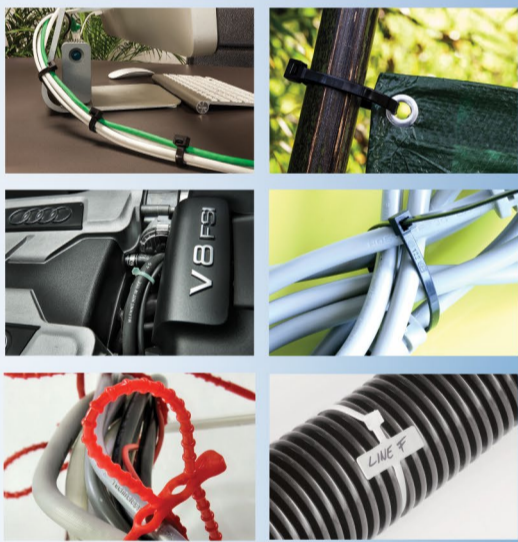


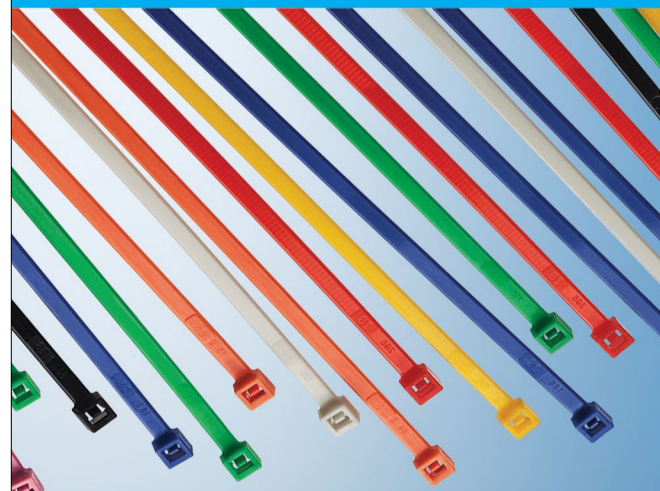
USING SURGE PROTECTION AND HOW IT IS DESCRIBED IN THE WIRING CODE (SANS 10142-1)



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CONTINUED ON PAGE 12

The importance of surge protection in countries with relatively high lightning activity such as South Africa is essential. However, it is usually overlooked with the installation of a new electrical system or during the upgrade and maintenance of an existing electrical system. This is due to a general lack of understanding of the risks, as well as overwhelming specifications, ratings and stringent requirements causing confusion for the installer.

Surge Protection Devices (SPDs) are classified as either Type 1 or Type 2 tested devices (Type 3 exists as well), which is clearly indicated on the device itself as per the requirements from SANS 61643-11, the latest SPD testing standard. An illustration of this is shown in Figure 1. Common questions usually raised are "What does this mean?", "What is the difference?", and "How are they used?"

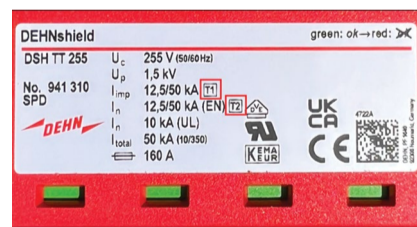


Figure 1: Type 1 and Type 2 indication on SPD.



Figure 2: Difference between direct lightning strikes and surges.

There is an important difference between direct lightning current, also known as impulse current, and surge current. The less common impulse current enters an electrical system by direct injection of lightning through a dedicated lightning protection system or direct strikes to electrical lines. Surge current is an induced, secondary effect from a nearby lightning strike up to

2km away from a structure. The basic difference is shown in Figure 2.

Impulse current is described with a test waveshape known as 10/350µs and surge current with a test waveshape known as 8/20µs. Figure 3 below shows a basic illustration of these test waveshapes. In the impulse current wave, the impulse will reach its peak current value, measured in kA, in 10µs and decays to 50% of this value in 350µs. In the same manner, surge current reaches its peak value, in kA, in 8µs and decay to 50% of this peak value in 20µs. Due to the longer duration of the impulse current waveshape, much more energy is involved and thus requires stronger surge protection devices to mitigate this in comparison to induced surge current.

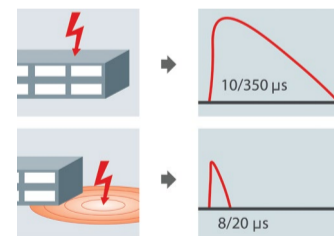


Figure 3: Meaning of 10/350µs and 8/20µs.

How do we know when we need an external lightning protection system and stronger SPDs or if we only need an SPD for induced surges with no lightning protection? To determine the likelihood and number of direct lightning strikes and induced surge events for a specific structure, a calculation known as a Lightning Risk Analysis is conducted as per the probability calculation methods from SANS 62305-2. The latest wiring code uses a simplified method of this calculation for practical purposes. If the risk of regularly experiencing direct lightning strikes is presented, it is recommended to install an external lightning protection system, typically a mast or dedicated air-termination

rods, down-conductors, and an earth-termination system. These external lightning protection systems must then be connected to the electrical system's main earth bar with at least 16mm² copper cable from the lightning protection earth by an experienced lightning protection installer.

By making these connections, we allow equipotential and safe paths between the lightning protection earthing and the electrical system to avoid uncontrolled sparking between the two. However, this then means that lightning impulse current can enter the building's electrical system, which needs to be dealt with.

To avoid lightning current causing damage to the electrical system, it is essential to install a Type 1+2 surge protective device in the main distribution board where the connection is made. Type 1 surge protection devices are capable of safely handling direct lightning impulse currents (10/350µs) and are required in this case. An illustration of this is shown in Figure 4.

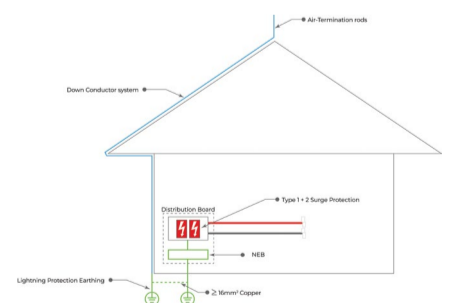


Figure 4: Mitigation of direct lightning current entering the electrical system.

Induced surges from lightning events are a common occurrence in South Africa. As mentioned previously, these can be caused by lightning strikes up to 2km away from the structure. As a minimum, it is recommended to then install at least a Type 2 device as these



Zest WEG gains traction in oil and gas

Africa is hungry for electricity, and electrical specialist Zest WEG is seeing growing demand from the oil and gas sector, both in upstream and midstream facilities as nations on the continent look to these commodities to power their economies.

According to Lukas Barnard, Zest WEG's business development specialist for the oil and gas sector in sub Saharan Africa, the trend is towards gas production due to its lower emission levels of greenhouse gases. At the same time, the oil sector remains a vital part of many African

economies with WEG product and solutions being applied in both upstream and midstream facilities in countries such as South Africa, Botswana, Namibia, Mozambique, Congo, Gabon, Uganda, Ghana and Nigeria.

Barnard highlights that Zest WEG – as the fully owned subsidiary of the global WEG group responsible for sub Saharan Africa – developed a strategic focus on the oil and gas sectors in recent years. This has seen the company engaging with the sector in various southern, central and west African countries.

"Among the exciting projects we are involved in is an oil and gas refinery in Nigeria, where we have supplied two WEG medium voltage soft starters; an 8.4 MW 11 kV unit and a 2.1 MW 6.6 kV unit," says Barnard.

He notes that compressors are critical in the refinery process and explains that WEG soft starters will significantly reduce stress on the compressor at start-up which will improve the equipment's mechanical life and equipment uptime for higher plant productivity. The soft starters will also reduce the start-up current.

Following consultation with the customer to clarify certain technical elements of the scope of supply, both soft starters were custom designed and manufactured for this application.

In another project, Zest WEG has supplied eight large WEG motors in a phased contract to a floating production storage and offloading (FPSO) moveable platform off the coast of Ghana. These units are upgrades to previously installed WEG motors which had been operating successfully on this site for over a decade. Zest WEG are also involved in testing and installation of the motors.

"In southern Africa, Zest WEG has recently supplied transformers, switchgear and containerised modular substations to an onshore natural gas and helium project in South Africa," he says. "This is the country's first and only helium producer with reportedly world-beating concentrations of helium."

He highlights that there are exciting oil and hydrogen prospects in Namibia, while massive gas discoveries have been made in Mozambique – where WEG is already involved. Another prospect that bodes well for the sector is a significant crude oil resource at Lake Albert in Uganda.

"It is important to stress that Zest WEG has considerable design and manufacturing capacity in South Africa which allows us to locally produce a range of equipment for both upstream and midstream operations in the oil and gas sector," Barnard says. "This includes transformers, substations, low voltage switchboards and generator sets."

The company's Africa footprint is supported by its value-added resellers in various countries, who are locally based firms operating close to customers offering the highest levels of local support in each region which includes both service and technical capability.


Enquiries: www.zestweg.com



Lukas Barnard, Zest WEG's business development specialist for the oil and gas sector in sub Saharan Africa.



One of eight large WEG motors supplied to a FPSO off the coast of Ghana.



ELECTRIC CABLE SUPPLIERS

VERSALEC CABLES

Props Voltex (Pty) Ltd



SPECIALISED PROJECT CABLE DISTRIBUTOR

Versalec Cables is one of the leading electrical cable distribution companies in South Africa with offices in Johannesburg and Cape Town. Versalec, having developed a strong partnership with the local manufacturers is able to **supply a complete range of electrical cable from low voltage copper and aluminium PVC/XLPE insulated cables to PILC and XLPE (11kV-33kV) cable as well as aluminium overhead conductors for various line applications and service connection cables.**

Versalec customers mainly consist of a select group of electrical contractors and consulting engineering firms involved in electrical reticulation projects and Renewable energy projects. Versalec Cables is able to

provide comprehensive commercial proposals with supporting technical data as appropriate, customized to the needs of each particular project. In addition, they can assist electrical engineering consultants with budgets related to forthcoming projects. Versalec offers the additional service of delivering cable to site with its own crane trucks, operated by trained personnel, ensuring that correct off-loading and handling techniques are adhered to, as required by the manufacturers.

