reduces its overall carbon footprint.





**Versatility:** XPS can be used for a wide variety of applications, including as nail-up ceiling and insulation, also as ceilinged insulation between trusses for an exposed truss look, over-rafter insulation, over-purlin insulation, cavity/perimeter wall insulation and under-floor (surface bed) insulation. To maximise its versatility, Summit XPS Insulation Board is available in thicknesses of 30mm, 40mm and 50mm, with special orders of 60mm to 100mm also available. As far as lengths are concerned, it is available in lengths of between 1,8m up to 8m, and you can choose between a faux Pine and smooth finish.

**No leaks and easy installation:** Summit XPS Insulation Board comes standard with tongue-and-groove edging, which makes for exceptionally easy installation. It also provides a tight, energy-efficient seal, stopping air leaks and gaps, and preventing any hot or cold air from escaping.

**Lower heating and cooling costs:** The main driver behind insulation is to reduce the cost of keeping a building's interior cool in summer and warm in winter. A well-insulated building will be easier to cool or heat, as it will keep more of the cool or hot air indoors, preventing it from escaping. Summit XPS Insulation Board is an incredibly efficient thermal insulator, making it an excellent insulation material and reducing the amount of energy required to keep a building's interior at a comfortable temperature. Remember – the thicker the XPS, the more insulation it offers.

**Endurance:** The insulative qualities of various insulation materials often degrade over time – resulting in slowly rising utility bills. However, this is not the case with Summit XPS Insulation Board – its closed-cell structure makes it really strong, ensuring an exceptionally long lifespan when compared to other traditional materials. Not only does this negate the issue of rising heating and cooling costs, but it also saves money as you won't need to replace your insulation as often, and it lowers its cradle-to-grave carbon footprint, making it a wonderfully green building material.

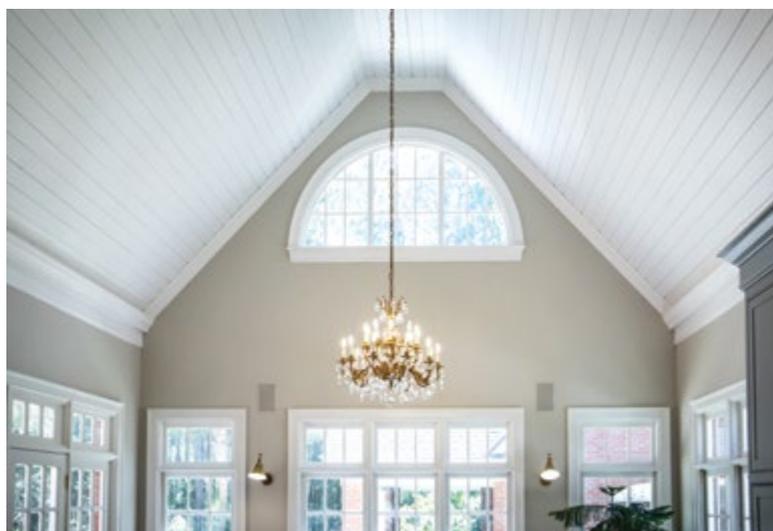
**No mildew:** Mould and mildew can be very detrimental to the health of both people and

pets, and it can contribute to possible damage to the structural integrity of a building. Summit XPS Insulation Board does not absorb moisture, and as such, it does not present a favourable environment for mildew or mould to grow. In fact, it serves as a barrier against moisture – helping to prevent this from ever becoming a problem.

**No flame-spread hazard:** Summit XPS Insulation Board will be classified as B/B1/2/H&V in terms of SANS 428, which means that although it is combustible, it poses no flame-spread hazard. Exposed to fire, it will shrink away from the heat source, creating no flaming droplets or flame-spread.

Daneel concludes: "The Summit XPS Insulation Board offers high compressive strength and excellent long-term thermal resistance performance. As part of Swartland's Summit range of insulation and decorative ceiling products, the same world-class manufacturing processes are ensured, and it promises to offer best-in-market performance and national after-sales service that the building industry has come to expect from Swartland."

