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ECA(SA)'s operational team for 2016

The ECA(SA)'s senior staff members and the 2016 Operational Team: Tembe Mwemba (national finance manager); Pierre Foot (regional director, Western Cape); Shantonette Pillay (regional director, KwaZulu-Natal); Pieter Du Toit (regional director, Free State); Cecil Lancaster (regional director, Bosveld); Stephen Khola (labour relations and human relations director); Lucas Bowles (regional director, East South Cape); Louis Pretorius (regional director, Highveld); and Mark Mfikoe (national director).



SAIEE Smartgrid conference

THE South African Institute of Electrical Engineers (SAIEE) will host a Smart Grid Conference at the Eskom Academy of Learning in Midrand from 23 to 25 February to address the technology and business aspects of smart grids. The conference will provide a platform for industry to discuss cutting edge innovations in smart grid technology including addressing how the current electricity network can be converted into a smart grid. An impressive list of international and local experts will be speaking and participating in discussion at the conference. These include:

- Professor Massoud Amin currently director of the Technological Leadership Institute at the University of Minnesota and considered to be the 'father of smart grids'.
- Professor Qing-Guo Wang currently a full professor in the Department of Electrical and Computer Engineering at the University of Singapore and in 2016 will be a visiting professor at the School of Electrical Engineering at the University of Johannesburg.
- Kurt E. Yeager currently vice-chairman of the Galvin Electricity Initiative, a non-profit organisation focused on transforming the reliability and value of the USA's electricity services.
- Lee Stogner, currently president of the Vincula Group and a specialist in the Internet of Things.

Smart grids provide a real-time, dynamic and focused balance between demand and supply. Adding a communications layer to the electric power system creates smart grids. This allows the consumption of electricity to change from a one-way transaction (generator to consumer) to a bi-directional transaction where the consumer can communicate with the system and plan consumption based on price and/or availability. In addition, the utility can communicate with the consumer, and the consumer can respond to requests from the utility, for example, to limit load in the event of shortage to alleviate the need for load shedding.

It is strongly believed that the adoption of smart grid technology will provide immense benefit to South Africa and Sub Saharan Africa considering the severe shortage of generating capacity being experienced at present in this region.

For further details on the conference and to register online go to www.saiee.org.za

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A SAFEhouse Guide to LED Lighting



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Noise level dB(A) at 7m	64	65	65,5	66

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Rated frequency (Hz)	50Hz	50Hz
Rating output (V)	230V	230V
Rated output (kVA)	4.5kVA	6kVA
Max output	5.0kVA	7kVA
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Noise level dB(A) at 7m	70-72	70-72

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Personality of the month

A people person of the first order



STEVE Hoffman, general manager at Eurolux in Linbro Park

STEVE Hoffman, the general manager at Eurolux in Linbro Park, Johannesburg, started out his career as an electrician for a contracting firm before he moved into the lighting industry. Always smiling and quick to laugh, Steve is a people person of the first order. He has a genuinely pleasant disposition and a positive outlook on life that is contagious so it is not surprising that, over the past three decades, he has forged enduring working relationships with clients and colleagues alike.

Sparks: Where were you educated?
SH: I matriculated at Technical High School Potchefstroom and went on to do an electrical apprenticeship at Vaal Reefs Gold Mine in Orkney.
Sparks: How long have you been involved in the electrical industry?
SH: A long time! I've been in this industry since 1982 – that's 34 years.
Sparks: When and where did you start your career?
SH: I started out as an apprentice electrician in 1982. After I qualified, I worked as a contractor for two years. In 1986, I joined Lascon Lighting in Potchefstroom where I worked as a sales consultant until I was appointed as the manager of Lascon's Nelspruit branch in 1994.

In 2003 I started as a sales consultant with Eurolux and was appointed as general manager in 2014.
Sparks: What are the greatest changes you have seen over the years?
SH: Besides the obvious changes in IT and telecommunications, the changes in light sources over the past few years have rapidly moved from traditional incandescent lamps to compact fluorescent lamps to the constantly evolving LED technology, which is fast becoming the norm in lighting applications.
Sparks: What major projects have you worked on and what is your greatest accomplishment?
SH: I have been fortunate enough to have worked on numerous projects with our clients over the years but to have been part of a winning team at Eurolux and helping to build the brand, has been the most satisfying.
Sparks: Who has been your inspiration or have you had a mentor who has influenced your career?
SH: My mother and father.
Sparks: What, to your mind, is one of the biggest challenges facing the industry at this time?
SH: There are so many importers of lighting and electrical products in South Africa at present and many of these products do not comply with South African national regulations, specifically from a safety and minimum standards perspective. We come across new brands almost weekly. Whilst price is always an important factor, especially under the current economic conditions, we need to ensure that our customers fully understand the long term benefits of supporting the established brands.
Sparks: What do you enjoy most about your job?
SH: I enjoy the fact that I am constantly busy, always on the go.
Sparks: How do you motivate your staff?
SH: By always being positive, leading by example and avoiding negativity.
Sparks: Would you advise a person leaving school to enter the electrical industry? And why?
SH: Yes, I would, because there are so few good electricians out there, plus there will always be a demand for electrical products.
Sparks: What is your advice to electrical contractors and/or electrical engineers?
SH: Learn more about the correct lighting applications because good lighting will always add value – from an aesthetics and functionality perspective – to any building.

Sparks: What is your favourite quote?
SH: "Give every person more in use value than you take from them in cash value." – Wallace Wattles.
Sparks: Name three things on your 'bucket list' (things you want to do before you 'kick the bucket').
SH: The three things on my bucket list that spring to mind are: To finally complete my home renovations; to take my singing in the shower further; and to tour Scotland.

12th IESSA Congress and AGM – call for papers



IESSA will hold its annual congress and AGM during May 2016 at Cape St Francis Resort.

The IESSA council invites all parties who may be interested in presenting papers at this congress to submit a synopsis of no more than one page to Greg Marcia photometry1@gmail.com or Natasha Nel-Sakharova at nnelsakharova@nmisa.org by 28 February.

If your paper is selected for presentation, you will be requested to provide a manuscript of not more than 10 pages by 31 March 2016 for publication.

The congress will focus on new technologies, and current and future trends in the lighting industry. The time allocated for each paper is 40 minutes. This includes question and discussion time. Practical case studies, research results, management practices and report-backs to the industry are welcome.

For guidelines, contact Sue Swash sue@iessa.org.za

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Working knowledge by Terry McKenzie-Hoy

XLPE cable – buy local or be careful

WHEN I was young and handsome, all the cables that were rated at 6 600 V and 11 000 V (medium voltage) were Paper Insulated Lead Covered (PILC) cables. These cables were used for distributing three phase 50 Hz power.

The cable insulation was achieved as follows: the copper core was wrapped in oiled paper; over the oiled paper there was a layer of copper foil; wrapped around the three cores of foil-wrapped paper was some more oiled paper and copper tape; and extruded over all of these layers was a lead sheath. Over the lead sheath there

was a PVC layer and over the PVC layer came a layer of steel wire armouring and then a final PVC layer (there are variations on this process) – and to terminate or joint this PILC cable required a craftsman.

In the early 1980s, the world was crying out for cable that was less complex than PILC cable and that was easier to terminate or joint. A cable that seemed to suit these requirements was XLPE cable (also known as 'Pex') where the cable insulation was not oil paper but a substance known as cross-linked polyethylene. These cables

were cheaper and promised easy installation in comparison with the PILC cables.

By 1985, many XLPE cables were installed. However, it was soon discovered that failures with these XLPE cables were occurring. These failures were attributed to 'dendritic water trees', which were small water 'droplets' that became encased in the XLPE during the manufacturing process. When voltage was applied to the cable, the 'trees' grew until the water could bridge over from the conductor to earth – and the cable would fail.

There was a further factor: at that time it was common to 'pressure test' a cable before energising it for the first time. This required the application of some kilovolts of dc voltage between the cable core and earth. For PILC cables this was a good test; for XLPE it only accelerated the growth of water trees. Thus, applying a test to ascertain whether or not the cable would fail resulted in the cable failing.

XLPE cable rapidly developed a poor reputation. Some municipalities decided never to use it for medium voltage reticulation – and to this day, in some municipalities, this is the case.

A further problem that arose with XLPE cables was one of mis-extrusion of the cable core: instead of the cable conductor ending up in the centre of an insulation sheath, it would end up with only a thin layer of insulation. The cable would then fail in service.

One way of detecting water trees or mis-extrusion is to subject the cable to a 'partial discharge' test. This applies a very low frequency voltage to the cable and measures leakage in milliamps. Since the voltage is low frequency and not dc, it does not cause water trees to grow. Unfortunately, partial discharge testers are not common and thus one really has to rely on the manufacturer to get it right. So, the only test that one should really do on an XLPE cable is to apply a 1 000 V tester to make sure that it is more or less clear and then stand back and switch on. In my day this was a risky business because sometimes you would have the benefit of the cable and switchgear failing at the same time, which usually resulted in a huge fright at best and severe burns or death at worst.

Fortunately, these days switchgear is so well made that all you can hear is a 'clunk' when the switchgear trips. To a large extent, XLPE cable is now well manufactured in this country, is easy to terminate and joint, and it fulfils its original role.

But, unfortunately, on some projects we now have packages that have imported XLPE cable. It's like the 1980s all over again. And, of course, the same mistakes are being made. But I have no advice to offer. The imported XLPE that is failing should not just be replaced with more imported XLPE – rather use South African XPLE or just don't use the imported stuff to begin with.

History is repeating itself; if you have some XLPE and it is not made in South Africa...be cautious.



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MCCs for coal project



JB Switchgear Solutions was recently awarded an order for the supply of an electrical solution destined for Glencore's Tweefontein Optimisation Project (TOP), through Efficient Power. The project is located 25 km south of Witbank, Mpumalanga and is an optimisation of existing coal operations and reserves within the Tweefontein complex, which increases capacity and extends the life of the project. The project comprises the establishment of a sequence of large open cut pits, the construction of a new coal handling and preparation plant (CHPP), a new rapid rail load out terminal and all associated infrastructure. Costing R8.2-billion, the project is intended to process 7.9-million tonnes of saleable thermal coal per annum, for both the local and export market, over about 24 years. JB Switchgear's scope included the design, manufacture and supply of various motor control centres (MCCs), RMUs, BTUs, Nerm panels, PLCs, dry-type transformers, VSDs, soft starters and other peripheral equipment. The equipment supplied by JB Switchgear will be integrated into specially fabricated E-houses manufactured by Efficient Power.

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FACTS about LED Lamps

A relatively new technology, LED lighting is fertile ground for unscrupulous and opportunistic suppliers to capitalise on the absence of a compulsory local standard for LED lamps and to make performance claims that will not be met, mostly around lifespan and power-consumption.

Some facts:

- There are no **compulsory** local standards for LED lamps
- There are two standards that may be applied voluntarily by suppliers and specifiers:
SANS 62560: South African National Standards
IEC 62560: International Electrotechnical Commission
There appear to be very few products that are certified against these standards.
- The “CE” mark appears on many products. This is a manufacturer’s claim to a certain quality standard. **It is not an indication of independent, 3rd party testing.**
- The nature of LED performance claims being made cannot usually be validated by buyers, whether they be resellers, electrical contractors or users - until it’s too late.

