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Since the launch of Wood Southern Africa & Timber Times 42 years and ten months ago, the content of the journal has been based on the needs of the various industries in the forestry sector. We have subdivided the magazine into sections that reflect this value chain - forestry, transport, sawmilling and woodworking – each with its own series of features.

This month, we look at harvesting, weighbridges, portable sawmilling, solid wood furniture manufacturing and kitchen manufacturing. In the forestry section, we describe the journey of Winnie Ndlovu and her determination to launch her own contract harvesting business. We also have contributions from young forestry scientists and students from Nelson Mandela University who write about their research into climate change, fire management with drones, silviculture and forest management developments.

The term “Biligom” has been around for a few years and we are finally able to formally introduce you to this wet-off-saw eucalyptus structural timber product. We visited its origins in Tzaneen to meet Spencer Drake and bring you up to date on Biligom’s structural certification and accreditation status.

When it comes to the woodworking section you will see that timber decking has been moved from its traditional place in sawmilling because we believe it is a value-added finished product. In this context, we debated whether the story on Billitruss should also appear in woodworking however, we decided to leave it in the sawmilling section because it is not an air or kiln dried product.

There are only a handful of furniture manufacturers left in the country who can still claim to make hand-crafted furniture of exceptional quality from solid wood. We spoke to engineer and master craftsman, Pierre Cronje, at length on what it takes and means to become a qualified artisan today, and the relationship between artisans and CNC technology.

Forestry South Africa (FSA) was mandated by the sector to respond to the proposals by the Davis Tax Commission. On page 83 we briefly summarise the content of the submission, which answers the question “Is it morally justifiable to burden taxpayers further, knowing that a sizeable amount of taxpayers’ money is already wasted or stolen?” and its clear message is: “say no to wealth, land and property taxes.”
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Forest Engineering is constantly evolving and there is a need for academic institutions like Nelson Mandela University to develop and train foresters who are well equipped to deal with challenges and explore emerging opportunities.

NMU continually facilitates opportunities that allow industry experts to engage with students. Two industry experts, Martin de Kock, who is the Sappi KZN Midlands area manager and Helgaard Steenkamp the research and development engineer at Novelquip, recently informed 150 students about key aspects of forest engineering.

**Safety in forest operations**

Martin’s presentation on safety in forest operations served as an awareness tool to inform students about the drivers of safety and why it is important. He explained how to improve on safety, and described the strategies that Sappi has implemented to monitor and enhance the working environment within its operations.

The presentation focused firstly on why safety is important; and to guide the student audience Martin said “People should return unharmed from work to their families every day; this is our moral and legislative obligation.”

Secondly the presentation touched on Sappi KZN’s safety performance over the past four years and how the average lost time injury frequency rate (LTIFR) has steadily improved year on year.

Thirdly, to emphasise the importance of safety, Martin reflected on some of the serious chainsaw and vehicle incidents that had occurred in the past. He explained that all root-cause investigations into these incidents found that they were caused through human error. In conclusion and to encourage the students, Martin discussed Sappi’s efforts to improve safety at all its operations. His discussion included important factors like:

- Engaging with employees
- Application of the risk management system
- Trend analysis through the deviation management system
- High-risk management
- Sappi’s Abatshintshi project that trains and develops the skills of youth within the communities surrounding their plantations in southern KZN
- Pro-active audits and inspections
- The “Stop. Think before you Act” campaign

**Silviculture equipment and technology**

The second invited guest presenter was Helgaard Steenkamp from Novelquip who presented the latest silviculture equipment from Novelquip, the South African company that designs and manufactures internationally acclaimed modern silviculture equipment. Helgaard is a mechanical engineer and studied at the Nelson Mandela University.

He said the company was established in 2007 and has been pioneering technology in pitting and planting equipment both locally and internationally since then. The focus of his presentation was the various products available for pitting and planting. These include the MPAT pitting machine which makes pits with good tilth, in an operation with low soil disturbance, low soil densification and high production of 2600 pits per shift over the long term in good areas.