If you would like more information about our XPS products, visit [www.summitxps.co.za](http://www.summitxps.co.za). ■



# Concrete Industrial Floors Look Easy – But Need Special Skills

Industrial concrete floors are essential for South Africa's industrial growth but also pose more problems for the construction industry than most other concrete projects, says John Roxburgh, Senior Lecturer at The Concrete Institute's School of Concrete Technology.

Roxburgh says although the South African manufacturing industry has been in a slow decline over many years – a situation likely to be exacerbated by the virus pandemic – the wholesale and retail industry has shown steady increase in recent years.

"This has resulted in an ever-increasing need for strategically placed warehouses and storage facilities which you can see being built by driving along highways in all our major cities. South Africa is importing more and more manufactured goods and needs a place to store these goods for distribution. An essential part of a durable and reliable warehouse, storage facility or a factory is the concrete industrial floor on the ground."

Roxburgh says without a well-designed, fit-for-purpose and low maintenance concrete industrial floor, factories, warehouses, storage and retail areas or other hard standing areas cannot operate at optimum efficiency. He believes the importance of a sound concrete industrial floor is often overlooked but should be the main priority for minimising long-term operational costs.

Although a concrete floor is constructed on the ground with minimal reinforcement, it is required to possess stringent and diverse qualities, including:

- The correct thickness.
- Level, flat and at the right height construction.
- Hard-wearing dust free surface.
- Capacity to carry large imposed loads over its entire surface - including across its joints and at its corners and sides.
- To be aesthetically pleasing with minimal surface defects and cracking.

"The concrete used for the industrial floors needs certain plastic and hardened properties to perform and so the mix design for these concretes are more constrained and require greater attention to detail. Concrete floors are also often constructed under adverse conditions. The large surface to volume ratio of a floor makes its construction very vulnerable to hot, windy and dry conditions.

"The most common problems in industrial floors are cracking, joint failure, curling, dusting, scaling, surface wear, sealant failure and excessive lateral movement of forklifts and pallet jacks. An underperforming floor will result in slowing down of forklifts, pallet jacks and reach trucks. This causes maintenance costs on all packing, stacking and lifting machinery to soar along with more frequent and costly repairs of the floor resulting in more downtime and the need for spare machinery: all resulting in a less efficient operation," Roxburgh contends.



John Roxburgh of The Concrete Institute

"To produce a good industrial floor requires a three-pronged approach. The floor needs to be designed and specified correctly – this will include performance requirements, joint layout and specification, level and flatness tolerances amongst others.

Then, secondly, the floor needs to be constructed by an experienced concrete flooring contractor who can place, compact and protect the floor as well as produce the correct surface finish with the correct tolerances and cut the joints timeously to specification. Finally, the floor needs to be maintained correctly. This would include implementing minor repairs on an on-going basis, keeping the floor free of any material that can cause damage to it, as well as joint maintenance and sealant repair and top-up when needed.

"The good news is that good floors can be constructed. To help educate those involved with concrete floors, The Concrete Institute offers a one day course, 'Industrial floors on the ground' lectured by MD Bryan Perrie, an internationally recognised expert on concrete floors, in which all the design principles and concrete practice needed to produce a good floor are covered. The course also includes floor repair and maintenance," Roxburgh adds.