Hardworking and experienced staff, led by General Manager Gary Venter, Versalec Cables continues to strive towards service excellence, empowering both customers and suppliers with confidence and trust.



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The power of technology for small businesses

By Alan Shannon, Executive for Small Business Services and Private Clients at Nedbank

For many small businesses, one of the obstacles to implementing new technology is a mindset that resists change. Many employees see technology as a threat to their jobs when, in fact, it can enable them to do their work even better, especially those who want to succeed in a rapidly evolving digital economy.

Significant potential for growth within small businesses lies within using online financial tools and platforms such as e-commerce to their advantage. The exciting reality is that there are millions of potential customers on e-commerce sites, which takes products and services far beyond their current brick-and-mortar structure.

Nedbank's Avo app, a fully-fledged digital marketplace, is such a possibility-filled avenue that business owners should explore. Avo gives registered businesses access to over 1,6 million users, including access to payment technology used by large companies, for example bank-grade security, payment reservation and end-to-end logistics support. This is the kind of tech that small-business owners cannot ignore.

There is also a wealth of free and cost-effective options available to every small business embarking on a digital transformation journey, including sales, marketing, and operational tools from companies such as Xero, which offers affordable accounting and bookkeeping

services. These easy-to-use tools also tap into another major advantage of technology – data.

Now, more than ever, big data and being able to analyse it are key to business growth. The ability to assess your competitors, customers and their buying behaviour quickly and accurately is game-changing. Knowledge is power and creates more possibilities.

Online accounting tools, especially those that can be linked to your bank automatically, also have benefits. Small businesses are often not able to give banks the kind of information they need to assess requests for funding and support. With these accounting tools, you can give your bank access to the information it needs, in

the format that it requires.

At the same time, web-based tools such as Nedbank's Market Edge can draw rich data from card transactions to help business owners make more informed business decisions about the present and future.

Ultimately, all these digital tools are out there for business owners to discover and use in empowering ways. Every part of your business, from sales to finance, can be revolutionised through technology. The sooner small businesses embark on this journey, the sooner they will reap the rewards of using innovation to their advantage.

www.business.nedbank.co.za

Tech company spotlights SA's critical shortage of qualified artisans

A leading South African tech company is spotlighting the country's critical shortage of qualified artisans, with the hope of encouraging school leavers to pursue the much-needed technical trades.

According to Jendamark Automation, which builds and exports automotive component assembly systems for the global market, artisans are in high demand both locally and abroad, with good career prospects for those who progress successfully through vocational training programmes.

Last November, minister of higher education, science and innovation Blade Nzimande stated that South Africa needed at least 60% of school leavers to pursue artisan type training to meet the country's demand for scarce skills.

Jendamark manufacturing and assembly manager Marinus van Rooyen said the company had noticed a worrying decline in the number of applications for advertised positions for artisans, especially among toolmakers.

"We are concerned about this trend and have found that this challenge is not unique to Jendamark, as our local and national manufacturing suppliers are experiencing the same frustration," said Van Rooyen.

He said most matriculants viewed a university degree as the only qualification to aspire to but that many flourished in a more hands-on, practical learning environment. "South Africa's manufacturing sector can only grow if we have the talented engineers, artisans and technicians who have the skills to build and fix things," said Van Rooyen.

Speaking at the official unveiling of a mural by Gqeberha-based artist Buntu Fihla at the company's manufacturing and assembly hall, Van Rooyen said the aim of the mural was to instil pride among employees and to depict respect for the artisan.

"We want visiting school groups, students and employees to understand the value of having a trade

and that it is a career path to be proud of, which offers many opportunities. For trade-tested artisans, the world is their oyster. There is a shortage of technical skills globally and we have found that many South Africans are being lured overseas by international recruiters."

The country's National Development Plan has a set target of turning out 30 000 artisans per annum by 2030. Current estimates suggest an average closer to 20 000, resulting in a shortage of what are categorised as "priority skills".

Van Rooyen said Jendamark had been contributing to this skills development drive for the past decade by running its own in-house apprenticeship programme for mechanical fitters, electricians and toolmakers.

The four-year programme, which is overseen by MERSETA and endorsed by the Department of Higher Education and Training, has so far delivered an overall 98% pass rate for apprentices taking their trade test.

Qualified toolmaker and apprentice mentor Funeka Gusha, herself a product of the programme, is responsible for coaching Jendamark's toolmaker apprentices through the work-based learning process. "In becoming an artisan, you gain lots of skills and opportunities," said Gusha. "You'll be able to earn an accredited Red Seal certificate, do better paid work, and, like me, may even be called upon to teach others."

As a woman in a male-dominated industry, she said she was proud to have chosen a challenging career path and was pleased to share her expertise and experience with the young men and women coming through the ranks. "I'm enjoying being a mentor. It has taught me a lot in terms of personal growth, patience and dealing with the different students. Seeing them working hard with determination inspires me. We've got one candidate who is preparing for his trade test right now and the dedication he is showing is amazing."

Enquiries: www.jendamark.co.za

Jendamark's manufacturing, assembly and design department celebrates the unveiling of its new mural, which honours the role of the artisan in industry, at the company headquarters in Gqeberha.



Facts and tips for thread-locking adhesives

While thread-locking adhesives are an ideal solution to guard against the loosening of nuts and bolts, they also offer a longer-term solution to enhance the life of equipment and processes. Here are some handy tips and facts on their use:

They are a type of adhesive that cure in the absence of oxygen, known as 'anaerobic'.

Thread-locking adhesives minimise vibration and prevent corrosion caused by moisture ingress. They set to form a thermoset plastic bond between nuts and bolts that is more durable than a nylon nut and can replace sealing tapes and pastes.

Thread-locking adhesives can be supplied in lower strength grades that prevent loosening but allow disassembly with a simple hand tool.

Various grades are available for specific use cases and applications.

An activator is suggested when using thread-locking adhesives on less active materials such as plastics, high alloy steel, cadmium, anodised aluminium and passivated chrome.

The Pratley Pratlok® range of thread-locking anaerobic adhesives is ideal for various industries, from mining to automotive, industrial, agricultural, engineering and even DIY. Unlike other ordinary thread-lockers, the selection of the correct Pratlok® grade has been simplified and streamlined.

Instead of complex grade numbering that in many instances is hard to understand, the Pratley's Pratlok® range is colour-coded for easy reference. The product name is also easy to comprehend as, for example,

'Pratlok® Grade 0-6' means that it is intended for use on screws up to 6 mm. This minimises risk and ensures that the correct grade is always selected.

The Pratley Pratlok® range consists of anaerobic adhesives that cure in the absence of oxygen. A single drop on a thread will begin curing within eight to 18 minutes once assembled, depending on the grade, with a full cure after a recommended 24 hours at room temperature.

The range of Pratlok® Thread-lockers includes, amongst others:

- Pratley Pratlok® Screw Lock Grade 0-6 is a low-strength thread locker, differentiated by a purple cap on the product. It is typically used for screws up to 6 mm. It prevents loosening due to vibration by sealing the thread and effectively retarding corrosion.
- Pratley Pratlok® Nut Lock Grade 6-10 is a medium-strength thread locker, differentiated by a blue cap. It is typically used for M6-M10 nuts and bolts.
- Pratley Pratlok® Stud Lock Grade 10-20 is a high-strength thread locker, differentiated by a white cap. It is typically used for M10-M20 studs, bolts, and threaded pipe fittings, and it allows for disassembly by applying heat.
- Pratley Pratlok® Grade 20+ is a high-strength, high-viscosity thread locker for >M20 threads and flanged assemblies and gap filling, differentiated by a red cap.
- Pratley Pratlok® Grade H-Temp, with an orange cap, is a high-temperature thread locker for temperatures up to 230°C.
- Pratley Pratlok® Grade HYD, with a brown lid, is ideal for fine threads on hydraulic and pneumatic connections. It effectively replaces traditional sealing tapes and pastes.

Enquiries: www.pratleyadhesives.com



The passing of a beloved industry legend

It is with great sadness that CCG Cable Terminations announces the passing of Mr Franz Lackinger, the founder and chairman of CCG Cable Terminations. 03/12/1936 – 14/02/2023.

Mr Lackinger was a true gentleman, loved by his staff, devoted to his family and loving wife of 59 years and respected by all. Mr Lackinger came from humble beginnings. Born Czechoslovakia in 1936 and raised in Germany, Mr Lackinger arrived South Africa in 1957 with a contract to work at Cobra Watertech in Krugersdorp as a tool setter.

In 1963, he started his own company, Automatic Cam Design, consulting and sub-contracting to the growing metal turning and manufacturing industry in South Africa. With an ever-inventive mind, he designed and patented the first range of Captive Component Glands in 1972 and founded the company CCG.

With a positive outlook, an industrious spirit and with determination against great odds, he took on the monopolies in the industry, grew the business and with the help of his son Nicholas Lackinger, built the CCG brand into the internationally recognised brand that it is today.

Always a humble man he never bragged nor boasted of his many achievements. He always gave credit where credit was due

and acknowledged those that had helped build a business, which today employs over 250 people in South Africa and in CCG's 10 overseas branches.

His humble upbringing made him an extremely generous human. He always had something to offer whether it was helping a staff member in hard times or a beggar at a traffic light. He saw his generosity as more of a hand up, than a handout.

Mr Lackinger's philosophy of success could be read as follows:

- "The pathway to success lies in believing in your dream. Seeing them, not as some far-off wishes, but as today's possibilities.
- It is being willing to take risks to grow and being able to accept mistakes in order to learn.
- It is trusting your heart to know when to seek direction and when to follow your instincts, when to pursue and when to persist, and when to just be patient.
- The quality of success lies in sharing your vision – encouraging others and setting an example, giving praise, advise and credit where it is due.
- It is never being focused on your own goals but to involve the goals of others.
- It is to lend a helping hand and offer a friendly smile to others.
- The true measure of success lies not so



Mr Franz Lackinger, the founder and chairman of CCG Cable Terminations.

much in what you have achieved, but in whether you have made a difference, It is knowing you have touched the lives of others and have in some way made the world a little bit brighter, a little bit better ..."