Some consequences:

- The absence of compulsory standards can result in incompatible dimensions between fittings and lamps from different suppliers - a performance and safety risk to users.
- The technology of an LED lamp and its heat-generation encourage shortcuts that compromise insulation in favour of heat dissipation - a safety risk to users.
- Plastic parts are a manufacturer’s cost-saving opportunity. Inferior material will affect heat- and flame-resistance.
- The low volume of certified testing of LED lamps in South Africa does not allow much credible reference to be made to local testing and regulatory authority that will comfort buyers and specifiers.

SAFEhouse members have signed a code of conduct: Your assurance of commitment to offer only safe electrical products



The SAFEhouse code of conduct includes:

- To offer only products that are safe
- To advise customers if any of their sold products fail this undertaking
- To recall unsafe products
- To replace unsafe products or render them safe

The SAFEhouse Association is a non-profit, industry organisation committed to the fight against sub-standard, unsafe electrical products.

For more information contact:

Pierre Nothard Cell: 083 414 4980
Tel: 011 396 8140 | Email: pierren@safehousesa.co.za

www.safehousesa.co.za

SAFEhouse guidelines: What can you do?

- Purchase brands you can trust and satisfy yourself about the manufacturing source
- Lamps should be marked with at least the following information. If it is absent, be suspicious:
 - Mark of origin or manufacturer’s name
 - Rated Voltage (V)
 - Rated Wattage (W)
 - Frequency (Hz)
- Be cautious about prices that are materially below the prices of other, similar products. Substantially lower prices are often indicators of poor quality.
- Be cautious about accepting performance claims, whether verbal or on packaging.
- Look for obvious signs of inferior quality in workmanship and materials.
- If in doubt, contact SAFEhouse for possible assistance.



SA leaders in energy management eligible to enter for new global award

BARRY Bredenkamp, senior manager: Energy Efficiency at the South African National Energy Development Institute (SANEDI) has called for South African organisations within the private sector that have earned certification to the ISO 50001 standard to support a new awards programme.

He says SANEDI is proud to support a prestigious new awards programme to recognise companies or organisations that use an ISO 50001-certified energy management system (EnMS) to save energy and reduce costs. "Energy Management Leadership Awards should generate broader global use of these proven systems and help to attain national and global climate goals."

The programme is sponsored by the Energy Management Working Group (EMWG) of the Clean Energy Ministerial (CEM), which is an active group of forward-thinking energy ministers from around the world. South Africa is a member of the EMWG.

"SANEDI is proud of the many organisations within the private sector that have earned certification to the ISO 50001 standard, and we encourage them to enter this competition," says Bredenkamp. "By integrating energy usage into their regular business systems, these organisations are demonstrating excellent global stewardship."

Any organisation that holds a current, third-party-verified ISO 50001 certificate is eligible to enter the competition. Each organisation will need to submit a copy of their ISO 50001 certificate and a structured case study of their EnMS experience, which will be scored by an independent panel of experts.

Three organisations will receive the global CEM Award of Excellence for Energy Management. These winning organisations will be recognised at an awards ceremony during the seventh Clean Energy

Ministerial (CEM7) meeting in San Francisco, California, on June 2, 2016. In addition, each organisation that submits a qualifying entry will receive an Energy Management Insight Award for helping to build global insight on the benefits of energy management systems. All accepted entries will also be published online to highlight the range of benefits achieved through the use of ISO 50001-certified energy management systems.

Bredenkamp says that interested parties are encouraged to visit the CEM Energy Management Leadership Awards programme website to learn more about the award rules, entry format, scoring, and recognition. Entries are due 1 March 2016.

"Organisations adopting the ISO 50001 standard are realising initial energy improvements of 10% or more and achieving net cost savings, mostly through low-cost or no-cost changes to operations. Worldwide implementation of ISO 50001 could potentially save 80 exajoules by 2025, reduce costs by \$800 billion, and avoid 4,500 Mt of CO₂ emissions—equivalent to the annual output of 40 (500 MW) coal-fired power plants," Bredenkamp explains.

This awards programme is the latest in a series of high-impact activities launched by the CEM Energy Management Working Group (EMWG). Through the EMWG, government officials worldwide share best practices and leverage their collective expertise to accelerate the use of EnMS in industry and commercial buildings. Governments participating in the EMWG include Australia, Canada, Chile, China (observer), the European Commission, India, Indonesia, Japan, Korea, Mexico, South Africa, Sweden, and the United States.

Enquiries: barryb@sanedi.org.za



Barry Bredenkamp

Soccer mad staff celebrates year end with soccer cup final

Allbro, a Boksburg-based manufacturer of electric enclosures, transformer accessories, locks, hinges and insulators, celebrated a successful year by holding a soccer day for its staff when 16 teams took part in a keenly fought tournament. Quintin Lamprecht, managing director of Allbro, said that despite difficult economic times, Allbro has continued to grow over the past two years and the staff complement has grown from 300 to over 600 employees. He said the soccer day was "a thank you to all the staff for their supreme effort during 2015". Allbro Wanderers, the team that walked away with the coveted Allbro Trophy, snatched victory from runners up, VIP Stars, in the dying minute of the final game to enthusiastic support from the stands.



Extended product guarantees announced

LONG gone are the days of being considered a run-of-the-mill OEM. This is the strong message being given to all industries by Zest WEG Group Africa. With WEG Brazil as its parent company, this group has its roots firmly in Africa and its commitment to the continent is without question, especially following the large investments made in 2015 in local manufacturing facilities that will be able to service countries across Africa.

Such is the confidence and level of commitment of Zest WEG Group Africa to its customer base that Louis Meiring, group CEO, announced guarantees have been extended across all WEG products.

"Zest WEG Group Africa is known for leading industry in its thinking and the decision to extend the product guarantees is, we believe, another very important first," Meiring says. "While the extended guarantee will cover customers for unexpected electrical and/or mechanical failures giving them absolute peace of mind, it is not going to cost them more."

Meiring says that this was a prime consideration for Zest WEG Group Africa as the organisation is well aware of the additional financial pressures that many of its customers are operating under in the current

financial climate. "By extending our product guarantees we are increasing the peace of mind that customers have with WEG products and opening the door for potential customers to examine what we know is an unbelievable value proposition."

It is quite significant that Zest WEG Group Africa was the first equipment supplier to move from IE2 motors to IEC3 compliant motors, and a key aspect was that that change was introduced at no additional cost to its customers, thereby reducing the total cost of ownership.

"Extending product guarantees is aligned with our strategy of forming long term partnerships with customers. Continuous product improvement is ongoing at WEG and indeed at Zest WEG Group Africa's local manufacturing facilities and the benefit of this must, of necessity, be passed on to our customers allowing them to optimise their operations," Meiring says.

"We have reviewed the performance of all WEG products over an extended period and are confident that all will meet the guarantee with ease," Gary Daines, managing director of Zest WEG Electric, says.

Extended guarantees will vary from product to product, but all customers are still assured of the same high level

of in-field support for which Zest WEG Group Africa is known.

WEG W22 low voltage motors guarantee extended to five years.

WEG variable speed drives and soft starters guarantee extended to two years.

Where WEG motor and drive combinations are used, the WEG drives guarantee is extended to three years.

WEG switchgear guarantee extended to three years.

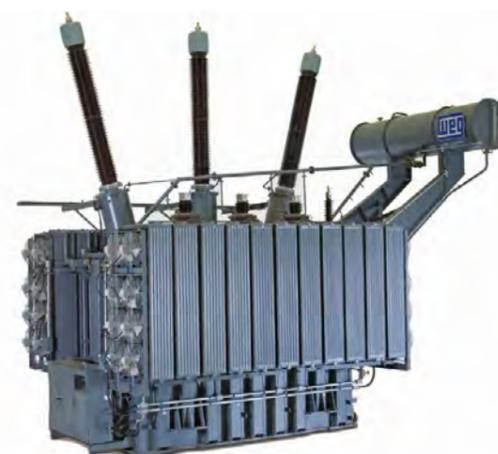
WEG transformers guarantee extended to three years. If WEG transformers are acquired with a WEG service plan the guarantee is extended to five years.

Meiring says that Zest WEG Group Africa plans to continue its strategy of bringing innovative initiatives to market that will add value to customers' operations. "Despite being part of a major global corporation, we have not lost the flexibility and responsiveness for which we have always been known," Meiring concludes.

Enquiries: +27 11 723 6000



The WEG W22 motor range bought in combination with WEG drives and soft starters are guaranteed in combination for three years.



Full range of WEG transformers with guarantees extended to three years, with option to extend the guarantee with the WTA Service plan to five years.



WEG low voltage switchgear guarantee has been extended to three years.



Getting to grips with SANS 10142-1 by Hannes Beard

Beginning at the beginning of the Electrical Installation Regulations

I PRESUME everyone has survived the first month of the year and things are all on track again.

As mentioned in my last column, we have finally finished with the Occupational Health and Safety Act (Act 85 of 1993) itself and we will now begin with the Regulations. And, as promised, we'll start with the Electrical Installation Regulations 2009. The latest revision of the Electrical Installation Regulations were published in 2009 – as communicated to us in Government Gazette No. 31975 dated 6 March 2009, with the publication of Government Notice R242.

To start, I'll refresh your memory with an illustration of how our health and safety legislation is structured.



We commence at the beginning of the Schedule with Regulation 1 – The Definitions – which reads as follows:

Definitions

1. In these regulations, 'the Act' means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and any word

or expression to which a meaning has been assigned in the Act has such meaning and, unless the context otherwise indicates -

'**accreditation authority**' means the South African National Accreditation System (SANAS) established by section 3 of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act No. 19 of 2006) ...

You have to read the above – from ... 'Definitions' up to and including '2006' ... – as one contiguous part. The reason for this is that the full intent of the definitions that follow will then make more sense. You see, every legal document or contract document is written by someone who uses words that may mean something else in a different context. It is therefore imperative that the proper meaning of particular words are explained right at the beginning of a legal or contract document so that, in the event of a difference of opinion, or interpretation of that document, it can be explained or clarified in terms of what a given word actually means in the context of the particular document. So, when you read any of the following words, they will have a specific meaning in terms of the Electrical Installation Regulations of the Occupational Health and Safety Act (Act 85 of 1993), even though it might

mean something completely different to you, now or under different circumstances. If you really do not want to lose proper context, it is advisable to read the first paragraph together with the word or words of the 'definition', so to speak. Some of these definitions are also regulations in their own right, like the next one, 'Certificate of Compliance', namely Regulation No 7, which we will get to a little later on.

So, let us continue ...

'**Certificate of Compliance**' means (a) A certificate with a unique number obtainable from the chief inspector, or a person appointed by the chief inspector, in the form of Annexure 1 and issued by a registered person in respect of an electrical installation or part of an electrical installation; or (b) A certificate of compliance issued under the Electrical Installation Regulations, 1992.

Yes, this is the Certificate of Compliance (CoC) they are talking about. Firstly, it has to have a unique number. I am not aware of any unique numbers issued by the chief inspector though. Secondly, the Certificate of Compliance must contain all the information as per the example in the Electrical Installation Regulations 2009 and marked as Annexure 1. If not, the CoC is not valid. Also understand that there are other CoCs besides the CoC for electrical

installations – you will find that there are Certificates of Compliance that are issued for lifting machinery such as goods lifts.