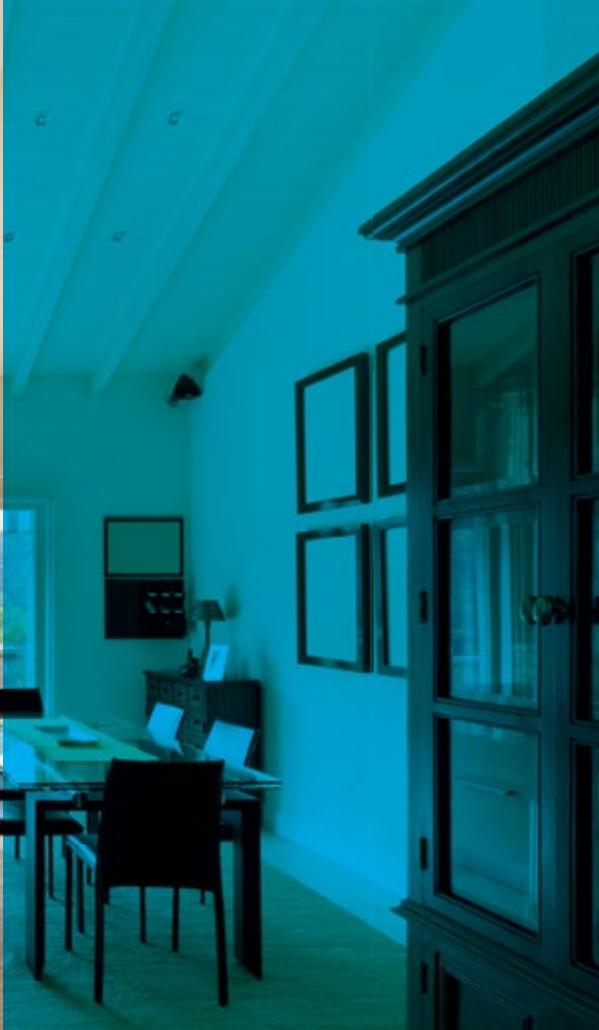
For more information, email [johnr@theconcreteinstitute.org.za](mailto:johnr@theconcreteinstitute.org.za) or visit [www.theconcreteinstitute.org.za](http://www.theconcreteinstitute.org.za). ■

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people



Simphiwe Shazi



Raymond Cele

**Construction Veterans Join  
Grinaker-LTA**

Construction group, Grinaker-LTA, has appointed Raymond Cele and Simphiwe Shazi as Executive Directors.

Simphiwe Shazi, who has been appointed Corporate Executive, has over 22 years' experience in Engineering, Project Management and Business Leadership. He has held senior positions at Eskom, MAN Ferrostaal, Siemens and OTCO. He brings a wealth of experience in organisational growth and sustainability.

Raymond Cele, former Chairperson of the Construction Education and Training Authority (CETA), has over 20 years of experience in the built environment, specialising in Project Management. He has held senior positions at Sasol and Engen Refinery. He brings a wealth of experience and will oversee Special Projects.

# Construction Industry Events 2020



Lean Construction Congress – 4-6 May – Helsinki, Finland



2020 - Sandton Convention Centre  
Coatings for Africa - Postponed to 2021



SA Paint Manufacturing Association (SAPMA) AGM – 12 May 2020 - ONLINE ONLY



The QACCS Golf Club (Quantity Surveyors, Architects, Consultants, Contractors & Suppliers) Nationals TBA



Master Builders Eastern Cape Cocktail Event -TBA  
Master Builders Eastern Cape Cocktail Event – TBA



African Smart Cities Summit - 09 June 2020 - Gallagher Convention Centre, Johannesburg



African Construction and Totally Concrete Expo - 09-11 June 2020 - Gallagher Convention Centre, Johannesburg



Master Builders Eastern Cape Annual Dinner – 11 June 2020 – Komani



Africa Build Show 2020 - 17-19 June 2020, Accra, Ghana



Master Builders Eastern Cape Cocktail Event – 23 June 2020 - Port Elizabeth



Sustainability Week - 23-25 June 2020 - CSIR International Convention Centre, Pretoria



NIGERIA BUILD Expo - 25-27 June 2020 - Landmark Centre, Lagos, Nigeria



Master Builders Eastern Cape Annual Dinner – 09 July 2020 – Grahamstown



Interbuild Africa - 29 Jul-01 August 2020 – Nasrec Expo Centre Johannesburg



Master Builders Eastern Cape Annual Dinner – 06 August 2020 – East London



Western Cape Property Development Forum Annual Conference – 20-21 August 2020 – Cape Town International Convention Centre



Master Builders South Africa Congress 2020 – 11 September, Zimbali, Durban



Cape Construction Expo - 09-10 September 2020 - Sun Exhibits, GrandWest, Cape Town



Master Builders Eastern Cape Annual Dinner – 17 September 2020 – Port Elizabeth

Master Builders Eastern Cape Annual Dinner – 22 October 2020 – Southern Cape



AfriBuild - 13-15 October 2020 – Nasrec Expo Centre Johannesburg



CONEXPO AFRICA - 13-16 October 2021 - Gallagher Convention Centre, Johannesburg



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