He was respected throughout the industry for his vast knowledge of manufacturing, marketing, electrical, and hazardous area technical standards.

He was a founder and lifelong honorary member of the South African Flame Proof association, and sat on many standards

committees as an industry expert.

With much sorrow and sadness Franz Lackinger's full, honourable, rewarding, loving, generous life has ended. However, his legacy, his ethics and sound principles he instilled in us will ensure that the company he entrusted us with will continue to grow from strength to strength.

Farewell Franz Lackinger, you will be sorely missed, however your lovely memories will be treasured forever in our hearts.

Enquiries: info@ccgcableland.co.za

Electrician vs electrical engineer: What's the difference?

Ever since the invention of the humble light bulb in the late 1800s, our dependency on electricity has skyrocketed. Most businesses and households can't function without it, and as a result, it's one of the most in-demand trades.

If you're fresh into the electrical trades and are looking to apply for an apprenticeship, get prepared with our interview questions for electrical apprentices:

Electricians and electrical engineers both work in the electrical sector and their roles are sometimes confused or used interchangeably. But they're actually very different jobs – from training and education, to what they do day-to-day.

Understanding the basics

Put simply, electrical engineers design and create things that need electricity to operate, and electricians are tasked with putting the designs into practice.

Here are some of their typical responsibilities:

Electrician

- Wires residential houses and commercial buildings.
- Connects electrical systems to the power supply.
- Maintains electrical equipment in large industrial plants.
- Inspects and repairs existing wiring.

Electrical engineer

- Uses computer software to design plans for new products – anything from a household appliance to a large-scale power station.

- Oversees product manufacturing.
- Evaluates products to make sure they are operating properly.
- Maintains and manages electrical products and services.

Exploring a day in the life

Here's a glimpse into the lives of electricians and electrical engineers – where they're normally based, what they do, and the hours they spend on the job.

Electricians

Electricians' days are often varied – no two days are the same in this trade! An electrician's work is project-based, with some jobs taking only minutes or hours while larger projects can last weeks or months. A work van becomes a mobile office for an electrician, with time spent picking up equipment and travelling between jobs. Depending on the job, an electrician could be working indoors in an office or private home, or outdoors on a construction site.

An electrician's hours vary but typically reflect trades hours of 7am to 3pm. Overtime is usually available for those who want to boost their earnings.

Electrical engineers

Electrical engineers are typically office or lab-based but might also visit production facilities to coordinate and oversee manufacturing. Generally, they're employed by large companies across engineering services, manufacturing, telecommunications and research and development.

An electrical engineer's days are filled with office-based project management tasks. These include meeting with clients, figuring out budgets and coordinating project schedules.

Electrical engineers can expect to work a standard 40-hour week and typical office hours. There might be occasional overtime (if deadlines need to be met), but it's not the norm.



Education requirements – bright sparks needed!

A large part of an electrician's training is hands-on, whereas an electrical engineer needs a university degree. Here are the general requirements:

Electrical engineer

In most countries, electrical engineers need a bachelor's degree (or even masters) in electrical engineering. This is usually a four-year degree, covering advanced maths, mechanics, circuitry, physics and more. The degree also includes an element of practical experience or some form of an internship.

Some electrical engineers do extra study in specialist areas – microelectronics, telecommunication, signal processing or computer engineering.

Electrician

Training takes around four years and is primarily completed through an apprenticeship and/or course. In most cases, you'll earn while you learn and once you've completed your apprenticeship (and been registered and/or licensed) you're good to go! Tertiary education can be really useful for electricians but isn't mandatory.

Two different roles, equally bright futures

Whether an office-based 9-5 or a 'no two days the same' trade-based job is right for you, both electricians and electrical engineers have equally strong career prospects. It comes down to making a choice between lifestyle, training and earning perspectives – and then just getting stuck in.

Enquiries: www.tradifyhq.com



Festool's premium products to enhance organisation and efficiency across jobsites

Festool, a leading manufacturer of innovative, precision-engineered and durable power tool solutions, has launched a new array of offerings built for professional tradespeople seeking to optimise efficiency. The PHC 18 charging station, Ratchet Systainer Set and 6" Abrasive Systainer Set enable tradespeople to save time and stay organized with well-rounded systems that can help tackle any building, remodeling or painting project this summer and well beyond.

"We recognise the importance of organisation and productivity when it comes to any project," said Rick Bush, Product Marketing Manager, Festool. "The turn-key solutions were developed to boost efficiency and enable professional tradespeople to have all of the solutions they need at hand. Whether combining with an existing suite of Festool products or purchasing your first tool, these new offerings include the tools needed to pick up and get started on a project."

PHC 18 Mobile Charging Station: Power-up on the go

The PHC 18 Mobile Phone Charging Station

transforms every Festool 18 V battery pack into a portable power bank. The clever, compact adapter can charge up to three smartphones at the same time – both via users' own charging cables and inductive charging. As a new addition to Festool's line-up of classic cordless products, the PHC 18 helps keep mobile devices charged for the entire day so tradespeople can focus on the job – not their device's battery life.

Robust and compact: With the dimensions of a standard battery pack, the PHC 18 can easily be stored in a Systainer or be taken on the road. Designed like the robust 18 V battery packs it attaches to, the rubberized surface ensures phones are held securely.

Long-lasting, inductive charging: The built-in inductive charging top allows for wireless charging. Paired with a Festool 18 V 5.2 Ah battery pack, the PHC 18 can fully charge a mobile phone up to eight times.

Ratchet Systainer Set: limited-edition hand tools from Festool

The first-ever Ratchet Systainer Set from Festool is comprehensive and includes ratchets, sockets and bits of all sizes to ensure a wide range of possible applica-

tions when fastening parts. Residential and commercial projects alike benefit from the Ratchet Systainer Set, which adds jobsite efficiency by employing a clearly organised and well-rounded solution.

Housed in a Systainer, the set offers maximum flexibility and organisation whether in the workshop or on the jobsite.

Always organised: The set is neatly stored in a Systainer and ensures users have what they need at their fingertips to efficiently tackle any project.

Comprehensive and compatible: A complete system with clearly marked sockets in metric and imperial units, so no socket size is missed. Drives range in size from 5/32" – 1" and 5–22 mm, and the set includes both long and short extensions as well as a universal adaptor. The set is compatible with the entire Festool Systainer system to easily connect and transport.

6" Abrasive Systainer Set: The set to organise and protect

The 6" Abrasive Systainer Set provides



users a turn-key solution to get started on any project. Users supplementing an existing Festool 6" (150 mm) sander will benefit from a neatly organised set of abrasives. Those seeking their first Festool product will appreciate a set that is ready to store and transport them to the next project. The included abrasives are compatible with the Rotex 150, ETS 150 and ETS EC 150. The set includes a wide variety of six-inch abrasive grits to get users started in an organised manner:

- 20 x Abrasive GRANAT D150 P60.
- 20 x Abrasive GRANAT D150 P80.
- 20 x Abrasive GRANAT D150 P120.
- 20 x Abrasive GRANAT D150 P150.
- 20 x Abrasive GRANAT D150 P180.
- 20 x Abrasive GRANAT D150 P220.

Enquiries: www.festoolusa.com

8 maintenance tips for long-lasting power tools

Your tools are your most valuable asset. They are what make doing your job possible. Effective power tool maintenance is the key to making those tools last and protecting your investment. Most tool maintenance practices are very simple, easy habits that you can apply daily.

Cool down heated tools

Overworking a tool puts a lot of stress on its motor and can cause it to overheat. This mostly happens when you are trying to work through a difficult material, like drilling into concrete or sawing a very hard wood. Overheating can also occur if you run a tool too long without stopping. If your tool seems like it is getting hot, stop what you are doing and give it a break until it can cool down. This will help save you from wearing out the motor or burning out parts.

Clean regularly

For your best tool maintenance, power tools should be cleaned at the end of every shift and before they are stored away for the night. You can wipe dirt and other particles from the outside casing with a good cleaning cloth. Compressed air is the best option to clean the particles from the tool's vents; cleaning your tool's exhaust vents with a brush could push the dirt farther into the tool and inadvertently cause more damage later.

Lubricate

Lubrication is a must to keep all the moving parts on your power tools working properly. Check the tool maintenance section of your owner's manual and follow the manufacturer's instructions on how to correctly lubricate your tool's model and which lubricant to use. Keeping your tool well-lubed keeps the parts from chafing, heating and corroding.

Sharpen bits and blades

Using old and worn-out drill bits or saw blades means you have to work your power tool even harder to get the job done. This causes extra stress on the motor which can damage parts or cause the tool to overheat with stress. Likewise, it is also important to make sure you are using the right bit for the material you are working

Calibrate

Power tools are precision instruments. They use a lot of moving parts that need to remain in alignment. The tool maintenance schedule in your user's manual will outline when a tool should be recalibrated, usually after a specified amount of use hours. Most tool companies offer calibration services for their products.

Tool storage

Power tools need to be stored in a dry, clean place. Storing power tools in a moist environment can lead to problems with the electrical components and cause corrosion. This can cause safety issues or cause your tool to stop working completely. Tools also should be stored inside a case or cabinet when not in use. This helps eliminate excess dust and particles getting into the tools through the vents when not in use.

Replace worn parts

As your tool gets used, some parts will eventually need to be replaced. One of the most common replace-

ments is the tool's carbon brushes, which are responsible for conducting electricity through the motor. If your tool has a drive belt, like in a belt sander or some power saws, monitor it for wear and replace worn drive belts before they snap. Power cords and switch assemblies are also parts that tend to become damaged over time and are known for needing replacements.