The CoC referred to in the Electrical Installation Regulations 2009 is a unique document, specifically for electrical installations and as I said, should be identical to Annexure 1.

The next definition reads ...

'**Electrical contractor**' means a person who undertakes to perform electrical installation work on behalf of any other person, but excludes an employee of such first-mentioned person;

I work for a company that does electrical contracting work so can I call myself an 'electrical contractor'? No you cannot. You can only call yourself an 'electrical contractor' if you are registered with the Department of Labour as a contractor and that you comply with a couple of other do's and don'ts, but we will discuss that when we get to Regulation 6.

Next we get a very interesting definition. This definition does not transpose into an autonomous Regulation, but appears in many of them.

'**Electrical installation**' means any machinery, in or on any premises, used for the transmission of electricity from a point of control to a point of consumption anywhere on the premises, including any article forming part of such an elec-

trical installation irrespective of whether or not it is part of the electrical circuit, but excluding

- (a) Any machinery of the supplier related to the supply of electricity on the premises;
- (b) Any machinery which transmits electrical energy in communication, control circuits, television or radio circuits;
- (c) An electrical installation on a vehicle, vessel, train or aircraft; and
- (d) Control circuits of 50 V or less between different parts of machinery or system components, forming a unit that are separately installed and derived from an independent source or an isolating transformer ...

Now this definition is the source of many an argument, difference of opinion, mini war or whatever you would like to call it. You see, a CoC is issued for an 'electrical installation'. If you do not believe me, read the definition 'Certificate of Compliance', which clearly states that it is issued for an 'electrical installation'.

Now why is it that so many well-respected people insist that CoCs cover geysers, lights and other stuff? I get the feeling it is people who are either unsure of themselves or they are out to make more money than is necessary from the unsuspecting public.

Well, ladies and gentlemen, I'd like anyone to tell me where it states that the electrical installation in my newly completed outbuilding must have a light fitting (luminaire) installed otherwise I cannot issue a CoC.

I'll leave you with that thought until we meet again next time.

Expert presents successful two day HVI workshop



DEHN AFRICA (PTY) LTD, the local subsidiary of Germany-based lightning and surge protection, earthing components and safety equipment manufacturer, DEHN + SÖHNE, recently ran a two day workshop on high-voltage-resistant insulated (HVI®) conductors. The workshop was run by Thomas Dietl, DEHN + SÖHNE's product manager, lightning protection and grounding, who is based in Neumarkt, Germany.

The 27 delegates were hosted by DEHN AFRICA to learn more about the company's HVI system, which has been designed to

maintain separation distance.

The high-voltage-resistant, insulated HVI conductors (HVI Light, Long and Power) prevent uncontrolled flashover to metal or electric components. DEHN's HVI conductors also allow for installations without an equipotential bonding connection to the building or structure at the end of an adjustment range.

To find out more about future workshops at DEHN Africa, go to <http://www.dehn-africa.com/en-za/dehnacadey>

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- Industrial-strength labelling versatility
 - print 6mm, 12mm and 19mm wide labels in a variety of materials and colours **PLUS** print directly on heat-shrink tubes.

WHAT YOU NEED TO KNOW. Your electronic labeller machine...

- **does not** have to be working.
- can be of **any brand**.
- **does not** have to include the charger or battery or tapes with it.
- cannot be a toy (an item that cannot or has never been able to produce a label).

voltex
your electrical connection

By Mark Mfikoe, national director, Electrical Contractors' Association of South Africa

The ECA(SA) launches an electrical app for members



Mark Mfikoe, national director, Electrical Contractors' Association

THE mission of the ECA(SA) is: 'To promote and create an environment conducive to the profitable and efficient operation of electrical contracting businesses to the benefit of both members and their clients.'

In line with this, the ECA(SA) has partnered with Dynamic Energy Analysis & Management (DEAM) to launch smart technology-enabled marketing in the form of an electrical app for smartphones that will promote our members' skills and services.

The electrical app will mean that anyone who has downloaded the app will have instant access to a database of trusted, credible, legitimate, capable and legally registered contractors who can provide reliable electrical solutions.

In the transport industry they have Uber, an app-based international transportation network company. If you need transport to take you from point A to point B and you do not have access to your own private transport, or you are incapable of safely driving yourself home, all you need is the Uber app to access the nearest accredited Uber operator and they will take you wherever you want to go.

This is the kind of technology that DEAM has used to create the electrical app that will be of benefit to electrical contractors and householders alike.

Central to the establishment of this service offering are qualified, registered, legitimate and trusted electrical contractors – and the ECA(SA) membership fulfils this critical component – so an agreement was reached with DEAM that this service will be provided exclusively for ECA(SA) members.

All our members use accredited personnel, are committed to service excellence, promotion of good practice and are backed by the ECA(SA)'s Workmanship Guarantee Scheme, which was recently improved to cover up to R20 000 of workmanship claims against members.

DEAM will ensure that the app is installed by mainly the domestic market, which is served by more than 60% of our members, while the rest of our members serve the commercial and industrial markets.

The app, which will be installed largely on consumers' smartphones, represents enormous potential for our members and, even more importantly, peace of mind for the end-user, who will no longer have to act out of desperation or run any risks when they have an electrical problem at home.

The app means that, for example, if a

homeowner's gate motor goes on the blink, they won't have to dabble with the motor and open themselves up to the risk of injury. All they have to do is open the app and find the nearest ECA(SA) member.

It is envisaged that the app will be installed in participating ECA(SA) members' maintenance vehicles. And because these vehicles are generally equipped with all the necessary tools and materials, the typical ECA member is always prepared and can quickly respond to calls from desperate homeowners.

This app does not mean that the ECA(SA) will dictate the prices charged by its members – that remains a matter between the client and the member. A commercial relationship is established between the customer and the member and when they have come to an agreement about price, services are delivered and the client pays the member.

There are over 23 million smartphone users in South Africa today and the DEAM technology promotes access to this market. You cannot afford to be left outside of this oppor-

tunity otherwise you will be left behind; and your existing market could shrink as end-users warm up to the idea of having a trusted electrician an app away.

At the ECA, we are excited about this innovation, knowing that it will make our members more accessible to consumers and, therefore, be able to serve our South African community.

The pilot project was launched in Gauteng in the last week of January. For more information, call Florence Mabena (executive secretary: marketing) on +27 12 342 3242.

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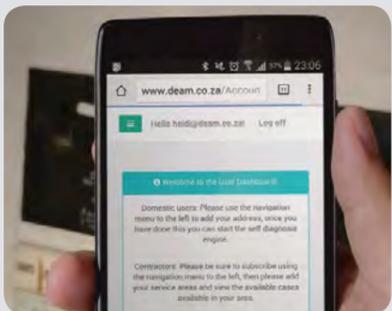
P-touch LABELS
TESTED
TO THE EXTREME ✓

	<p>HSe Heat Shrink Tube Tape HSe tube is a printable heat shrink tubing designed for the PT-E300 and PT-E550 handheld labelling machines to mark cables, fiber and wires. Will not work in other models.</p>
	<p>TZe Laminated Tape Unlike ordinary labels, our unique laminated tape technology ensures that your text is sandwiched between a layer of super-clear polyethylene and the durable base layer.</p>
	<p>Flexible Designed for wrapping around small diameter curved surfaces such as power cables and conduit/pipes. They are also perfect where the label needs to be stuck onto itself (flagging).</p>
	<p>Strong Adhesive Our strong adhesive tape demonstrates 50% more adhesive strength on average compared to our standard tape.</p>
	<p>Acid Free Safe for photo-labelling, scrapbooking, and other photo-sensitive materials.</p>
	<p>Fabric Tape Letters printed on cloth tape can be adhered by ironing onto other cloth.</p>
	<p>Security Tape Security Tape has a tamper evident substrate so when the label is disturbed it leaves a checkerboard pattern. Use it for labels that must not be removed such as company assets.</p>

PT-E300VP

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Mark Palmer – Electrical Approved Inspection Authority Southern Africa (EAIASA)

The 'plugged in' premise and compliance

It is with a certain amount of trepidation that I once again broach the subject of Certificates of Compliance (CoCs) and the thorny issue regarding the interpretation of that which is 'plugged in'.

It is a subject that should, at the very least, be understood by Registered Persons who have some knowledge of the SANS 10142-1 standard.

Over the past few weeks, I have come across a number of CoCs that have contained statements under Section 3 of the Test Report, which assert that "anything that is plugged in to the installation does not form part of the installation".

This statement is bewildering especially when one considers the methodology behind the SANS 10142-1 standard and, indeed, the safety requirements that are prescribed by legislation.

Whilst prudent Registered Persons would certainly take necessary care when inspecting an installation, the generality of the statement, "... anything that is plugged in to the installation does not form part of the installation", is extremely dangerous.

When examining the extent of an electrical installation, which is clearly defined as being "from a point of control to points of consumption", it is necessary to take into account the entire definition:

Electrical installation

Machinery, in or on any premises, that is used for the transmission of electrical energy from a point of control (see 3.56) to a point of consumption (see 3.55) anywhere on the premises.

At this point I would like to pause and look at the definition of a 'point of consumption':

Point of consumption

Point of outlet ...

Well, that's that then; a point of consumption is a point of outlet.

Let's now look at the definition of a point of outlet':

Point of outlet

Termination of an electrical installation, which has been provided for connecting any electrical machinery without the use of a tool ...

And this is a socket outlet! Right, case closed ... or is it? Not quite. Those who mistakenly believe that premise (that "anything that is plugged in to the installation does not form part of the installation") indeed regard anything that may now be plugged in to this point of outlet (a socket outlet) does not form part of the electrical installation and can therefore be ignored.

This is where one hopes that competence would prevail over generalisations or hearsay.

However, if this was the intent behind the standard, essentially one could connect an entire installation to a plug top and connect it to a point of outlet at the point of control and trash the standard altogether. There would be no need for electricians or Registered Persons or even a standard that would ensure the safety of people and property.

Well, when one looks at the principles behind the standard, it is clear that the aim of this part of SANS 10142 is to ensure that people, animals and property are protected from hazards that can arise from the operation of an electrical installation under both normal and fault conditions.

Looking at this fundamental principle it becomes important to go back to look further into the definition of an electrical installation (as detailed above), but not to stop at the 'point of consumption'. The definition goes further:

... point of consumption anywhere on the premises including any article that forms part of such an installation, irrespective of whether or not it is part of

the electrical circuit ...

It is this part of the definition that requires further understanding as it clearly identifies "any article that forms part of such an installation". It is clear that any moveable appliance – that is an appliance that does not require the use of tools to move it to another location – would not be an article that would be regarded as forming part of an installation. Where we are dealing with fixed appliances, however, these appliances are regarded as such articles, and it becomes necessary to look further into the standard.

The 'plugged in' article that forms part of the installation invariably utilises the socket outlet as a switch disconnecter and this brings that aspect of the standard into play. In looking at switch disconnectors therefore, it is clear that a socket outlet may be used as a switch disconnecter, but conditionally ...