He also described the Proplant-1 which can perform automated planting. This machine pits, sprays pre-emergent, extracts the seedling from the seedling tray, plants and fertilises it, irrigates with gel or water and firms-up the soil around the seedling. Lastly, he introduced one of Novelquip’s latest developments, the Terramech T-16 which is a multipurpose carrier for all functions currently being done by agriculture tractors. Various modular attachments can be mounted on the vehicle, such as planting, re-irrigation, boom spraying and wind-boxing attachments.

He concluded by saying that modernisation in forest operations is inevitable because of labour constraints and the hard and physical nature of forestry work. However, he cautioned that modernisation needs to be accompanied by precision, quality, repeatability of operations and management control systems otherwise success would be inhibited.
Updated climate projections of the southern Africa region indicate that the already occurring trend of rising temperatures will see an increase in mean annual temperature of up to 3.4 degrees C by the end of the century. This will result in some areas of the region no longer being suitable for the establishment of certain commercial forestry species.

The earth’s carbon dioxide concentration is increasing at a rate of 0.4% every year, which is causing a rise in the mean annual temperature (MAT) around the globe. It has been found that a warmer climate will result in more severe fire weather, prolonged fire seasons, and an increase in ignitions. Climate change is currently an international topic of concern and concentrated study.

A literature study of the possible effects of climate change on forests found that the focus has largely been on natural forests. This is a concern because climate plays a crucial role in determining the location and species of commercial forest plantations and key factors influencing it are water availability (mean annual precipitation) and air temperature (mean annual temperature).

Mean annual temperature (MAT)
One advantage of a rise in MAT is that warm temperatures and adequate soil moisture will cause an increase in mineralisation rates of nutrients. Figure 1 indicates that there has been a definite rise in the number of days warmer than 30°C for most regions in the study area, with Mtunzini and Pietermaritzburg experiencing the steepest incline in days. This finding is a concern because heat is one of the constituents of the fire triangle: Oxygen, fuel and heat.

The success and sustainable growth of commercial species with a long rotation are influenced by these elements. It is important that climate change be expressed as the change in mean temperature, mean precipitation, and other related weather events, experienced over extended periods of time.

Mean annual precipitation (MAP)
Climate change is causing some major changes in climatic patterns, resulting in an increase in MAP in eastern parts of southern Africa and a decrease in MAP in the western areas. Recent study results indicate that there has been an annual rise in rainfall variances, specifically during the drier months. A drop in the number of rainy days per year has also been recorded and this finding is of importance to foresters because it shows that the interval between rainy days is getting longer, putting trees under a great deal of stress and at risk of drought and forest fires. Figure 2 shows a substantial drop in MAP in the Zululand Inland area.

Drought is recognised as a phenomenon in an area that receives less than 75% of its normal MAP. When the probability of such an extreme occurrence is known and measurable, it is called a risk. Severe drought events can cause high mortality in plantation stands, resulting in an abundance of available fuel which increases the risk of devastating fires.

Fire and climate change
Climate change has a direct impact on wild and forest fires. They must be carefully managed and this means there needs to be a bigger focus on the training of firefighters and other staff to ensure they are equipped to handle any fire event.
managers and fighters. Fire managers need to understand and predict how a fire will behave under any given scenario. Fire behaviour is primarily affected by weather related aspects such as temperature, precipitation, atmospheric stability, and wind speed.

A moderate wind will fan and spread a fire; a strong gust can however increase the rate of fire spread significantly. The north and south poles are heating up faster than the area around the equator, resulting in a smaller difference in global temperature and a resultant reduction in wind speed. There has been a decrease of between 5% and 15% in global wind speeds during the past 30 years and expectations are that it will continue to decrease.

This may bring peace of mind to foresters and fire fighters, but only to a certain degree.

Atmospheric stability influences the vertical motion of air molecules. In a stable atmosphere, a rising air parcel will drop relatively gently. Atmospheric conditions tend to become more unstable with localised fluctuating temperatures, and this could cause an increase in the amount of fire whirls during fire events. Fire whirls are a big concern to fire fighters, because they are difficult to contain and suppress. Spot fires caused by fire whirls contribute significantly to fire spread. As the main fire increases in size, the threat of ignitions through spotting rises and this could result in wild fires where spotting becomes the dominant mechanism of fire spread. It is concerning that this combination of reduced precipitation, rising temperatures and a decrease in wind speed...
in atmospheric stability could be the reality commercial forestry and its wildfire fighters will be facing.