Battery care

Lithium-ion batteries are the current standard for power tools. One of the most important factors to keeping your lithium-ion battery well maintained is to manage heat. Allowing a battery to

overheat can fry it beyond repair. Store your batteries in a climate-controlled area and avoid leaving it in places where the temperature spikes (such as in the back of an enclosed truck). Do not let the battery run completely down before recharging it.

Implementing daily maintenance routines is the best way to prevent problems with your power tools. A simple dusting can remove dirt and particles that could otherwise end up in your gears or start corroding your electrical system. Keeping your tools clean, cool and effectively oiled is a sure way to get the most out of them.

Enquiries: www.grainger.com

PRATLEY® Klik-Lok® Ex e Junction Box

- Revolutionary "Click-Lock" lid design eliminates cross threading and the need for lid fasteners!
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POLICY STATEMENT
The performance of our products must exceed all others on the World Market.
26/11/2019



Professional testing of pressure and vibration

Pressure instrument calibration is a significant part of the maintenance workload in process plants that requires a high level of accuracy and repeatability. Comtest offers the Fluke 729 Automatic Pressure Calibrator – simplifying the calibration process by automating pumping to the precise test pressure, improving calibration integrity by compensating for minor leaks, and automatically documenting the pressure calibration process to meet compliance and regulatory requirements.

With the rugged, portable Fluke 729, technicians simply input a target pressure and the calibrator automatically pumps to the desired set-point while the internal fine adjustment control stabilises the pressure at the requested value, delivering more accurate results and speeding the calibration process.

Fluke 729 features

- Automatic pressure generation and control for multiple tests to 300 psi, (20 bar, 2 MPa). Fill in a test template

and the Fluke 729 automatically pumps to and documents a multiple-point pressure calibration test.

- Easy calibration documentation using defined templates for transmitters and switches. Input the starting and ending test pressures and a number of test points and the calibrator documents the applied pressure, measured mA, and percentage error for each test point. The bright colour graphical display flags out of tolerance test results in red.
- HART communication enables mA output trim, trim to applied values and pressure zero trimming of HART pressure transmitters. Technicians can also perform light configuration tasks such as changing a transmitter tag, measurement units and ranging.
- Measurement of mA signals on transmitter outputs and sourcing and simulation of mA signals for testing I/Ps and other mA loop devices. It includes a 24 V loop power supply for testing and powering transmitters in standalone tests disconnected from the control system.
- As part of the Fluke Connect® reliability platform, the Fluke 729 allows technicians to remotely monitor calibrations using the Fluke Connect mobile app as well as manage, store, and share pressure measurements and logging events.



The Fluke 729 Automatic Pressure Calibrator.

- Documented calibration results can be uploaded to the included DPCTrack2™ Calibration Management Software, to easily manage instrumentation, create schedule tests and reports, and organise calibration data.

Vibration tester delivers experience-based diagnosis of machine mechanical problems

Comtest also offers the Fluke unique Vibration Tester. The Fluke 810 is the most advanced troubleshooting instrument available for vibration, enabling maintenance teams to rapidly collect data and diagnose and solve mechanical problems.

The handheld Fluke 810 is designed and programmed to diagnose the most common mechanical problems of unbalance, looseness, misalignment and bearing failures in a wide variety of mechanical equipment,



The Fluke 810 Vibration Tester.

18mm heavy duty cutter

Good for flooring, drywall, roofing repair or replacement, the CTR L7-AL-COL 12 from Olfa also cuts carpeting, linoleum, roofing shingles and more.

Olfa, a trusted brand in the world for cutters and knives, has introduced its pink range, adding a new look to its famous yellow Olfa corporate colour which has a long history. The pink addition comes standard with auto lock and black 18mm, ultra-sharp snap-off blades. If you look closely at the blades, you will clearly see the sharpness of their edges, but you will not fully appreciate their precision until you use them. These blades are ideal for cutting construction materials including drywall, linoleum, carpet, flooring, insulation, conduit, and roofing materials.

Enquiries: www.vermontsales.co.za

Corded vs cordless tools – which is better?

Whether you are looking to build up your tool kit or just starting out in the trade, you may be wondering whether corded or cordless tools are best. It's a debate going on since cordless power tools first hit the scene. Corded and cordless tools both offer unique advantages depending on the task. Use our guide to explore the differences between corded and cordless tools to help you determine what's right for your needs.

Shifting to a cordless jobsite

Although the first cordless electric drill was introduced in 1961, cordless tools have steadily grown in popularity over the past 20 to 30 years. The portability and maneuverability of cordless tools have always been clear advantages; however, battery life often limited their overall power and performance. Recent advancements are enabling cordless tools to match the power of corded for an ever-expanding variety of tools.

While many of the most powerful tools, like angle grinders and miter saws, are still primarily corded, the list of heavy-duty cordless tools is growing as battery technology continues to improve. As battery technology evolves, many manufacturers are now focused on making more cordless tools in areas that are more traditionally corded or even gas-powered. Cordless tool technology can now offer the same or, in some cases, even more power than these alternate power sources.

Cordless tools

Pros

Powerful battery technology: Almost every power tool on the market today comes with a lithium-ion battery. These batteries can hold a lot of power that doesn't diminish over time if the battery is properly maintained. They are made to be lightweight, helping to reduce worker fatigue. Your battery should also be interchangeable with your other power tools – a convenience for when you might need it.

Portability: Since it has no cord and you don't have to rely on a secondary power source, a cordless tool offers greater flexibility and portability. When working on several projects or in tight spaces, cordless tools allow you to manoeuvre and move about freely without the hazard



of tripping or tangling a cord. This portability is a clear advantage for any mobile business or contractors who need to move about frequently on jobsites.

Storage: In addition to their portability, cordless power tools are typically easier to store than corded ones. They often come with individual storage containers to house the tool and its accompanying batteries. Cordless drills, saws and impact drivers can be placed in drawers or on shelves.

Cons

Battery life: Even the best battery will run out of power at some point, potentially costing valuable work time. Workers can forget to charge a battery after their shift or lose a battery altogether. Cordless power tool performance also starts to suffer as the power gets drained. That means your tools won't provide the same amount of power at the end of your shift (or day, or week, depending on how much you use it) as they did at the beginning.

Bulk and heft: The convenience of an attached battery adds extra weight and bulk. While most lithium-ion batteries are lightweight, the weight does depend on the tool and the voltage to power larger devices. With more power comes more weight and holding cordless tools all day can cause strain and fatigue though they offer the mobility you need.

Corded tools

Pros

Dependable power: The best thing about corded power



Rotary Hammers working for you



HR4002
Rotary Hammer
SDS MAX

HR5212C
Rotary Hammer
SDS MAX



HR4003C
Rotary Hammer
SDS MAX



HR4013C
Rotary Hammer
SDS MAX



All bits sold separately.



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JHB: 011 878-2600 • CT: 021 932-0568 • DBN: 031 717-6400
MakitaPowerToolsSA www.makita.co.za



including motors, fans, blowers, belts and chain drives, gearboxes, couplings, pumps, compressors, closed coupled machines and spindles.

When it detects a fault, the Fluke 810 identifies the problem and rates its severity on a four-level scale to help the maintenance professional prioritize maintenance tasks. It also recommends repairs. Context-sensitive on-board help menus provide new users with real-time guidance and tips.

The Fluke 810 Vibration Tester uses a simple step-by-step process to report on machine faults the first time measurements are taken, without prior measurement history. The combination of plain-text diagnoses, severity ratings and repair recommendations help users make better maintenance decisions and address critical problems first. Typical vibration analyzers and software are intended for monitoring machine condition over the longer term, but require special training and investment that may not be possible in many companies. The Fluke 810 is designed specifically for maintenance professionals who need to troubleshoot mechanical problems and quickly understand the root cause of equipment condition.

Mechanical diagnosis with the Fluke 810 begins when the user places the Fluke tri-axial TEDS accelerometer on the machine under test. The

accelerometer has a magnetic mount and can also be installed by attaching a mounting pad using adhesive. A quick-disconnect cable connects the accelerometer to the Fluke 810 test unit. As the machine under test operates, the accelerometer detects its vibration along three planes of movement and transmits that information to the Fluke 810. Using a set of advanced algorithms, the 810 Vibration Tester then provides a plain-text diagnosis of the machine with a recommended solution.

Evaluating mechanical equipment typically requires comparing its condition over time to a previously established baseline condition. Vibration analyzers used in condition-based monitoring or predictive maintenance programs rely upon these baseline conditions to evaluate machine condition and estimate remaining operating life. By contrast, the diagnostic technology in the Fluke 810 analyses machinery operation and identifies faults by comparing vibration data to an extensive set of rules developed over years of field experience. The Fluke 810 determines fault severity using a unique technology to simulate a fault-free condition and establish a baseline for instant comparison to gathered data. This means that every measurement taken is compared to a "like new" machine.

The Fluke 810 Vibration Tester includes

Viewer PC software, compatible with Windows XP and Vista, to expand its data storage and tracking capability. With Viewer the user can:

- Create machine setups at the computer keyboard and transfer the data to the 810 Vibration Tester.
- Generate diagnostic reports in a PDF file format.
- View vibration spectra in greater detail.
- Import and store JPEG images and Fluke .IS2 thermal images for a more complete view of a machine's condition.

The Fluke 810 Vibration Tester comes with embedded diagnostic technology, tri-axial TEDS accelerometer, accelerometer magnet mount, accelerometer mounting pad kit with adhesive, accelerometer quick-disconnect cable, laser tachometer and storage pouch, smart battery pack with cable and adapters, shoulder strap, adjustable hand strap, Viewer PC application software, mini-USB to USB cable, Getting Started Guide illustrated Quick Reference Guide, User Manual CD-ROM and a hard carrying case.

For more information on the Fluke 729 Automatic Pressure Calibrator, visit <https://bit.ly/3PGQBuG>. For more information on the Fluke 810 Vibration Tester, visit <https://bit.ly/330rgsB>

Enquiries: sales@comtest.co.za

Makita's AVT technology

Makita's innovative AVT, Anti Vibration Technology, uses the science of dynamic damping to dramatically reduce rotary vibration and at the same time increase impact power by up to 75%.