6.16.1.3

The power supply to every fixed appliance, except luminaires, shall be supplied through a) A disconnecting device that disconnects both live conductors in a single-phase supply and all phase

conductors in a multiphase supply, or b) a socket-outlet that is directly accessible at all times that any person is exposed to such appliance while the supply is on.

Furthermore;

6.16.1.5

The disconnecting device shall be positioned a) Within 1.5 m from the appliance ... and

6.16.1.6

A socket-outlet shall supply only one fixed appliance. The use of flexible cords of length exceeding 3 m is not recommended. The reason for this recommendation is an endeavour to ensure operation of the overcurrent protective device. (See 6.14.1.4 for luminaires.)

It therefore becomes evident that although the appliance itself does not form part of the electrical installation, the relationship between the appliance and its switch disconnecter as well as the wiring to the appliance (in most cases flexible cord) needs consideration and competence to ensure compliance.

Exclusive distributor for German-designed energy efficient lighting



Magnet hosted a function at the company's eco-friendly head office in Durban recently to mark the launch of the SLV range and to introduce SLV's 2016 catalogue to leading architects, developers and interior designers. Seen at the launch are: Lyndi Roberts (senior marketing manager, Magnet Group); Brian Howarth (managing director, Magnet Group); Ava Fellner-Feldegg (marketing, SLV Germany); Robert Fellner-Feldegg (CEO and managing director, SLV Germany); Andreas Wrba (regional sales manager, SLV Germany); and Andreas Hartmann (managing director, Netzloesungen Germany). SLV luminaires are designed in Germany to meet stringent international quality and safety specifications – and Magnet has been appointed exclusive distributors in South Africa for SLV's range of energy efficient lighting products.

Enquiries: +27 31 274 1998

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Steel wire armoured cables no problem for precision cable cutter



GARRY Lumpe Imports has introduced a new quality product from Knipex – a German manufacturer of professional tools that has been an independent, owner-managed family company for four generations. "As soon as you pick up the Knipex ratchet cable cutter, you know you are handling a quality, German precision-engineered tool," says Garry Lumpe.

The ratchet cable cutter cuts through steel wire armoured cables with diameters of up to 45 mm to 380 mm² (for example, 4 x 95 mm²) using a one- or two-handed operation. The tool is sturdy yet light – weighing only 800 g – and its compact design – 315 mm in length – makes it easy to use and ideal for working in confined spaces.

"The precision-ground blades and induction hardened cutting edges cut smoothly and neatly without crushing the cable," says Lumpe. "Made with high-grade special tool steel that has been forged and oil-hardened, the cutter's innovative design offers a high leverage, three-stage ratchet-drive," explains Lumpe.

Enquiries: +27 11 396 4065



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Eaton Electric
HellermannTyton
Legrand South Africa
NewElec
Power Panels and Electrical
Power Process Systems
Radiant Group
Sabelco Electrical Industries
SRE Developments
Zest WEG Electric

Distributors

ACDC Dynamics
ACTOM Electrical Products
ARB Electrical Wholesalers
Atlas Group
Bellco
Citilec
Comtest
Eaton Electric
Elen Electrical Enclosures
HellermannTyton
Inher SA
Magnet Electrical Suppliers
Major Tech
MCE Global Suppliers
PMCG
R&C Instrumentation
SRE Developments
Siba Fuses
Stone Stamcor
Voltex
Voltex LSis
Voltex MVLV
Waco

Circuit breakers / earth leakage breakers

ABB
 Full range of circuit breakers, earth leakage breakers
ACDC Dynamics
 Full range of economy breakers and high quality Gewiss breakers
ACTOM Electrical Products
 Full range of circuit breakers/earth leakage breakers
ARB Electrical Wholesalers
 Full range of circuit breakers/earth leakage breakers
Atlas Group
 Various brands available
Bellco
 Various brands available
CBI-electric : low voltage
 Full range of residential, commercial, industrial, miniature circuit breakers; circuit breakers for equipment; moulded case circuit breakers; air circuit breakers and earth leakage protection devices
Citilec
 Full range of circuit breakers/earth leakage devices
Eaton Electric
 Full range of circuit breakers/earth leakage breakers
Legrand SA
 Complete range of circuit breakers up to 6 300 A
Magnet Electrical Suppliers
 Schneider and Eaton circuit breaks and earth leakage breakers
Major Tech
 Populated ready boards, 3 kA and 6 kA mini circuit breakers, isolators and earth leakage switches
MCE Global Suppliers
 Onesto DIN rail circuit breakers and earth leakages; Schenker Mini rail circuit breakers and earth leakages; Schenker 13 mm Mini rail circuit breakers and earth leakage devices; Onesto DC circuit breakers
PMCG
 Full range of circuit breakers and earth leakage breakers
Power Panels and Electrical
 Full range of circuit breakers and earth leakage breakers; ABB; Schneider; Siemens; Legrand; Chint
Power Process Systems
 Full range of circuit breakers/earth leakage breakers
SRE Developments
 Distributor of circuit breakers and earth leakage breakers
Voltex
 Various brands available
Voltex LSis
 Various brands available
Waco
 Various brands available
Zest WEG Electric
 MDW miniature circuit breaker range 1 – 4 pole, 6 – 125 A, 6 and 10 kA; DWM moulded case circuit breaker range 1 – 4 pole, 16 – 1 600 A, 16 – 80 kA; ABW air circuit breaker range 1 to 4 pole, 800 – 6 300 A, 65 – 120 kA; RDW range of earth leakage devices 25 – 100 A, 30 and 300 mA

Contacts

ABB
 Dudley Bath
ACDC Dynamics
 Elmari
ACTOM Electrical Products
 Russell Ramsden
ARB Electrical Wholesalers
 Arvinash Ramdass
Atlas Group
 Annie Storrar/Imran Gaffoor
Bellco
 Sales
Brady SA/Grafo
 Morne Louw
CBI-electric : low voltage
 Aletta Olivier
Citilec
 Jeff Forman
Comtest
 Sales
Crabtree Electrical Accessories
 Sales
Eaton Electric
 Sales
Elen Electrical Enclosures
 Andy Kapral
HellermannTyton
 Sales
Inher SA
 Johan van Staden
Legrand SA
 Johan Bosch
Magnet Electrical Suppliers
 Kevin Govender
Major Tech
 Werner Grobbelaar
MCE Global Suppliers
 Sales
NewElec
 Luc Dutrieux
Phambili
 Sales
PMCG
 Hannes Schwartz/Colin Laubscher
Power Panels and Electrical
 Andy van der Merwe
Power Process Systems
 Joyce Toth
R&C Instrumentation
 Steve Edwards
Radiant Group
 Sales
Sabelco Electrical Industries
 Marc Moreau
SRE Developments
 Cheryl Hird
Siba Fuses
 H.I. Hassen
Stone Stamcor
 Sales
Voltex
 Hugh Ward
Voltex LSis
 Sales
Voltex MVLV
 Sales
Waco
 Jaco Coetsee
Zest WEG Electric
 Stephen Cook

Hazardous areas

ARB Electrical Wholesalers
 Full range of products for hazardous areas
Citilec
 Full range of products for hazardous areas
Comtest
 Digital multimeters; process calibrators; pressure calibrators; infrared thermometers; pressure models
Eaton Electric
 Full range of products for hazardous areas
Elen Electrical Enclosures
 Assembled, tested and certified to Ex'e (increased safety), Ex'1 (intrinsic safety)
Magnet Electrical Suppliers
 ATX products for hazardous areas
Major Tech
 Major Tech stocks a range of tripod-mounted fully enclosed floodlights available in halogen, energy saving and LED models
Power Process Systems
 Full range of products for hazardous areas
R&C Instrumentation
 Infrared thermometers
Voltex
 Full range of products for hazardous areas

Contactors

ABB
 Full range of contactors
ACDC Dynamics
 Wide range of contactors from TC, C&S and Gewiss
ACTOM Electrical Products
 Full range of contactors
ARB Electrical Wholesalers
 Full range of contactors
Atlas Group
 Reputable brands available on request; in-house brand LSis
Bellco
 Reputable brands available on request; in-house brand LSis
CBI-electric : low voltage
 Full range of magnetic contactors and thermal overload relays
Eaton Electric
 Full range of contactors
Legrand SA
 Contactors up to 310 A
Magnet Electrical Suppliers
 Schneider and Eaton contactors
MCE Global Suppliers
 MCE ac magnetic contactors in three- and four-pole; MCE contactor accessories; S&C ac magnetic contactors in three- and four-pole; S&C contactor accessories
PMCG
 Full range of contactors
Power Panels and Electrical
 Full range of contactors: Schneider; ABB
Power Process Systems
 Full range of contactors
SRE Developments
 Distributor of contactors
Voltex
 Reputable brands available on request; in-house brand LSis
Voltex LSis
 Reputable brands available on request; in-house brand LSis
Waco
 Reputable brands available on request; in-house brand LSis
Zest WEG Electric
 CWB 7 – 22 A AC3 compact range and accessories; CWB, CWM, 9 – 800 A AC3 contactor range and accessories

Fuses

ACDC Dynamics
 Full range of fuses and fuse holders
ACTOM Electrical Products
 Full range of fuses
ARB Electrical Wholesalers
 Full range of fuses
Atlas Group
 Wide range of fuses available on request
Bellco
 Wide range of fuses available on request
Eaton Electric
 Full range of fuses
Legrand SA
 HRC, domestic and industrial fuses
Magnet Electrical Suppliers
 Full range of fuses
MCE Global Suppliers
 MCE fuses and fuse holders; Onesto fuses and fuse holders; Onesto dc fuses and fuse holders
PMCG
 Full range of fuses
Power Process Systems
 Full range of fuses
Radiant Group
 Range of fuses
SRE Developments
 Distributor of fuses
Siba Fuses
 Comprehensive range of Siba fuses and accessories suitable for all application
Voltex
 Wide range of fuses available on request
Waco
 Wide range of fuses available on request
Zest WEG Electric
 20 – 1 000 A, size 00, 1, 2, 3 high speed fuses

Labelling

ARB Electrical Wholesalers
 Full range of labelling products
Atlas Group
 Dymo and Brother labelling machines and accessories
Bellco
 Dymo and Brother labelling machines and accessories
Brady SA/Grafo
 Specialised labels and label printers for electrical installations
HellermannTyton
 Full range of labelling products
Legrand SA
 Cable markers CAB3 and Memocab
Magnet Electrical Suppliers
 Brady labelling products
MCE Global Suppliers
 DB label book (self-adhesive)
Phambili
 Dymo and Brother labelling machines and accessories
PMCG
 Full range of labeling products
Power Process Systems
 Full range of labeling products
Stone Stamcor
 Brady identification systems
Voltex
 Dymo and Brother labelling machines and accessories

Meters

ABB
 Full range of meters
ACDC Dynamics
 Wide range of energy meters, digital multimeters, network analysers and panel meters – digital and analogue
ARB Electrical Wholesalers
 Full range of meters
Atlas Group
 Reputable brands available on request – analogue and digital
Bellco
 Reputable brands available on request – analogue and digital
CBI-electric : low voltage
 Rail mount meters
Comtest
 Digital meters; clamp meters; laser distance meters
Eaton Electric
 Full range of meters
HellermannTyton
 Full range of meters
Legrand SA
 Lexic DIN rail mount
Magnet Electrical Suppliers
 Schneider and Power Star meters
MCE Global Suppliers
 MCE ammeters and voltmeters
PMCG
 Full range of meters
Power Process Systems
 Full range of meters
Voltex
 Reputable brands available on request – analogue and digital
Waco
 Reputable brands available on request – analogue and digital
Zest WEG Electric
 Electronic PF01 range of power factor meters; MMW range of power meters