**Fire risk mitigation**
The management of wild fires should be a strategy of complete suppression to minimise loss and further potential risk.

The use of fire for fuel load reduction, clearing of post-harvest slash and fire belt preparation, should be done in a manner that is environmentally friendly, socially acceptable, and economically viable. At the same time, planned fires should be effective and executed safely.

The management of fuel loads is the most cost-effective method that can be used by forest managers to create strategic buffer zones that will contain wild fires. Methods of fuel load management include mulching, under-canopy burning and burning of the litter layer under plantation trees.

All must be done with the utmost care to prevent excessive heat that may damage the trees. It is important to bear in mind that the weather conditions should permit a safe burn and that proper mop-up is crucial after fire events.

Prescribed burning should take place before fire season and there should be a fire belt agreement between neighbours to ensure that each party understands their respective responsibilities and intentions. The frequency of fires in grasslands impacts on its ecological sustainability and frequent fires in this vegetation type should be avoided. In situations where annual burning of grasslands for fire breaks is unavoidable, it is recommended that alternate burning take place between neighbouring farmers biennially to avoid disturbing the natural succession processes of longer return interval grassland species.

**Conclusion and recommendations**
The South African commercial forestry industry is highly sensitive to climate change and it is recommended that proper management of this risk is critical because:

- The region will experience an increase in the MAT within the next few decades
- MAP will increase in the eastern parts of South Africa, and decrease in the western parts
- There is an essential need for more research to be done on the effects of climate change on South Africa’s commercial forest plantations
- Spot fires caused by fire whirls contribute significantly to fire spread and could become the dominant mechanism of spread in wild fires

It is imperative that fire managers stay up to date with short-term weather forecasts and long-term weather predictions and tendencies.

This information should be used to plan and implement an effective fuel load management process to reduce the risk of extreme fire behaviour and fire spread.

(Ed’s note: This paper has been edited and references are available from the author)
Drones can contribute towards fire detection and monitoring

By: Musa Nkabinde, Fire management IV student, Nelson Mandela University

Annually, devastating fires destroy large areas of commercial forests, resulting in large economic losses, permanent damage to the environment, and affecting the social and economic stability of companies and communities. In addition, it is also the cause of human casualties on the fire line. In this article, I propose that the main fire management activities of fire detection and monitoring can be cost-effectively performed by drones.

Early detection

For any fire suppression attempt to be effective it should be done as soon as possible, when the fire is still in its early stages. This will prevent the fire from growing in size and intensity. The secret is a fast-initial attack in early detection of the fire.

New fire detection innovations include remote sensing, manned helicopters, satellite systems, small drones, and unmanned aerial vehicles (UAVs). The latter are known as drones but can be better described as unmanned aircraft. Their purpose is to perform intelligence surveillance and reconnaissance.

Application of UAVs and drones

Fire detection drones are fitted with visual and infra-red cameras, which enable them to detect fires at any time of day and in most weather conditions. Drones are remotely controlled through a central human-operated station on the ground and can be programmed to make automatic flight patterns over a specific area and gather information.

Drones perform functions that include monitoring (finding a potential fire), detection (activate an alarm to alert firefighting operators), initialise the diagnosis function which determines the fire’s location and tracks its evolution. It can also predict the future evolution of the fire based on real-time wind and firefighting conditions.

Fire detection drones can identify fires at night through sensing radiation. Wavelengths produced by the heat of a fire are detected by the sensors attached to the drone, which sends a radio frequency signal to the ground control station. This is referred to as the fire confirmation stage.

No matter how advanced a tool, however, human observation is still needed to analyse the gathered data. After receiving the alarm, the control station commands the drone to hover around the detected fire at a safe height. Useful information is gathered, like the fire intensity, size of fire, rate of spread, fire perimeter, active fire lines and the exact geo-referenced position of the fire. This can be of immense help to fire managers since having such details at an early stage increases the chances of combating the fire cost-effectively before it causes major damage.