Anti Vibration Technology in two of Makita's Rotary Hammer models, namely the HR4013C and the HR5212C will produce unrivalled lower levels of vibration. This is achieved by using active vibration absorbers, and damper springs to absorb the reaction force caused by the drill bit at the moment of impact. The level of vibration is further reduced by completely separating the machine holding section from the motor/transmission section. Therefore, when the machine moves the handle stays still, similar to how a shock absorber works on a motor vehicle.

One of the extra features of these two models have, is the soft no load function that reduces the vibration of the tool body when idling and accordingly decreases the amount of vibration to the operator's hands. It also minimizes the deflection of the bit tip when you begin to chip.

Anti Vibration Technology has been designed not only for the two reasons above but also to provide operator comfort to power tool users that work for prolonged periods of time, reducing fatigue, accidents and even long-term injury. Look out for models with the AVT icon.

- Makita's Anti Vibration Technology knows:
- How to generate power
- How to manage vibration and
- How to bring you comfort

Enquiries: www.makita.co.za



tools is that they are hooked up to a continuous power supply, so they never run out of power. Their performance will not suffer as a cordless tool will once the battery starts getting drained. Corded power tools will almost always be able to offer greater torque than a cordless tool performing the same function. This means that some tools that require a high amount of torque may not be available in a cordless option or will not be sufficient for the job.

Better runtime: The runtime for cordless power tools varies depending on the manufacturer, battery and power demands. A corded tool can operate for as long as needed with a continuous runtime. Some corded tools such as table saws provide better performance, and it can be easier to operate a larger tool if it's near an outlet than working without a battery.

Cons

Limited mobility: While the cord provides dependable power, it also restricts your mobility, keeping you tethered to the wall – even if you use an extension cord. Power cords also create a tripping hazard that you wouldn't otherwise have. Additionally, with power saws and routers, cords can potentially be cut, rendering the tool useless.

Difficult to store: Because of the cord, corded tools can be a challenge to store, and many contractors and managers must get creative in how they store and keep corded tools from being damaged. Wide shelves, fasteners and deep storage bins are all options to store corded power tools to ensure cords remain intact.

Cordless vs. corded tools

Cordless advantages	Corded advantages
Convenient	High power output
Portable	Dependable
Easy to use	Constant power
Quieter	Lighter
Easy storage	Long lifespan
No trip hazards	

Whether a corded or cordless tool is best depends on the job and how often you will use the tool. While corded power tools offer the most in terms of reliability and sustained power, they are no match to cordless tools when it comes to manoeuvrability and convenience. The best cordless tools will last a long time before their power starts to fade. However, the debate will continue until they can provide the same power, every time, no matter what reliability offered by a corded tool.



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Contact us for technical or seminar information, demonstrations or to locate your nearest AUTHORISED Channel Partner.



1 key pressed
5 completed tests

- Line test
- No Trip Loop test
- RCD Trip current test
- RCD Trip time test
- Insulation test (L-PE, L-N, N-PE)



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SCAN ME



BEKA Schröder

Experts in lightability™

Market Leaders

Africa's leading manufacturer of Luminaires and Glass Fibre Reinforced Polyester (GRP) Poles



Local Employment



Factory Staff
125



Admin Staff
131

Origin

1978
Namibia

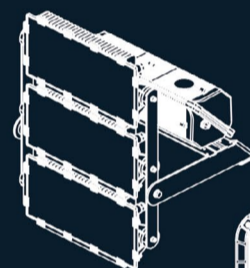
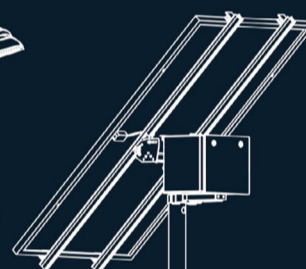
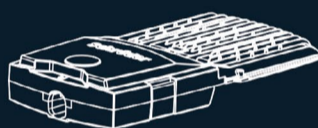


1978: We commenced operations in Namibia. Our products became successfully established in neighbouring South Africa.

1981
Moved to SA

1981: We relocated to Olifantsfontein, a strategically positioned industrial town situated between Johannesburg and Pretoria.

Product Snapshot



Lighting Solution Offer



Motorways | Urban & residential streets | Squares & Pedestrian areas | Large areas | Industrial halls & Warehouses | Accent & Architectural | Bridges | Sport venues | Tunnels & Underpasses

Schröder

Experts in lightability™

2002: We entered into a partnership with the Belgian company Schröder, a multinational lighting company that is present in about 40 countries.

2013: We became a wholly owned Schröder company, allowing us to embrace the latest technologies, such as optimising light control technologies, for which Schröder are well renowned.

Inhouse R&D

Our success can be attributed to the research and development of our luminaire and pole ranges, ensuring the appropriate mechanical and thermal product integrity in the environmental conditions of the African continent.



We became SA's first lighting company to be awarded ISO 9001 certification. This commitment to quality became the company's hallmark, enabling us to become Africa's largest lighting manufacturer and market leader in exterior lighting. Currently, we are ISO 9001 and ISO 14001 certified.



B-BBEE
Level 3



Committed to Save Energy

By combining the best of LED technology with a wide range of control systems, our solutions can offer huge energy savings of up to 85% and radically reduce the payback time of a new installation.



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New services and solutions enhance sustainability and energy efficiency in electrical infrastructure

Legrand South Africa has introduced a new services and solutions plan that is tailored to meet exact customer requirements, at the same time ensuring the highest standards in electrical and digital building infrastructure.

The Legrand team understands that dependable power and networking services are critical in many sectors, including data centres, healthcare and hospitality, as well as in commercial and industrial projects.

According to Legrand specialists, it is increasingly important – as South Africa's power crisis deepens and there is a greater need for digital stability – that professionals assist industry, business owners, healthcare institutions and people at home, to continue to function as normally as possible.

Legrand is committed to working closely with customers to ensure sustainability, energy efficiency and optimum performance of equipment for every installation, at all times.

The local operation has entered into service agreements with strategic partners, enabling the team to offer direct installation and after-sales services. Legrand specialists work closely with partners to provide in house CAD services for project requirements, also ensuring that suitable products are selected for every specific installation.

The Legrand team – which comprises highly-skilled engineers and technicians in Cape Town, Johannesburg and Durban – also offers services in Botswana, Namibia and Zambia. A dependable after-sales service, with a dedicated service support line, includes Tier 3 level support to datacentres.

After-sales service technicians and factory trained technicians efficiently handle any repair or breakdown to ensure that backup power solutions deliver the highest standards of performance and reliability, at minimal cost.

Legrand's new services and solutions cover key areas, including transformers, busbars, uninterruptible power supply (UPS) systems and distribution boards.

Services designed to enhance Legrand transformers (ranging from 650 kVA to 3000 kVA) comprises customised packages to suit specific project requirements. Busbar installation services support Legrand busbars that handle the distribution of power from 63 A to 6 000A. Because it is critical that planning of a busbar system is done correctly from inception, the team assists with design and CAD modelling. This service is supported by onsite engineers who are responsible for installation and commissioning, as well as after sales services.

Legrand also offer comprehensive UPS services that extend from the planning phase to maintenance. Every part of the process is critical and can lead to catastrophic failure if not done correctly. Consistent services and regular maintenance are essential to ensuring users have power when they need it – especially as scheduled loadshedding and power outages continue to escalate.

Distribution boards form the backbone of every building, by ensuring optimum efficiency and safety in electrical installations. Legrand services for distribution boards include every aspect, from pre-sales to switch-on of the system and maintenance.

Legrand's environmentally responsible approach to constantly changing project requirements, is enhanced through the introduction of the company's new services and solutions plan. This initiative enhances ongoing technological developments of the company's product portfolio, in terms of energy efficiency, quality power supply, safety and aesthetics.

Enquiries: www.legrand.co.za



Free-to-use electricity smart meter software pilots in South Africa

Streamlining processes across the board between municipalities and end-users, Access Energy is a freely licensed software solution that reads smart meters, stores the meter data in a meter data sharing system, and delivers that data to municipalities. The software then allows the municipality to create and load their electricity tariffs and then apply them to a bill. It's been hailed as a game-changer for municipalities wanting to integrate renewable energy resources into their grid.

George Municipality is the first electricity provider in the country to pilot this freely licensed software that automates the reading, processing, and billing of electricity smart meter data.

"The need for this freely licensed software pilot became evident when we considered the scaling of wheeling and renewable energy on the George Municipality's electricity grid," says Mr Bongani Mandla, the director of electrotechnical services at George Municipality. "The manual billing process was one the main challenges, and resolving this meant reducing reliance and pressure on key human resources, reducing potential errors that could occur in the billing process. Engagement with Open Access Energy on showcasing their software that they license for free, has assisted in addressing the challenge for us and we are now piloting the automation of our metering and billing services," continued Mandla

Wheeling is the delivery of electricity

generated by a private operator in one location to a buyer or off-taker in another location via a third-party network (utility or municipality).

Bongani Mandla highlighted that the current George Municipality wheeling pilot consists of trade between one generator and four off-takers through Enpower Trading (a NERSA licensed Energy Trader) and this entire process has now been automated using Open Access Energy's software. The Municipality is working on further improvements to its wheeling projects and to incentivise the private sector (both generators and off-takers) to participate in this program. These include creating a platform for customers to view their accounts and access their consumption and billing data in real-time, forming various committees to expedite the process of standardising the use-of-system contracts as well as moving from the 30-minute reconciliation to a Time-of-Use reconciliation.

James Beatty, Chief-Executive-Officer of Enpower Trading (NERSA licensed energy trader), said they obtained a use-of-system agreement at George Municipality and looked at ways to automate the wheeling pilot.

According to Gerjo Hoffman, Chief-Executive-Officer and co-founder of Open Access Energy, the developers of Access Energy, the software company aims to boost the use of renewable energy by simplifying wheeling.