Distribution board enclosures

ABB
 Full range of DB enclosures
ACTOM Electrical Products
 Full range of DB enclosures
ARB Electrical Wholesalers
 Full range of DB enclosures
Atlas Group
 Standard sizes available and manufacture to client specifications
Bellco
 Standard sizes available and manufacture to client specifications
CBI-electric : low voltage
 Flush mounted distribution boards
Eaton Electric
 Full range of DB enclosures
Elen Electrical Enclosures
 Range of enclosures by Schneider Electric Universal Enclosures (SAREL)
HellermannTyton
 Full range of distribution board enclosures
Legrand SA
 Full range of flush and surface mount, waterproof DIN rail boards
Magnet Electrical Suppliers
 Rittal and Allbro DB enclosures
Major Tech
 Full range of DBs including flush-mount Econo boards, surface-mount IP65 boards, IB65 clear/grey enclosures and IP55 junction boxes
MCE Global Suppliers
 MCE DBs in surface mount and flush mount from two-way to 36-way; Onesto DBs in surface and flush mount from four-way to 36-way; Schenker DBs in surface mount and flush mount from four-way to 20-way; adjustable flush mount distribution boards in 20-way and 24-way
Phambili
 Standard sizes available and manufacture to client specifications
PMCG
 Full range of DB enclosures
Power Panels and Electrical
 Full range of DB enclosures: Prisma; EAE; Gersan
Power Process Systems
 Full range of DB enclosures
R&C Instrumentation
 Infrared windows to allow safe IR inspection
Sabelco Electrical Industries
 Sabelco-Sabsteel type tested assemblies complying with IEC 61439, SANS 1973-1, SANS 1973-3, SANS/IEC 60439, manufactured in mild steel, 3CR12, 304 stainless steel and 316 stainless; IP rating up to IP65; form factor up to form 4B in any colour
SRE Developments
 Distributor of DB enclosures
Voltex
 Standard sizes available and manufacture to client specifications
Voltex LSis
 Standard sizes available and manufacture to client specifications
Voltex MVLV
 Standard sizes available and manufacture to client specifications
Waco
 Standard sizes available and manufacture to client specifications

Other

Elen Electrical Enclosures
 Enclosures and cabinets, compression cable glands, panel ventilation fans and cooling units, vortex tube panel coolers, thermoelectric panel coolers, resistance heaters

Timers

ABB
Full range of timers

ACDC Dynamics
Wide range of locally manufactured timers

ACTOM Electrical Products
Full range of timers

ARB Electrical Wholesalers
Full range of timers

Atlas Group
Reputable brands available on request – analogue and digital

Bellco
Reputable brands available on request – analogue and digital

CBI-electric : low voltage
Standard electronic time switch with 24-hour reserve

Eaton Electric
Full range of timers

HellermannTyton
Full range of timers

Legrand SA
Complete range of analogue and digital timers

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Schneider and Eaton timers

Major Tech
A variety of programmable easy-to-use, quick set timers in analogue and digital as well as time switches for 24-hours, weekly or annual time control

MCE Global Suppliers
MCE digital and analogue time switches; MCE seven-day digital geyser time switch; Schenker mini rail seven-day digital time switch

PMCG
Full range of timers

Power Process Systems
Full range of timers

SRE Developments
Manufacturer of timers

Stone-Stamcor
SAIA-Burgess timers

Voltex
Reputable brands available on request – analogue and digital

Waco
Reputable brands available on request – analogue and digital

Zest WEG Electric
Electronic relays; RTW range timing; RPW range monitoring; RNW range level control

Clamps and saddles

ABB
Full range of switches and isolators

ACDC Dynamics
Full range of switches and isolators

ACTOM Electrical Products
Full range of switches/isolators

ARB Electrical Wholesalers
Full range of switches/isolators

Atlas Group
Reputable brands available on request; in-house brands LSis and W-Range

Bellco
Reputable brands available on request; in-house brand LSis and W-Range

CBI-electric : low voltage
Full range of commercial and industrial switch disconnectors

Crabtree Electrical Accessories
Complete range of switches/isolators

Eaton Electric
Full range of switches/isolators

Legrand SA
Domestic and industrial switches and isolators

Magnet Electrical Suppliers
Full range of Schneider and Eaton switches and isolators

Major Tech
Veti range of single pole, double pole, triple pole and four pole isolator switches

MCE Global Suppliers
Onesto DIN rail isolators; Schenker mini rail isolators; Onesto dc isolators; MCE surface mount (IP66 and IP65) and base mount isolators

PMCG
Full range of switches and isolators

Power Process Systems
Full range of switches/isolators

SRE Developments
Distributor of switches and isolators

Voltex
Reputable brands available on request; in-house brands LSis and W-Range

Voltex LSis
Reputable brands available on request; in-house brands LSis and W-Range

Waco
Reputable brands available on request; in-house brands LSis and W-Range

Zest WEG Electric
SIW miniature isolator range 40 – 100 A; IWA moulded case isolator range 160 – 1 600 A

Protection

ABB
Full range of protection devices

ACTOM Electrical Products
Full range of protection devices

ARB Electrical Wholesalers
Full range of protection devices

Atlas Group
Various brands available

Bellco
Various brands available

CBI-electric : low voltage
Full range of residential, commercial, industrial earth leakage protection devices

Comtest
IS meters Atex equipment

Eaton Electric
Full range of protection devices

HellermannTyton
Heat shrink cable protection

Inher SA
P&B motor protection relays – MV2, MPR/MPC 4000, PBSJ 3E5 N11, CDG retrofit; P&B motor ARC protection relays; P&B transformer/feeder protection relays; P&B generator protection relays; P&B transformer Buchholz relays

Legrand SA
Complete range of protection devices

Magnet Electrical Suppliers
Schneider and Eaton protection devices

MCE Global Suppliers
Onesto surge arrestors; Schenker surge arrestors

NewElec
LV 3-phase motor protection products for fans, pumps, compressors, crushers and conveyor motors

PMCG
Full range of protection devices

Power Process Systems
Full range of protection devices

SRE Developments
Distributor of protection devices

Voltex
Various brands available

Voltex LSis
Various brands available

Waco
Various brands available

Zest WEG Electric
RW range of thermal overload protection
SRW range of electronic overload protection

Surge protection devices

ABB
Full range of surge protection devices

ACDC Dynamics
Wide range of surge protection devices

ACTOM Electrical Products
Full range of surge protection devices

ARB Electrical Wholesalers
Full range of surge protection devices

Atlas Group
Reputable brands available on request

Bellco
Reputable brands available on request

CBI-electric : low voltage
Clip-in dual mount surge protection devices

Eaton Electric
Full range of surge protection devices

HellermannTyton
Full range of surge protection devices

Legrand SA
Full range of surge protectors

Magnet Electrical Suppliers
Schneider and Phoenix Contact surge protection devices

MCE Global Suppliers
Onesto surge arrestors; Schenker surge arrestors; Onesto dc surge arrestors

PMCG
Full range of surge protection devices

Power Panels and Electrical
Full range of surge protection devices: Surgetek; NTE

Power Process Systems
Full range of surge protection devices

SRE Developments
Distributor of surge protection devices

Voltex
Reputable brands available on request

Voltex LSis
Reputable brands available on request

Waco
Reputable brands available on request

Zest WEG Electric
Fanox surge arrester Class C Type II

Distribution boards

ACDC Dynamics
Full range of DBs, plastic and steel, flush or surface mount, also available in pre-wired options

ACTOM Electrical Products
Full range of DBs

ARB Electrical Wholesalers
Full range of DBs

Atlas Group
All sizes available or manufactured to client specifications

Bellco
All sizes available or manufactured to client specifications

CBI-electric : low voltage
12- and 20-way distribution boards; ready boards; 40- and 60-way architrave boards

Citilec
Full range of DBs

Crabtree Electrical Accessories
Flush mount DBs

Eaton Electric
Full range of DBs

Elen Electrical Enclosures
Range of enclosures by Schneider Electric Universal Enclosures (SAREL)

Legrand SA
Full range of flush- and surface-mount, waterproof DIN rail boards

Magnet Electrical Suppliers
Schneider DBs

Major Tech
Full range of DBs including flush-mount Econo Boards, surface-mount IP65 boards, IP65 clear/grey enclosures and IP 55 junction boxes

MCE Global Suppliers
Onesto ready boards with or without bulkhead; Schenker ready boards with or without bulkhead; Onesto swimming pool distribution board; Onesto caravan distribution board; MCE multi-purpose distribution board

Phambili
All sizes available or manufactured to client specifications

PMCG
Full range of DBs

Power Panels and Electrical
Full range of DBs: Prisma; Panelmaster; Gersan

Power Process Systems
Full range of DBs

Sabelco Electrical Industries
Sabelco-Cubic type tested assemblies complying with IEC 61439, SANS 1973-1, SANS 1973-3, SANS/IEC 60439, manufactured in mild steel, 3CR12, 304 stainless and 316 stainless. IP rating up to IP65; form factor up to form 4B in any colour; fixed and fully withdrawable patterns

SRE Developments
Distributor of DBs

Voltex
All sizes available or manufactured to client specifications

Voltex LSis
All sizes available or manufactured to client specifications

Waco
All sizes available or manufactured to client specifications

Switches/isolators

ABB
Full range of switches and isolators

ACDC Dynamics
Full range of switches and isolators

ACTOM Electrical Products
Full range of switches/isolators

ARB Electrical Wholesalers
Full range of switches/isolators

Atlas Group
Reputable brands available on request; in-house brands LSis and W-Range

Bellco
Reputable brands available on request; in-house brand LSis and W-Range

CBI-electric : low voltage
Full range of commercial and industrial switch disconnectors

Crabtree Electrical Accessories
Complete range of switches/isolators

Eaton Electric
Full range of switches/isolators

Legrand SA
Domestic and industrial switches and isolators

Magnet Electrical Suppliers
Full range of Schneider and Eaton switches and isolators

Major Tech
Veti range of single pole, double pole, triple pole and four pole isolator switches

MCE Global Suppliers
Onesto DIN rail isolators; Schenker mini rail isolators; Onesto dc isolators; MCE surface mount (IP66 and IP65) and base mount isolators

PMCG
Full range of switches and isolators

Power Process Systems
Full range of switches/isolators

SRE Developments
Distributor of switches and isolators

Voltex
Reputable brands available on request; in-house brands LSis and W-Range

Voltex LSis
Reputable brands available on request; in-house brands LSis and W-Range

Waco
Reputable brands available on request; in-house brands LSis and W-Range

Zest WEG Electric
SIW miniature isolator range 40 – 100 A; IWA moulded case isolator range 160 – 1 600 A