Advantages

The UAV system has many advantages over the traditional manned helicopter system, including:

• No risk to humans as there is no pilot or crew onboard
• Cheaper to fly than helicopters because well-trained and experienced pilots are expensive
• High-speed detection with high precision
• Wide ranging measurements
• Reduces response time by firefighting crews, which leads to less damage caused by the fire
• They work autonomously and at a lower cost compared to manned aircraft
• Can fly in areas that are too dangerous for manned observation
• Increased manoeuvring abilities since it is small and lightweight
• Can produce real-time monitoring through video images

Disadvantages

The main disadvantages when flying UAVs include:

• They are light and fly at relatively low altitudes, and are susceptible to strong gusts of wind, which can limit their application
• Detection of false alarms caused by human activities, solar reflection, and heated objects. This can be rectified by using several drones so that data captured by other UAVs can be used to confirm the occurrence of the fire.

Usually, after a fire has been suppressed, a mopping-up team is left behind to ensure no flare ups occur. Sometimes the crew stay overnight near the burnt areas to react early if flare ups occur. Drones are much more effective as they can detect active embers and ground fires at night more cost effectively and accurately. Manned aircraft cannot be used for this purpose due to high costs and flight limitations. After the fire, drones can gather information such as the degree of damage to the trees.

In conclusion, it is recommended that forest managers consider using drones and UAVs as a versatile and value-for-money investment. The contribution drone technology can make to the forest industry is significant. The data gathered by the drone software is an invaluable tool for fire managers that will enable better decision making.
Hin-Tech makes waves with HT Shovel Yarder conversions

Local forestry solutions manufacturer Hin-Tech’s excavator-based HT Shovel Yarder conversions have taken the forestry sector in South Africa by storm.

Hin-Tech pioneered the now highly popular conversion of an excavator to an HT Shovel Yarder back in 2000 and they have refined the process over the years to where it is now in many instances preferred over the traditional machinery used in the field.

The HT Shovel Yarders provide a mobile cable yarding solution, for both uphill and downhill logging. Hin-Tech also manufactures dedicated uphill HT Shovel Yarders, depending on the client’s requirements.

According to Hin-Tech Manufacturing director, Karl Hinteregger, the benefits of using such a conversion are many. “Firstly, you are able to do both uphill and downhill operations as opposed to the traditional skyline.

“The HT Shovel Yarder fulfills all the safety prescriptions put in place by SAPPI, with the bucket also acting as an anchor for the machine, even though it is already heavy enough on its own. Using the bucket as an anchor enables the operator to safely work in much steeper areas with relative ease.

“Making use of these machines also means much shorter set up times for operators.

The traditional skyline system would take an entire day to set up, meaning a massive loss in production due to the downtime required for the set-up. This is not the case with the HT Shovel Yarder.

“It is also very mobile and can be easily moved from one area of operation to the next. Where the roads are not fantastic, or where a road has to be made, the bucket comes in very handy.”

The dedicated HT Shovel Yarder conversions can be done on a wide range of machines including Hyundai, CAT, Komatsu and Hitachi machines, and each is built as a dedicated project for a specific customer.

“We are able to use both new and old machines for the conversion,” says Hinteregger, “but we have a very strict set of rules and regulations that will determine whether a second-hand machine qualifies for the conversion.”

“Our machines are at work on many sites across the country. There are currently 20 HT Shovel Yarders deployed in South Africa, and around 25 in Southern Africa.

“All our machines are manufactured locally in South Africa, customised to the client’s needs, and supported locally.

“Based on client feedback, we implement changes and upgrades immediately, ensuring constant evolution and improvement of our machines.”

“These conversions, despite the higher cost, are becoming more and more popular,” says Hinteregger. “The fact is that, even when you factor in the higher cost, the versatility of the machine ends up saving you money and upping your capacity at the end of the day.”

Hin-Tech is also currently in the process of securing an agency for the development of carriages and harvester heads with an Austrian partner.