"Our products aim to automate wheeling and serve the needs of anyone that wants to wheel energy. Our initial focus is South Africa, but our future aspiration is to offer solutions in all emerging markets globally," says Hoffman.

Open Access Energy currently has two



From left are Gerjo Hoffman, CEO and co-founder of Open Access Energy; Bongani Mandla, Director of Electrotechnical Services; Nicholas Rixon, COO of Open Access Energy; and Louise Botha, George Municipality Electrotechnical Services.

products in the market. Access Energy is a freely licensed software solution that reads smart meters, stores the meter data in a meter data sharing system, and exposes that data to municipalities. The software allows the Municipality to create and load their electricity tariffs and then apply them to a bill. The final bill is sent to the municipalities Enterprise Resource Planning (ERP) system, which then sends the bill to the end customer. Customers, however, do not have to wait until the end of the month to view their accounts and can access and view their consumption and billing data in real time. The sharing of this meter data to the customer by Access Energy is made possible through its implementation of the Eskom sanctioned NRS049 5-2 protocol.

"When we started looking at how we can enable the wheeling market, we realised that many municipalities and metros don't have access to sufficient software to

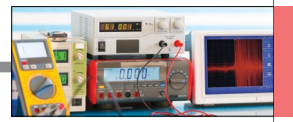
allow these transactions. Municipalities have to go through tedious tender and procurement processes, so we decided to license our software for free to local municipalities and state-owned entities," continues Hoffman.

Open Access Energy's second product is called EnergyPro. This Software as a Service (SaaS) solution focuses on IPPs and Energy traders and assists wheelers to wheel to multiple customers.

"Our clients are renewable energy producers and energy traders who want to sell their energy to customers all over South Africa," concludes Hoffman.

Hoffman says they will be approaching more municipalities and hope to assist local municipalities by enabling them to offer renewable energy to their customers and alleviate the challenge of load shedding in South Africa.

Enquiries: www.openaccess.energy



Schneider Electric wins Top Supplier award, fortifies partnership with JB Switchgear Solutions

Global energy management and industrial automation leader, Schneider Electric has been awarded Top Supplier 2022 by JB Switchgear Solutions, South Africa's biggest independent panel builder and manufacturer of prefabricated substations, containerised substations, motor control centres.

JB Switchgear Solutions is a Schneider Electric panel builder partner and the only licensed BlokSET (low voltage switchboard for power distribution and motor control) solution partner in the country. Schneider Electric's team was awarded the accolade based on stringent criteria such as timely quotations, technical consultation and expertise, support, equipment availability and supply.

"At JB Switchgear Solutions we forge strong partnership with our suppliers which has enabled us to in 10 short years establish our business as the biggest panel builder supplier in the country. All our projects are executed in tandem with our partners which is beneficial to all parties concerned," says Sharad Hingorani, deputy managing director at JB Switchgear Solutions.

"Schneider Electric set itself apart in 2022 by offering

exceptional products, consultancy services that often meant providing out-of-the-box solutions, and timely supply and delivery of equipment," he adds.

Says Xola Mpendukana, power products division account manager at Schneider Electric: "The team at JB Switchgear Solutions work under immense pressure which is why they require a partner that can assist them every step of the way, ensuring that they meet their deadlines, retaining customer loyalty and growing their business.

"Schneider Electric and JB Switchgear Solutions relationship is a true partnership; our cluster president, Devan Pillay played a hands-on role, providing invaluable consultation and support. We are thrilled to be appointed their Top Supplier for 2022."

Sulayman Ally, estimation manager at JB Switchgear Solutions concludes: "Schneider Electric offers a comprehensive set of solutions and services to many industries which will enable us to grow and adapt as market needs change."

Enquiries: www.jbswitchgear.co.za

From left to right; Johan Basson, JB Switchgear solutions MD, Grant Stewart, National Manager Contractors at Schneider Electric, Reena Sharma, channel marketing manager, Schneider Electric, Devan Pillay, cluster president, Anglophone Africa, Schneider Electric, Xola Mpendukana, Schneider Electric, Patrick Kazadi, Schneider Electric, and Sharad Hingorani, deputy MD, JB Switchgear Solutions.



From left to right; Johan Basson, JB Switchgear Solutions MD, Reena Sharma, channel marketing manager, Schneider Electric and Devan Pillay, cluster president, Anglophone Africa, Schneider Electric.



SEW-Eurodrive all set to support Africa's growth

Despite the travails of the global economy and uncertainty in many countries, Africa will be the place to do business in the coming years.

So says Raymond Obermeyer, managing director of SEW-Eurodrive South Africa, whose company has worked successfully around southern, central and east Africa for decades. The company's expansion efforts are now ramping up, as SEW-Eurodrive has embarked on a progressive branch establishment strategy.

"Customers around Africa know our brand well, and respect the precision German engineering that underlies all our products," says Obermeyer. "They also rely on our strong service ethic, which is based on our culture of responsiveness and understanding customer needs."

A key aspect of the company's high levels of customer support derives from its infrastructure and capability – as well as having a presence close to customers' sites. Ready availability of stock, and quick turnaround times for designed solutions, are ensured by SEW-Eurodrive's newly built and expanded facility in Aeroton, Johannesburg.

"These new headquarters – worth around R500 million in infrastructure and stock – was a carefully considered investment in our future growth," he explains. "It has also enabled a three-fold increase in our stockholding, which is vital to ensuring that customers get what they need, when they need it."

In addition to serving branches in Nelspruit, Durban, Cape Town and Gqeberha, this state-of-the-art facility supports over 23 more countries in Africa. It is this proven branch model that the company is now rolling out. Moving gradually away from the distributor model of product sales and support, he explains that four countries are strategically targeted each year for a branch establishment.

"Taking a phased approach to our growth strategy, we began establishing branches in our key growth areas of Zambia, the Democratic Republic of Congo (DRC), Kenya and Tanzania in 2022," he says. "In the years to come, we aim to target around four countries a year in which to put a branch in place."

The model, emphasises Obermeyer, has benefits not only to customers but also to the host countries. While the investment is greater, there is more control over factors like service quality and performance. By appointing and training its own

staff, SEW-Eurodrive is ensuring that customers get a uniformly high standard of support, irrespective of their location.

"This strategy also aligns with the growing trend in Africa towards localisation," he points out. "Countries are wanting to see more local benefit from economic growth, and a move away from relying on foreign companies and expatriate workers."

Building on the experience of running its own strong branch network in South Africa, SEW-Eurodrive is excited about the prospect of building capacity around Africa. This includes more formal training and mentorship of local staff in African branches – to service the continent's already large population of SEW-Eurodrive motors, gearboxes, geared motors and other equipment.

"Our equipment is to be found in a wide range of industries around Africa – from food and beverage to cement, mining and pharmaceutical," says Obermeyer. "Our hands-on approach to our work means that we understand operating conditions in each country, and so we have developed the expertise to deliver the way our customers require."

He emphasises that casual observers tend to underestimate the recent growth – and potential – in most African countries. It is being driven by considerable investment in world class industrial facilities which demand high-tech equipment supported by qualified and experienced experts.

"This is where SEW-Eurodrive is positioned," he concludes. "We are leveraging our experience in these markets to deliver the best quality equipment and components – supported by unsurpassed service and commitment to customers."

Enquiries: www.sew-eurodrive.co.za



Brand new WearCheck labs open in Kathu, Johannesburg

Kathu, the iron ore capital of the Northern Cape province, is where condition monitoring specialist company, WearCheck, recently opened its newest laboratory.

While for many years there has been a WearCheck office in Kathu where used oil samples could be dropped off, the nearest laboratory was in Johannesburg, where the samples were processed. However, now the samples are processed in Kathu, reducing turnaround time for local samples to 24 hours or less.

WearCheck is delighted to invest further in Kathu, whose name means "town under the trees", where local industry has given the company a warm welcome and support for more than a decade.

The company's unique Kathu laboratory is created from three remodelled shipping containers.

WearCheck's head office in Westville is where the distinctive mobile laboratories are compiled in repurposed shipping containers. Kitted out with the latest laboratory instruments, the labs also boast features such as ventilation, air extraction systems, fire prevention, uninterrupted power supply, air conditioning and burglar bars.

The design of the container labs is fluid, to accommodate new industry developments.

WearCheck managing director, Neil Robinson, is addressing the infrastructure deficit in Africa by providing world-class scientific analysis services in remote areas near mining and other industries.

Says Robinson, "While establishing a brick and mortar laboratory in certain locations is often hindered by the lack of basic infrastructure, the container laboratories relatively

simple to place in areas with limited resources. Ensuring consistently accurate test results is critical, therefore each mobile laboratory remains connected to the WearCheck South Africa LIMS (Laboratory Information Management System), which guarantees quality control."

WearCheck Johannesburg moves to Longmeadow Estate

WearCheck recently relocated its Johannesburg laboratory, WSL (WearCheck specialist laboratory) as well as its dedicated divisions – asset reliability care (ARC), transformer oil testing, water analysis and lubricant-enabled reliability (LER) services – to a convenient, ultra-modern new location in Edenvale.

"With all our services under one roof, WearCheck Johannesburg is truly a one-stop hub for customers which make use of more than one of our condition monitoring programmes," says Robinson.

WearCheck's growing footprint extends across nine countries in Africa and beyond, including many satellite offices and 15 world class laboratories.

Enquiries: www.wearcheck.co.za



WearCheck's new laboratory in Longmeadow Business Estate extension 1, Edenvale, is open for business and running smoothly. Pictured in the new laboratory are laboratory technicians Precious Mabaso (left) and Ntiyiso Masia (right).



Funding of solar lighting solution in Tshinapfene Village

A solar lighting solution installed on glass fibre reinforced polyester (GRP) poles, supplied by BEKA Schröder, has been donated to the Tshinapfene Village in Limpopo, South Africa.