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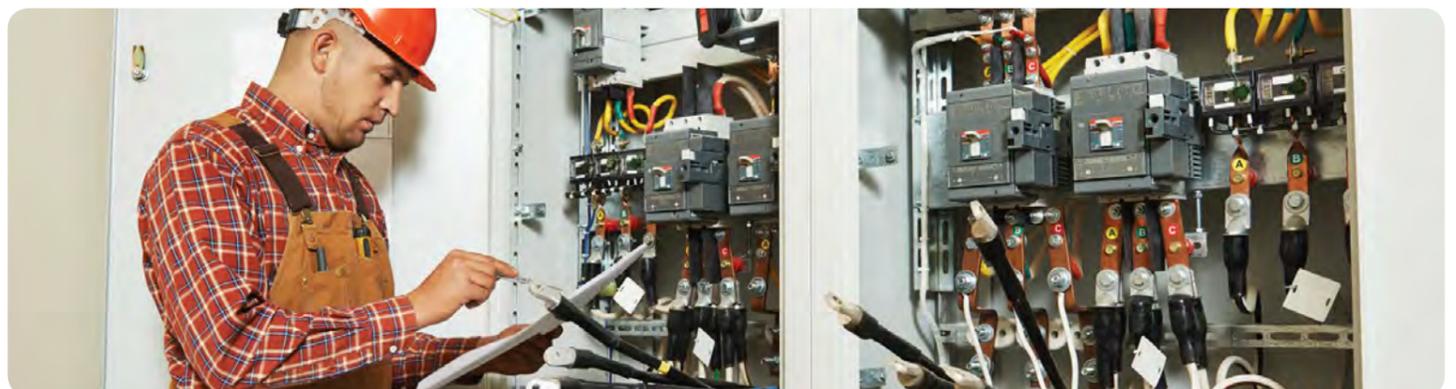
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Subject choices – the earlier the better

THE 2015 matriculants who successfully completed Grade 12 are now entering an exciting time as they start their studies. But for some of those matriculants it can be a scary time when their hopes are dashed because of bad subject choices.

At the beginning of every year, I review the CVs of young learners who are hoping to embark on careers via various artisan routes and I offer guidance to help them on their way. Sadly, this year, I again had to 'pop the bubbles' of some of these youngsters and had to be the bearer of bad news and inform them that they do not have the required subjects or the points to go into their chosen field of study.

And every year this sad situation reminds me that if they had only been adequately counselled before they decided on what subjects to take at the beginning of Grade 9, they would not be in this unfortunate predicament.

One of my earlier columns discussed the need for parents to become involved in directing, supporting and guiding their children so that they can make the right choices and, ultimately, pursue and achieve their dreams.

However, in order to guide their children, parents need to be well informed so here are some pointers that will help parents to help their children to make the right choice at the right time.

There are articles available on the internet that provide all the information regarding the current entry requirements for learners who wish to study towards various careers, whether through a college or a university. A good place to start is the Department of Higher Education & Training website on <http://ncap.careerhelp.org.za/>

I always advise parents to start gathering career information before their children enter Grade 7 because in Grade 9 learners are required to choose the subjects they will be taking through to matric. The last thing they need is to discover in Grade 9 that because they did not perform well in Grades 7 and 8, their marks are too low and the school (or system) will not let them take the subjects they will need to pursue their career choice. For example, the criteria for entry into the new electrical qualifications state that mathematics and science are required subjects.

When I am going through applicants' CVs, it is always clear which learners have not had any guidance – they are the ones with subjects ranging from maths literacy to tourism and religious studies, and, because

they do not have the required subjects, they cannot get entry into their career choice.

I believe that schools should bring in experts in various fields or Sector Education and Training Authority (SETA) career guidance staff to talk to the learners about the various career options and the entry requirements for each career option.

This information should be shared with the learners' parents so that they can work with the educators to get their children to understand the importance of putting in the required effort and maintaining consistently good results so

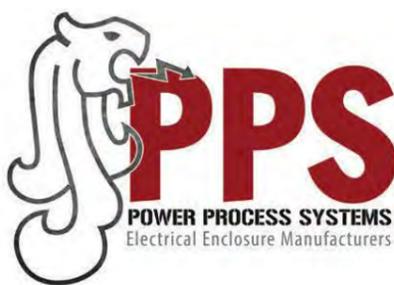
that they will not be disappointed when the time comes for them to begin their tertiary education.

Parents who have doubts about their children's career choices or parents who are at a loss because their children don't know what career they would like to follow can use an aptitude assessment to determine the child's strengths and abilities. Training centres and universities can also give parents information about entry requirements.

Parents should discuss this information with their children to show them that they are sup-

ported and the entry criteria can also be used to encourage them in their studies and to inspire them to achieve good scores. I firmly believe that the more information we can share and give to the learner, the more they will understand how important it is to study hard so that they can achieve their goals.

It has become increasingly important for parents to take an active role in helping their children to make wise, informed choices regarding their subject choices and ultimately, their careers – and the earlier, the better.



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Photometry practical course in February

THE Illumination Engineering Society of SA's Development Committee will hold a photometry practical course with two CPD points at the SABS in Pretoria on 23 and 24 February 2016.

The course will cover calibration of light sources; integrating sphere photometry; and distribution goniometer photometry.

This course is ideally suited for luminaire and lighting designers; building designers; interior and exterior decorators; energy service providers; lighting equipment suppliers; architects; building services engineers; and electrical engineers.

The course fees (including VAT) per person are R4 014 for IESSA members, and R4 766 for non-members. The fees include course notes, examination and certificate as well as tea, coffee and lunch.

Registration on the first day will take place at 8 am and the course will be held from 8 am to 5 pm on both days. Seats are limited to 15 delegates.

To find out more about the course, contact Sue Swash sue@iessa.org.za



Assemblies manufactured to SABS 1765 for the safety of distribution boards

Connections systems that are one step ahead



GEWISS offers complete mobile and industrial power distribution and supply systems to meet every need. Construction site distribution systems (68 Q-BOX/Q-DIN range), energy and service distribution terminal systems (68 Q-MC range) and distribution boards (68 Q-DIN range) combined with plugs and socket-outlets (IEC 309 HP range) or interlocked socket-outlet systems (IB range).

The new IEC 309 HP - High Performance range is the latest evolution in industrial connection, offering the best in terms of performance, functions and technical characteristics. The system comprises socket-outlets and plugs from 16 to 125 A with Index of Protection from IP44/IP54 to IP66/IP67 and now also IP68/IP69 for straight plugs and connectors. These devices are manufactured to include every possible earth hour reference, thus opening the door to a world of new applications and installation situations in the most specialised and heavy duty contexts.

- Traditional screw terminals and quick wiring spring terminals (for 16 and 32 A) or cage terminals (for 63 and 125 A versions).
- The new cable gland and halogen-free plastic materials with nickel plated contacts (both pins and sleeves) are all factors that make IEC 309 HP the best solution in terms of resistance and protection.
- The ¼ turn Safe-Lock coupling with body-grip system locks with a safety screw that indicates whether the system is locked.
- The special shape and the rubberised surfaces in the 63 and 125 A versions ensure the best possible grip in any usage conditions, even when wearing work gloves and in the presence of water and moisture.
- The IEC 309 HP plugs and sockets offer optimum resistance to and mechanical stress (IK09, equivalent to 10J), even at low temperatures and in heavy-duty conditions.
- The mobile socket-outlet covers have a practical and ergonomic design allowing for one-handed operation.
- The new IEC309 HP range has a longer earth terminal that will disconnect last protecting the user from electric shock and avoiding electrical discharge on devices.

The extended IEC309 Connection System is available from ACDC Dynamics, the sole distributor of the Italian Gewiss product ranges in Southern Africa.

Enquiries: +27 10 202 3400

THE CONNECTION SYSTEM OF THE FUTURE



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Quick: opening with a 1/4 rotation, screw or fast spring wiring



New Cable Fastener Clamp

Wireless dc clamps improve measuring productivity in-field

LOCAL distributor of Fluke test and measurement tools, Comtest, has announced the addition of two new dc current clamps to the Fluke Connect system of wireless test tools: the Fluke a3003FC wireless dc current clamp and the a3004 FC wireless dc 4 – 20 mA current clamp. Both fully-functional current clamps can wirelessly send measurements to Fluke Connect-enabled master units as well as the Fluke Connect mobile app, so users can view measurements from multiple devices simultaneously, review equipment history, and share measurements with other team members for faster troubleshooting.

The a3003FC wireless dc current clamp measures up to 2 000 A dc making it ideal for very high dc current measurements typically found in utility and dc machine controller applications. It features a large jaw size (64 mm) for clamping around and measuring on large, high current conductors.

The a3004 FC wireless dc 4 – 20 mA current clamp measures 4 to 20 mA signals without breaking the loop so process control technicians can make accurate measurements without interrupting the workflow. It features a detachable clamp with extension cable for measurements in tight locations.

Both current clamps can record and store up to 65 000 measurements with the logging feature to isolate intermittent events or record fluctuations without even being there.

Fluke Connect System

The Fluke a3003 and a3004, along with more than 20 other Fluke tools, are part of the Fluke Connect system. It allows technicians to make better and faster decisions by having access to maintenance records wherever they are working. The Fluke Connect app can be downloaded for free from the Apple App Store and the Google Play Store.

Enquiries: +27 10 595 1821



WORLD PREVIEW
IP68/IP69

IEC 309 HP Range

GEWISS has updated its connection systems with a unique design, introducing the new range of industrial plugs and sockets IEC 309 HP- HIGH PERFORMANCE offering. These products are the fore runner in the market in terms of performance, practicality and technical characteristics. They are available with screw or fast spring wiring - the most advanced technology available today, in these ranges. The core features of this industrial plug and socket offering have been revamped, providing an innovative solution for both the 16A and 32A connectors, straight or flush mounting, providing an IP compliant rating of up to IP68/IP69. Truly unique technology.

www.gewiss.com

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Distributors and Franchises throughout Southern Africa

Distributing power in cabinets and junction boxes securely

WEIDMULLER connectivity and interface products are exclusively distributed by Phambili Interface, a division of Voltex since 2014. These German-engineered quality interface products include terminal blocks and accessories, heavy duty connectors, PCB connectors and the innovative push-in type terminals.

"Often, the power fed into plants and machines has to be distributed further to supply additional components, such as MCBs, motors and power supplies. Naturally, this process should be as secure and efficient as possible," says Alex Lockyer. "However, as ever larger wire cross-sections are used, the demands placed on distribution blocks is increasing, which is why Weidmuller has engineered distribution blocks to take up as little space as possible."

Weidmuller WPD distribution blocks are used in all situations where power is supplied and distributed. "Thanks to the user-friendly design, they make it possible to implement a fast, efficient and space-saving power distribution supply. Their unique echelon form, offset position of the screw heads and self-extinguishing halogen free plastic housings ensure WPD distribution blocks allow for secure and convenient connecting in plants and enclosures where space is tight, irrespective of the level selected," explains Lockyer.

"The user-friendly design and compatibility with the 35 mm DIN rail enables fast installation even under difficult conditions. And for the larger versions, chassis mounting is also possible.

"The multi-phase block version gives rise to a wealth of possible combinations for wire sizes from 185 mm² right down to 10 mm².

Extensions are also created as an option using modules or bridges. Where secure distribution together with space saving is required the Weidmuller WPD power distribution blocks offer a perfect quality assured solution," he concludes.

Enquiries: +27 11 452 1930



WPD distribution blocks.



Characteristics of WPD distribution blocks.

Junction boxes, DBs and weather-proof enclosures for discerning contractors



HIGH quality flame retardant electrical enclosures, DIN rail distribution boards, various IP55 rated junction boxes and various IP65 weatherproof enclosures are available from Major Tech.

Rodham Evans, Vetri manager at Major Tech says the entire range of CE accredited enclosures has been tested to IEC standards.

"The DIN rail distribution boards are available in two different designs, which include a robust IP65 surface-mount offer intended for outdoor use or where strength is a pre-requirement; and an elegant IP20 flush-mount and surface-mount offer intended for indoor use where aesthetics and ease-of-use are paramount," says Evans.

All distribution boards are supplied with a removable earth / neutral bar, an adjustable DIN rail to ensure straight installation and multiple knock-outs in different shapes and sizes located on the top, bottom, sides, and back of the DBs to suit any application.

The IP20 flush mount offer is available with either a sturdy ABS tray or a galvanised steel tray, which is supplied with wire mesh spot welded to the back for increased fixing support. The IP55 junction boxes range from 50 mm x 50 mm round boxes up to 400 mm x 350 mm x 120 mm depending on installers' specific requirements. The junction boxes are available with rubber glands or standard 20 mm knock-outs. The IP65 weatherproof enclosures are sealed with a rubber lining and tight ABS screws to ensure that no ingress of any foreign object is possible when installed.

The offer is available in a smoky translucent finish to allow one to see into the box once installed; and in solid ABS plastic where one can't see inside the box to prevent damage from sunlight or to hide the contents of the box.

"Vetri enclosures are simple, smart and cost-effective," says Evans.

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Happy Holidays



Karen Grant (publisher, Crown Publications) with Stacey Conradie and Jan Anderson (MCE Global Suppliers).

MCE Global Suppliers

One O-Lite 10 W LED Rechargeable work light

- Peet Bezuidenhout (Secunda)



Claude Middleton and Charné Joubert (HellermannTyton) with Karen Grant (publisher, Crown Publications).

HellermannTyton

3 TBM 3030 Digital Clamp Meters

- Willem Kleinschmidt (Strand)
- Larry Ho Leong (Primrose Hill)
- Matthew Wolstenholme (Ferndale)



Vanessa Richmond (Aberdare Cables) and Jenny Warwick (Crown Publications).

Aberdare Cables

1 Tool bag

Nigel Spriggs (Port Elizabeth)

1 Tool box

- Steve Odendaal (Durban)



Leanne Coleman (Comtest) and Jenny Warwick (Crown Publications).

Comtest

2 Fluke 107 palm-sized digital multimeters

- Stoffel Colling (Brakpan)
- Fawaz Osunde Prince (East London)



André le Roux and Nadine Combrinck (Crabtree) with Jenny Warwick (Crown Publications).

Crabtree

2 Hauwei Tablets

- Willie Hugo (Kimberley)
- Wouter Brewis (Robertson)



Carin Hannay (advertising manager, Sparks) with Jaco Coetzee (Waco).

Waco

1 Ceiling Fan

- Johan Janse van Rensburg (Sasolburg)

Erika van Zyl (editor, Sparks Electrical News) and Ian Downard (Three-D Agencies).

Three-D Agencies

3 UT50B Digital Multimeters

- Doctor Fani Mthombeni (Rustenburg)
- Terry Noonan (Welkom)
- Raymond Nel (Malvern)



Hundreds of entries from across South Africa poured in for the Sparks Happy Holiday promotion – from Kakamas to Kimberley and from Robertson to Randburg – everyone hoping to win one of the 29 fabulous products from our advertisers.

On January 20, the advertisers joined the Sparks team at the Royal Johannesburg Kensington Golf Club to draw the names of the lucky winners and, in keeping with tradition, great fun was had by all.

The winners have all been notified of their good fortune and will soon receive their gifts.

Thanks to everyone who submitted entries and congratulations to all the winners – and a very special thank you to all the generous advertisers who made this event possible.



Erika van Zyl (editor, Sparks Electrical News) and Garry Lumpe (Garry Lumpe imports).

Garry Lumpe Imports (representing Knipex and Wiha)

- 2 Knipex All-in-One Multipliers VDE 1 000 V
- Frans Meyer (Wellington)
- Retief Coetzer (Olifantsfontein)

2 WiHa Six-Piece handheld toolkits

- Jaco Fourie (Grootbrak Rivier)
- Frik Lubbe (Kakamas)

2 Unilite 220 Lumen LED inspection lights

- Johan van Schalkwyk (Florida Hills)
- Doug Radloff (Eshowe)



Devashini Reddy (Voltex) and Karen Grant (publisher, Crown Publications).

Voltex

1 DB with main switch, stove, plugs, geyser, earth leakage, lights, busbar

- Michael Balana (Blairgowrie)



Carin Hannay (advertising manager) with Kirsten Larkan (Zest WEG Group Africa).

Zest WEG Group Africa

1 Socket and spanner tool set

- Jafta Swarts (Randfontein)



Colin Mazibuko (layout, Sparks) with Anthony Lloyd and Gerhard van Staden (Eurolux).

Eurolux

1 FS203 Rechargeable 10W portable work light

- Llewellyn Hunt (White River)



Colin Mazibuko (layout, Sparks) and Mark Talbot (Stone Stamcor).

Stone Stamcor

3 SU16A Crimping Tools

- Bill Erb (Edenglen)
- Russell Brummer (Durban)
- Rudy Gronloh (Centurion)

1 KH1208 Crimping Tool

- Fazal Moolla (Crosby)

1 HX508 Crimping Tool

- Murray Cronje (Midrand)



Prinolan Pillay (ARB Electrical Wholesalers); Carin Hannay (advertising manager, Sparks) and Gavin Wilkinson (ARB Electrical Wholesalers).

ARB Electrical Wholesalers

1 Chint populated distribution board

- Alan Bennetts (Wendywood)

Promotion winners

Shade and solar: Killing two birds with one stone



GEOSOLAR, part of the GeoGroup, recently covered 240 m² of carport roofing at its premises in Johannesburg with solar panels, which provide an alternative power source for the company says Dave Rossiter, managing director of GeoGroup.

At the core of the GeoSolar carport solution is a Schneider Electric specified solar system, Context CL, which was deployed by Clever Devices & Designs (CDD), a registered Schneider Electric systems integrator and member of the Sustainable Energy Society of Southern Africa (SESSA).

Leon Hailstones, channel manager for Schneider Electric's rooftop and off-grid solar products in southern Africa, explains that the Context CL three-phase inverter has proven to be "the ideal solution" for commercial buildings, carports and decentralised power plants. "The Context CL Series is our new line of three-phase string inverters designed for high efficiency, maximum flexibility and easy

installation and service. Its electrolyte-free design, with Schneider Electric's rigorous reliability test procedures, improves the long term reliability," he says.

The system offers five configuration options of integrated wiring box, which allow for easy, flexible and low cost installations, as well as a decentralised architecture, full grid support features and system capability. The GeoSolar carport installation was completed using an aluminium-glazed carport mounting system.

According to Rossiter the company will now use this flagship project to promote carport solar systems throughout South Africa.

"A carport structure is a necessity in the harsh South African climate to protect both employees and visitors' vehicles. It is an added bonus that this necessary structure offers the ideal platform from which to achieve noteworthy cost saving on a building's electricity bill.

Rossiter highlights that the company decided on a Schneider Electric solar system due to its excellent quality and because it offers a comprehensive nationwide back-up and accountability for warranty claims.

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BAE
Energy from Batteries

New design for low cost transformers for wind farm projects



A welder works on a full-scale model that was made to facilitate achieving the optimum design for the new wind farm transformers.

ACTOM Power Transformers has received an order for a large batch of transformers for wind turbine generators (WTGs) for three new wind farms being established in the Northern Cape as part of the national renewable energy programme.

This follows the division's earlier success in designing and producing similar transformers for one of the first wind farm projects in the programme, the Kouga Wind Farm near Oyster Bay in the Eastern Cape.

The latest order is for a total of 157 x 2 700 kVA pad-mounted oil-natural air-natural (ONAN) transformers. It was placed by Midrand-based Consolidated Power Projects (CONCO), the electrical balance of plant contractor for the wind farms, Noupoort, Khobab and Loeriesfontein, comprising 35, 61 and 61 WTGs respectively.

The transformers incorporate a special feature that is new to South Africa but is well-proven abroad, especially in the US where it has been widely used for many years in wind farm and general distribution applications.

Gert Kriel, ACTOM Power Transformers' sales manager, explains: "This involves making provision for accommodating the load-break switch together with current limiting fuses inside the transformer tank by mounting them under oil, in place of the usual external arrangement as applied to package transformers.

"This has the great advantage of significantly reducing the cost of manufacture and therefore the selling price."

Enquiries: +27 11 824 2810

Modern solutions for lighting and automation launching in 2016



THE beautiful range of Arteor wiring devices from Legrand provides complete solutions for modern lighting management – from simple switches to the most advanced home automation systems for discerning home owners.

“Legrand has combined stylish design and leading-edge technology to create modern wiring devices with numerous functions and various finishes that meet the requirements of the most basic electrical functions, as well as complicated and demanding automation tasks,” begins Johan Bosch, general manager, Legrand SA.

“Working with ‘the power of new ideas’ slogan, the Legrand design team has produced elegant,

energy efficient fittings that have found a perfect balance between function and form.”

To reinforce the high-end character of these devices, the most sophisticated and innovative materials have been selected – woven metal, red mirror and marine leather along with other finishes such as plastic, metal, tattoo, wood and brushed steel. Bosch says the new range of colours and finishes will be launched in South Africa this year and Legrand is offering architects, interior designers and consultants the opportunity to specify custom-designed devices for specific projects.

“What’s notable about this range is users are able to ‘mix and match’ the design options and types of finish for any control function – and these combinations can be changed at any time

to suit exact requirements.”

The versatility of Arteor lighting controls enables users to create their own personal lighting scenarios, from low illumination or bright lighting to cinema settings. Motion sensitive and automatic switches, as well as a new generation of dimmers, have been designed for elegance and flexibility as well as enhanced energy efficiency.

Arteor universal dimmers optimise potential energy savings of modern lighting techniques, by enabling the dimming of all types of lamps. These universal push button dimmers are suitable for the control of light emitting diodes (LEDs) and compact fluorescent lamps (CFLs), as well as halogen and incandescent lamps.

These universal dimmers are fully modular for quick and easy installation in new buildings and in renovations. This two-wire universal push button dimmer system, which can be installed without a neutral wire, also accommodates easy replacement of a traditional switch.

This system can have one or several push buttons without neon, for on/off dimming control. Lights are programmed to come on again at the same lighting level as before they were last switched off.

With a nightlight function, this device is also suitable for bedrooms, particularly children’s rooms. Once switched on at a pre-set level (for example 33%) the light will fade gradually for one hour, until it turns off completely.

Devices for automatic or adaptable control of lighting in

offices include skirting lights with a built-in detector, automatic switches and a lighting environment controller. The installation is enhanced by adding systems such as access control, video, audio and data outlets, while at the same time maintaining enhanced aesthetics.