The project was jointly sponsored by the King Baudouin Foundation through the Schröder Together Fund, BEKA Schröder and Muelekanyi Technical Services NPC with the implementing agent being a 100% Black Woman owned company, Intal Power Trading.

The handover ceremony took place in Tshinapfene on Friday, 4 November 2022. The event was hosted His Majesty, MPK Tshivhase, and took place at the project site after a celebratory function held at the Tshinapfene Reformed Church Hall.

Community-Focused Project

The late Wimpie Ludwick, in his capacity as General Manager of BEKA Schröder, Muelekanyi Tshivhase of Muelekanyi Technical Services Foundation and Sylvia Siphugu of Intal Power Trading were instrumental in defining the vision of the project. The legacy of Wimpie was honoured with a stone of remembrance that was erected on the project site.

46 Solar streetlights on GRP poles were donated with the intention of job creation within the local community, creating a safe environment for women and children, and visibility of pedestrians at night. This project's goal is to promote rural development through strategic partnerships, combating poverty, and community upliftment by focusing on rural areas that are underdeveloped.

Furthermore, as part of the project, BEKA Schröder and Intal Power Trading have provided training for the local installation teams and maintenance of the luminaires and solar units to the local community as provided for this project. The project aims to empower communities to take ownership of this installation. The project was handed over to the Local Municipality for further planning, expansion to other areas, and community support. The Local Municipality will also be responsible for the operations and maintenance for the sustainability of the project.

Solar lighting solution

An integrated solar streetlight solution was sup-

plied, which consists of a luminaire with integrated solar module and battery storage to operate autonomously without an electrical supply cable and can be mounted at any location. It not only offers effective illumination to support the needs of the community, but ease of installation as all components are integrated into one housing. The PIR (Passive Infrared) Motion Sensor with a detection range of up to ten meters allows for better energy storage management and illumination when it is needed.

The smart solar charge controller with LED driver gives the community peace of mind that it has sufficient autonomy to cater for up to two continuous overcast or rainy days, to continue its reliable night operation.

The installation delivered in all aspects of an off-grid solution for the community of Tshinapfene Village, from the solar technology to a designed installation with the correct light levels.

Glass fibre Reinforced Polyester (GRP) poles What adds to the interest of this project is that the solar lighting units were installed on GRP poles, which were the ideal solution, considering the remote location and delivery distance. The low mass of the GRP poles saves handling, transport and erection costs during installation:

- Low handling costs: No extra equipment needed to load or offload the poles.
- Low transport costs: Save on transport costs due to the poles' low weight and the higher stacking height on road freight.
- Low installation costs: No extra equipment is needed to erect the poles.

Furthermore, the bright K600 Canary (Light) Yellow colour was chosen to ensure better visibility of the poles to the vehicle drivers on the narrow roads, thus minimising damage to this important community infrastructure.

The management at BEKA Schröder are proud of this solar lighting installation and believes that this will provide a vital beginning of a new, brighter and safer future for the community of Tshinapfene Village.

BEKA Schröder develops and manufactures energy-efficient LED lighting products in South Africa, designed and suitable for local conditions.

Enquiries: www.beka-schroeder.co.za. The video of the project can be viewed here: <https://youtu.be/nMcDsvLbMk0>



The solar-powered streetlights on GRP poles create a safe environment for women and children, and pedestrian visibility at night.



The project aims to empower communities to take ownership of this installation.



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CONTINUED FROM PAGE 1

USING SURGE PROTECTION AND HOW IT IS DESCRIBED IN THE WIRING CODE (SANS 10142-1)

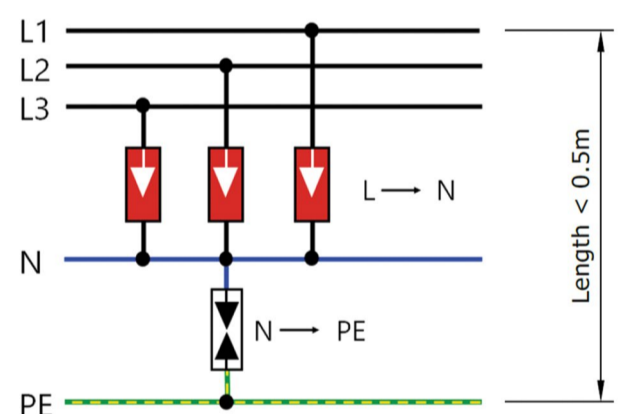
induced surges are represented with the 8/20µs test waveshape. With the recent situation in South Africa, where we experience frequent load shedding, the switching of supply from the grid causes what is commonly referred to as "Switching Surges". These switching surges are also described as impulses with waveshape like that of the 8/20µs test waveshape, and therefore the installation of Type 2 devices can prevent some of the damaging effects of switching surges as well.

In short, it is then required to install a Type 1+2 device if the structure has an existing external lightning protection system. If there is no external lightning protection system, it is recommended to install at least a Type 2 device to prevent the common induced surge damages.

A common installation error noticed within electrical installations in South Africa, is that installers only install a single pole Type 2 device between the live conductor and earth. As per SANS 10142-1, it is required to have the SPD installed on both conductors, with connection from Live to Earth and Neutral to Earth. If the SPD is only installed between live and earth, the neutral can still be exposed to potential differences caused by surges and may result in sparking between parts in the electrical system at equipment. In addition to this option, a "TT" configuration, also referred to as a 1+1 for single phase or 3+1 for three phase systems, makes the connection from live to neutral with a standard SPD and with a special "Spark Gap" module from neutral to earth. Advantages include avoiding nuisance tripping due to leakage currents.

Another point to consider is the size of the conductor used to install an SPD. The minimum size of conductor is indicated in the installation instructions from the manufacturer but will start with a minimum of 6mm² copper for Type 2 devices and 16mm² copper for Type 1+2 devices, in line with minimum requirements in SANS 10142-1 by means of SANS 62305-4. Further to this, the standard also stipulates that the maximum length of conductors should not exceed 0.5m from the live or neutral terminal to the earth bar. This means the total length of conductor used (live + earth or neutral + earth) may not exceed 0.5m. Certain manufacturers, however, give allowance to a total of 1m. Exceeding this length, causes a significant drop in performance of the surge protection concept, resulting in less overall protection of the electrical system. This is mainly due to the additional length causing higher potentials between lines during surge events, possibly leading to damage to equipment unable to withstand these potentials. A typical illustration of such installation length is shown in Figure 5.

Figure 5: Illustration of maximum cable lengths and configuration of TT-systems.



To conclude, the application of surge protection for electrical systems in lightning prone countries such as South Africa is important. By understanding the risks involved, as well as the basics of SPD classifications, ratings and installation techniques, the installation of these devices becomes easier to justify and execute.

About Dehn

Dehn is a leading, international family-owned electrical engineering company based in Neumarkt, Germany. With its comprehensive portfolio, Dehn addresses the megatrends of our time - from e-mobility and renewables to the protection of critical infrastructure. The company offers solutions and services for lightning and surge protection as well as safety equipment - fields in which, with more than 1 100 patents, Dehn is a leading innovator. The company's products protect people and buildings, systems and telecommunications technology, process industry, as well as photovoltaic systems and wind turbines. With more than 2 200 employees worldwide, Dehn Group achieved revenue of around 385 million euros in the fiscal year 2021/2022. Alongside more than 110 years of experience, this constant growth is based on the highest quality standards and a consistent orientation towards customers and markets worldwide.

Enquiries: www.dehn-africa.com



The benefits of day/night bulbs and day/night sensors

The rising cost of electricity has South Africans looking for savvy solutions to save money when illuminating their homes. Day/night light bulbs and day/night sensors are proving to be one of the leading ways of keeping costs down, but saving on electricity is just one of the many benefits they offer.

The functionality of day/night sensitivity:

- Makes arriving home late at night safer.
- Gives the impression that your house is occupied when it's not (especially handy during the holiday season).
- Eliminates the risk of forgetting to switch off lights in the morning before you leave home for work.
- Gives you one less thing to think about in the evenings.

Day/night bulbs and sensors contain an integrated photocell that registers the brightness of daylight and activates when the level of light reaches the preset level. When darkness falls, an electrical current begins to flow, and the light automatically turns on. But this doesn't mean you should be concerned about clouds, car lights, and lighting, which can all cause brief changes in lighting levels. The sensor is programmed to check for false light levels and will not be activated by them.

Keep in mind that while a day/night bulb can simply be installed like a normal light bulb, day/night sensors will require wiring.

Enquiries: www.eurolux.co.za

European design with Chinese efficiency comes to SA

Neko Lighting provides high quality as well as efficient LED-lighting solutions at a very competitive price/performance ratio since 2013. By uniting European thinking and Chinese efficiency Neko created its corporate philosophy "Think Design".

Neko is owned by Sven Speissegger (Switzerland), who has a long track record and extensive know-how in the lighting market.

Neko, with its registered and head office in Switzerland, owns a production facility as well as a coating plant in China. The corporation runs Neko owned offices in Germany, France, Great Britain, North America/Canada, Beijing and Shanghai.

Neko lights are exclusively sold via a distributor network in more than 90 countries worldwide.

Recently ELDC was honoured by a visit from Sven Speissegger, owner of Neko Lighting, who visited its Cape Town showroom and brought them up-to-date on all the new developments at Neko. Together we set out the sales strategy for the South African market.

An official launch event will be announced soon.

Enquiries: www.eldc.co.za



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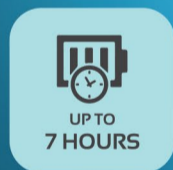
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WHEN OPERATING IN LOAD SHEDDING:



- Switch ON once - bulb shines at 50% brightness
- Switch OFF and ON again - bulb dims to 25% brightness
- Switch OFF and ON again - bulb dims to 10% brightness



50% Brightness

up to 2 hours

25% Brightness

up to 4 hours

10% Brightness

up to 7 hours



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Lighting your way



Sophisticated outdoor lighting concepts with darklight lenses

The lighting technology of ERCO's highest-output museum spotlights is now also conquering outdoor applications in the form of the Beamer range of projectors. The first of their kind to feature darklight lenses, the luminaires offer unrivalled variations in terms of digital control modes, interchangeable lens units and mounting options. They are predestined for sophisticated outdoor lighting tasks with their quality of light and outstanding visual comfort.