Legrand also focuses on specific lighting functions for hotels. Bedside lamps and the main room lighting, as well as the opening and closing of blinds or curtains can be controlled simultaneously. Universal icons ensure easy recognition and instinctive hand-eye control.

The Arteor range, which is compatible with South African socket and flush-mounting box standards, provides an efficient solution to all requirements of architects, interior decorators, electricians and home owners who call for a flexible, efficient, modern and aesthetically pleasing system.

Enquiries: +27 11 444 7971

Efficient lighting for Cape store

THE newest Boxer Superstores supermarket, has the latest energy saving lighting products installed.

“Magnet’s solutions for this project involved the combination of robust light fittings and the latest LED technology,” says Brian Howarth, managing director, Magnet. “The demand for electricity for at least 14 operating hours each day, necessitates the need for a reliable, low energy system to efficiently illuminate the store, which is about 2 300 m².”

Energywise LED linear strips, with aluminium housings, have been mounted onto P2000 style trunking. These fittings, which were supplied with two different wattages – 39.5 W and 77 W – have a lamp life of at least 50 000 hours. An extruded rail enables easy mounting and replacement of LED boards and an electronic driver, with adjustable output settings, ensures flicker-free operation.

Philips GreenPerform 140 W LED highbay luminaires, with an IP 65 rating to protect against the ingress of dust and water, are designed to turn on instantly in the event of a power failure. These silver, powder coated aluminium luminaires, which ensure excellent lighting performance, have high-rack optics designed to illuminate vertical planes in warehouses.

Philips 80 W Tango flood lights incorporate an LED light source, an optical system, heat sink and driver into one housing. These energy efficient luminaires are mounted on trunion brackets and offer asymmetric and symmetric lighting distribution, with lumen outputs between 4 000 and 12 000 lm.

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<p>ZONE 1,2,21,22</p>  <p>BLD230 - LED Pendant Circuit watts 50W up to 80W IP66 50000hr. Rated Life (L70/B10) Ambient temperature -20°C +60° C Exd IIC T6 Gb</p>	<p>LED TUBES</p>  <p>1200mm (1600 Lum) - R109.00 1500mm (2000 Lum) - R164.00 2 year Warranty</p>
<p>ZONE 2</p>  <p>IP65 Circuit watts: 18W, 36W and 58W 20000hr. Rated Life Ex n Ex nA IIC T4 / Ex tD Ex tD A21/22 Ta T4</p>	<p>ZONE 2</p>  <p>NMS 1200 - Microwave Sensor Detection is possible through doors, glass panes and thin walls. SA patent No. 2012/06112 Ex. Protection Ex nAnc II T6 IP65</p>

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Pendants that bring flair and panache to modern living spaces

THE latest Eurolux pendant range from Austrian lighting manufacturer, Eglo, brings versatile solutions to homes and offices as well as hospitality and retail spaces.

The Eglo Pinto family of lights offers a clean design with a cool contemporary feel and consists of two distinct ranges – the Pinto Nero and the Pinto 1. The Pinto Nero pendant is made from steel with a matte nickel finish and a cylindrical hanging shade. The shade consists of a tinted glass

outer and a shaped opal glass inner, which allows for maximum distribution of light. The glass on glass effect gives a classy, modern look. The Eglo Pinto 1 pendant features a contemporary, urban design with a strong look to complement residential city lofts as well as large public dining spaces.

The inner cut-out has a chrome finish whilst the glass shade is clear and the steel cut-outs in the inner shade allow light to shine outwards and downwards. Each pendant takes a 50 W lamp.

Both the Pinto Nero and Pinto 1 are available as a single- or three-light pendant and all the designs allowing for height customisation and can easily be installed on a sloped ceiling. The standard cord length for these products is 1 100 mm.

According to Shaun Bouchier, director at Eurolux, the reason that so many pendants offer a set of three lights is to achieve balance. "An easy way to attain balance is to repeat an element three times. Naturally, scale is also important ... if a kitchen has a smaller island it might be better to use two pendants – because in such cases three pendants might be overwhelming. But for that reason, pendants often offer slim designs, which allow three pendants to fit quite easily over a selected space."

Those who prefer a traditional look will appreciate the Eglo Alessandra single light pendant, which has an LED light source. The Alessandra has a white finish and a beautiful, wide alabaster glass shade. The cord length is 1 100 mm and the height of the lamp can be easily adjusted.

The EGLO Thebe offers a distinctly African feel with its opal glass globe encased by a flowing wire cage in a brushed steel finish. This durable yet delicate decorative light can be used independently or grouped to ensure it becomes the focal point of any room. The 1 100 mm cord is adjustable and when grouping the pendants, cord lengths can be varied to achieve a striking effect.

The Musero pendant collection by Eglo is a stylish and unique range featuring machined aluminium trims in glass tube shades, suspended from dark aluminium metal ware.

Fitted with built-in COB LEDs in 3 000 K warm white, this versatile and stylish pendant light is suitable for any room with a contemporary feel. It can comfortably be used in entrances, kitchens, living and dining areas and fitted either as a single light or three light pendants.

The three light pendants are available in two formats – a round aluminium disc with three lamps suspended in a circle or with the three lamps suspended in a row from a linear aluminium rod.

"Eurolux has an extensive range of pendants for retailers and wholesalers however, the public can also view the range online or visit one of the lifestyle showrooms in Cape Town or Johannesburg," explains Bouchier, adding that customers who want to purchase specific items will be referred to their closest retailer. "But viewing the products in a lifestyle setting is always beneficial," concludes Bouchier.

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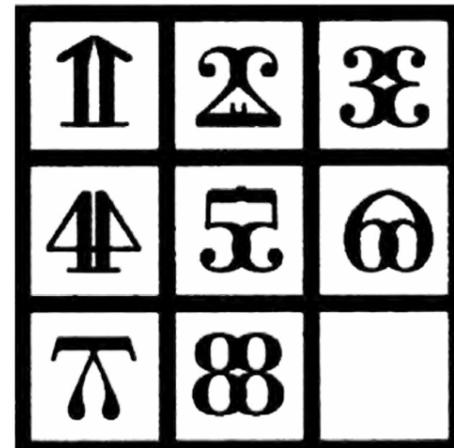


Elio Estanqueiro

Sales representative, export branch: Mozambique and Malawi.

Bright Spark

A mystic square



"This diagram," said Jane to Jim, "is mystical. Each of the squares contains a mystic symbol. For example, the top right hand square shows a magical arrowhead piercing the sky. There is one symbol missing, but of course you can work out what it is if you think hard enough."

Jim was so confused by Jane's fanciful description that he failed to discover what the missing symbol was. Can you do better?

Island hopping

Euler explained that it was *not* possible. He explained that with every visit you make to the island you cross two bridges, one going onto the island and one when you leave it. However, there are five bridges to the island, which is an odd number. Therefore, in order to cross them all exactly once, you have to either start or finish on the island. There is also an odd number of bridges going to the Northern shore, so the same argument proves that you have to either start or finish on the Northern shore. But the same argument also shows that you have to start or finish on Southern shore, and on the land to the left! So the puzzle cannot be solved.

MARCH FEATURES

- Energy measurement and supply
- Tools of the trade
- Lighting

Buyers' guide

- Tools and instruments

Deadlines

- Advertising booking: 1 February 2016
- Editorial: 29 January 2016
- Advertising material: 8 February 2016

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Publisher:

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Published monthly by:

Crown Publications cc
P O Box 140
Bedfordview, 2008
Tel: (011) 622-4770
Fax: (011) 615-6108
e-mail: sparks@crowns.co.za
Website: www.crowns.co.za

Printed by:

Tandym Print

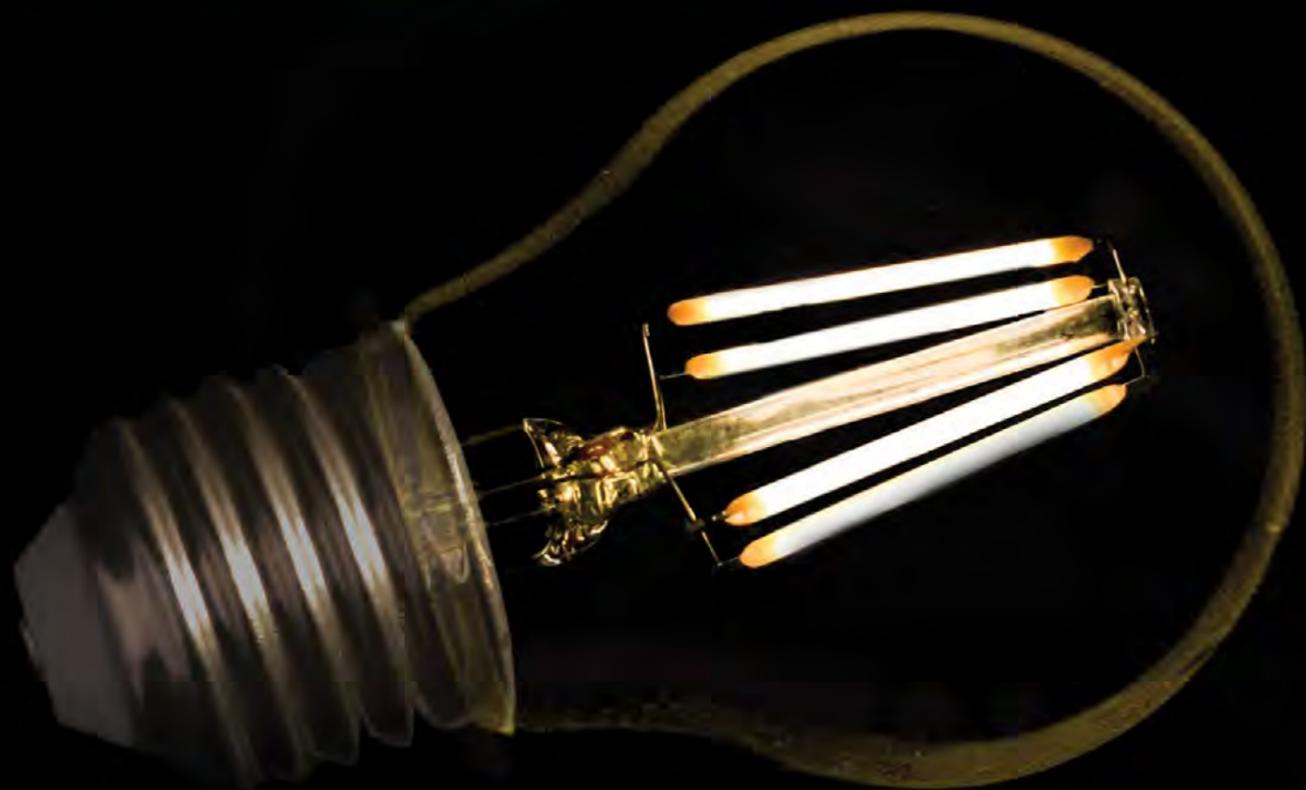
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This publication is distributed to electrical contractors, wholesalers, distributors, OEMs, panel builders, Eskom, mining electricians and consulting engineers (electrical) as well as libraries, members of IESSA and public utilities.

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