Light in outdoor spaces fulfils needs on several levels. The harmonious appearance of a building at night, a neighbourhood or even an entire town or city forms the background. Individual areas and objects, with their specific lighting design, then come to the fore. These can be sculptures in a park, striking details on a facade or places fulfilling special functions, for example entrances and exits. Such individual lighting tasks cannot be technically solved according to standard methods. Instead, lighting tools are needed that are highly precise and adaptive and that enable adjustments even in the finest nuances, or put succinctly, that effortlessly control light and darkness in outdoor spaces. ERCO targets this type of outdoor lighting project with its Beamer range of projectors – the name reflects the innovative approach and the luminaires confidently stand out from both their predecessors and the competition in terms of lighting technology.

Maximum precision and a magical impression

The decisive difference is already clearly visible at first sight: an anti-reflective cover glass conceals the lens optics with only a single LED light point. This is so well shielded that it remains glare-free when seen from almost any angle. The light emission without spill light appears dark even if the projector is switched on – hence the term darklight. ERCO is currently already using this lighting technology in its Eclipse spotlight range for mu-

seums and galleries.

Beamer thus provides many of the qualities of these high-end museum spotlights for outdoor purposes – for example the wide selection of interchangeable, high-precision darklight optics for rotationally symmetric beams ranging from narrow spot (5°) to extra wide flood (82°). The luminaires also feature practice-oriented light distributions such as oval flood (19° x 65°), oval wide flood (60° x 87°) and wallwash, using Spherolit lens technology developed by ERCO. A new development in outdoor illumination is the two continuously adjustable optics Zoom spot (17°- 66°) and Zoom oval (28°x 68° - 66°x 71°), whilst further lenses and filters as accessories enable additional fine tuning. Thus everyone benefits: planners and designers are provided with application-precise solutions for a wide diversity of lighting tasks, and simultaneously, people in urban areas enjoy the attractive effects of light free from glare, whilst nature and the night sky are spared disturbing spill light.

In terms of digital connectivity and control, the new Beamer projectors also bring options to outdoor lighting that were previously reserved for high quality indoor spotlights. In addition to proven interfaces such as DALI, ERCO also offers the option of wirelessly controlling and configuring Beamer projectors with Casambi Bluetooth. This user interface enables convenient setting of the dimming value, colour temperature and RGBW chromaticity location in all available versions. Coordinated lighting parameters can be selected for every situation and programmed into corresponding light scenes. This not only makes the lighting design more flexible, but also makes operation more efficient and resource-saving. Once set, timer programmes or the integrated astronomical clock for example ensure the right lighting atmosphere at any time of night.

Intelligent housing and mounting solutions

The high flexibility of the Beamer projectors in terms of

optics and connectivity continues with installation. Whether on the ground, on facades or high masts, luminaires can always be mounted quickly and securely with the appropriate accessories. The projector is available with matching connection thread for mast mounting on G1/2 threaded holes provided on site. A dial on the swivel joint facilitates alignment. The luminaire head is made of double powder-coated diecast aluminum and the housing and mounting plate are of robust, UV- and corrosion-resistant special plastic.

Enquiries: www.erco.com



Efficient lighting for office and warehouse

Claassen Auret approached Regent Lighting Solutions (RLS) to tender on the warehouse and office lights for the new Cargo Compass head office and warehouse complex in Kempton Park. The lights supplied had to achieve the minimum light levels required while being as efficient as possible.

Exterior

Piazza post tops and Sliver bollards were used in the open parking and garden areas. Neon Flex LED strip light was installed to highlight the exterior of the office building. Istria floodlights were installed against the warehouse to light up the open delivery areas. Nasa was used in the truck canopy areas and the carparks.

Truck workshop

Holda Pros were used for general lighting and the Nasa was installed in the truck inspection bays.

Warehouse

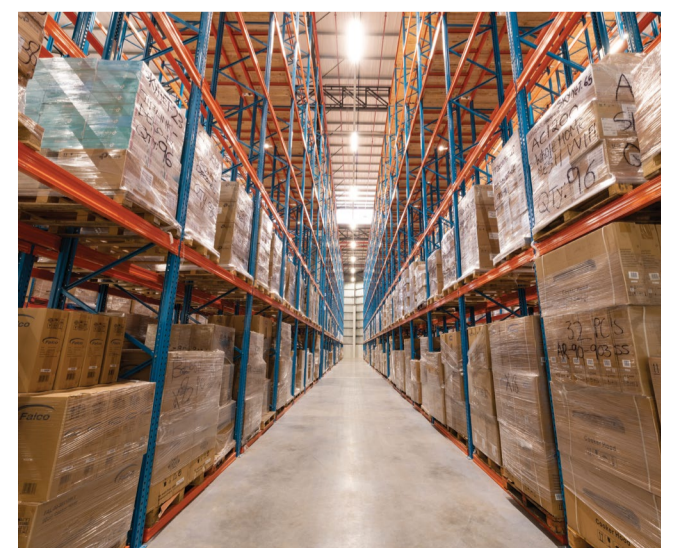
The Holda Pro 200W light, mounted at 16m, was used to give light between the 15m high racks and the general open assembly areas. Emergency Holda Pro 200W was also supplied to ensure building regulation compliance.

Offices

Luxon 600 x 600 were supplied for the office areas and passages and the Kibo 75 downlighters were used to supplement the Luxon fittings.

For the project, Claassen Auret Electrical Engineers were appointed as the electrical engineer, and Nkwazi Electrical as the electrical contractor. Photographs were taken by eimage.

Enquiries: www.regentlight.co.za





SHEDDING LIGHT WITH PHILIP HAMMOND

Are we as South Africans lagging behind in lighting technologies?

I hope that 2023 has started off with a bang and that it will continue to become your best year ever.

I have been informing attendees at lighting workshops around Southern Africa and during webinars that I have presented since 2019, about some of the most exciting new technologies to use with quality LED lighting products.

The workshops were attended by hundreds of professionals, architects, consulting electrical engineers and interior designers, yet the adoption of the technologies have been few and far between.

The webinars are very well attended. About 65% of the attendees are from overseas around the world. I would like nothing more than to see that they are attended by more South African professionals. They are free to attend, are Category 3 CPD events worth 0.2 CPD credits per webinar attended.

I frequently ask myself: "What is the reason for the hesitancy/reluctance/refusal to use the new technologies on projects?" I was not able to find the answers without asking a number of leading professionals to get the answers from the "horse's mouths".

In every instance, they answered that the client did not want to take a chance or that there was not enough in the budget for these additional technologies. Let me cut to the chase! It is our professional responsibility to ensure that the client is made aware of the technologies and the associated benefits. The benefits are not only the technological benefits but more importantly the economic/financial benefits culminating in the presentation of the proof of a fantastic Return on Investment (ROI).

It is only possible to make the client aware of the technologies if the professionals have detailed knowledge of the technologies and the ability to design the system architecture for each when used with quality LED lighting. It is a prerequisite for professionals to be able to prove the value to the client in a presentation of the economics and the cost of ownership together with the ROI.

When we have our initial meetings with clients, we always make the technologies known that whilst everyone accepts LED lighting, we introduce the possibility of using integrated new technologies with the LED lighting. Once we have developed our concept lighting design, during meetings, we give presentations to the client on each of the technologies that we propose using with the respective benefits to the client. The clients are always enthusiastic and look forward to the final lighting design which will embrace the technologies discussed. At this point, we prepare the specification document with pricing from the selected supplier/s of quality LED products. We then complete a full economics exercise which includes cost of ownership over the expected life of the products at their site, with an ROI presentation. That presentation must be able to be scrutinised by an experienced accountant. We have not ever had a client decide against using the technologies proposed for the project.

This may sound like much more work. No, it is not. It is what we are always supposed to do. Let me put this into more perspective. We are all fully aware that LED lighting is extremely energy efficient. Now we can take it to even higher levels of energy efficiency, which everyone will agree is essential as load shedding dominates our lives and businesses.

LED is a dc device; however, any LED requires a driver to operate on 230 V ac. The driver is an electronic unit that converts the 230 V ac to 12 V dc or 24 V dc or even 42 to 48 V dc. The driver consumes a small amount of energy.

So, now we can provide Power over

Ethernet (PoE) to the quality LED luminaires. That means that we can do away with the need for a driver and simply power the LEDs directly via data ethernet cables on DC, yes, the same cables that carry data around the office network, that power the CCTV cameras and other peripherals. The benefits are considerable. The installation can be completed by anyone or the IT department because it is simply plug and play. It is dc, it is safe and simple to install at a fraction of the cost compared to typical low current electrical installations. If an office layout changes, it is so easy to make the changes

without the need for calling in an electrician.

There is so much more to list, but space for this article is limited. If anyone would like to know more, enrol for our Advanced Diploma in Illumination Engineering course where you will learn all that there is to know about PoE and many other exciting technologies, contact me. I continue to study because we will never know everything. I am always available to answer any questions that you, the readers, may have.

Enquiries: www.bhaschooloflighting.co.za

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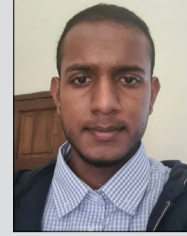

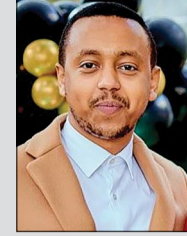

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BRIGHT SPARK

MISSING DAYS

In a large, completely empty, wooden barn is a dead man hanging from the middle of the central rafter. He is hanging three feet off the ground by a rope ten feet long. The closest wall is 20 feet away from the hanging man. It would not be possible to climb up the walls or along the rafters. Below him is a puddle of water. How did the man hang himself?

FEBRUARY SOLUTION

The horse's name was Friday.

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