In addition, the company offers a very nifty lease-to-own solution scheme through an independent financial services provider, making it much easier for smaller operators and newcomers to the industry to invest in the machinery that they require.
There are giants working in the Montrose pine forests above Barberton today, in the form of a human “elephant” and her matriarchs.

The Owner of Winnie’s Logging Services, Winnie Ndlovu (which means elephant), grew up in the forests surrounding the Sappi Ngodwana Paper Mill near Nelspruit. Her father, Frank, worked for Sappi as a forester and when she was a teenager Winnie accompanied him to work in the forests during her school holidays.

“When I expressed an interest to study forestry after matric, I was told in no uncertain terms that it was not a place for women,” Winnie says. “So instead, I studied agriculture and with my diploma in hand, I joined TSB Sugar for two years to complete my practical training modules.” This was followed by a year working for a furniture manufacturer.

Winnie then found employment with timber contract harvester, Gavin Simms. “I worked for Gavin in the administrative department and learnt first-hand about the importance of keeping accurate machine and man-hour records plus all the essential regulatory paperwork that ensures a business runs smoothly,” she says. “Gavin was comfortable to let me work on my own and I appreciated learning so much about the timber contracting business in this way.”

After Winnie had spent seven years with his company, Gavin Simms decided to exit the contract harvesting business, choosing instead to hire out forest harvesting equipment under the banner of Sable Hire. At the same time he began mentoring young and upcoming entrepreneurs to start up their own harvesting outfits.

Winnie’s Logging Services mechanises with Matriarch machines

Winnie’s Logging Services is renting Matriarch and Bell equipment from Sable Hire.
Innovative forestry solutions

Matriarch Fastfell: Felling and bunching at the lowest cost per ton. The MT50FH felling head: The ‘business end’ of the FASTfell.

Matriarch Skogger: Accumulation, extraction, stacking and loading.

Matriarch, a focused team dedicated to research and development of innovative forestry products matched to your needs. Simple, cost effective, mechanised solutions that are built to last, and promote improved safety and productivity.

All supported by Bell Equipment’s strong, reliable distribution and after-sales support network.
Winnie’s Logging Services

“I always wanted my own company but was concerned about access to finance and other resources. In 2015 Gavin approached me and asked whether I had ever considered starting my own contract timber harvesting company,” Winnie explains.

“Fortunately, at that time, Sappi’s Forestry division put out tenders for timber harvesting contractors and with Gavin’s coaching and mentoring I negotiated a contract to supply the company with 85,000 tonnes of pine and eucalyptus a year, for five years.

Now that I had a goal, I had the confidence to launch Winnie’s Logging Services.”

She fearlessly began by employing 24 people, and among them was Violet Motubatse, who is now the company’s production manager. “Violet and I have been friends since we both worked for Gavin and she has lots of experience in timber harvesting and extraction,” Winnies explains. “We started off with 11 chainsaws and felled timber manually. The first machine we hired was a Bell 225A Logger from Gavin’s Sable Hire, which we used for stacking timber at roadside. We soon realised that to make a dent in our massive annual target of 85,000 tonnes we had no choice but to mechanise.”

Matriarch FASTFell and Skogger

Fortunately, Sable Hire was well equipped to assist Winnie with forestry equipment available at competitive rates. “Gavin has been so much more than a mentor to us as a young company. He helped us to obtain favourable financial terms from banks so that we could buy vehicles to transport our staff and light utility vehicles for both Violet and I,” Winnie says.

His vast knowledge, built up over many years in the forest, of how to work efficiently and safely is the stuff that no one can get from books alone.”

“Gavin owns the first Skogger produced by Matriarch’s Justin, Ashley and Kelvin Bell. He has just bought a second machine, and we hire these machines from him.” Working in unison with the Matriarch Skogger is the Matriarch FASTfell timber felling machine which has increased the company’s production to levels they did not think they would be able to achieve.

Winnie is adamant that a contractor’s experience and knowledge can only be gained by working
Matriarch’s Skogger and FASTfell machines make inroads

Richards Bay-based Matriarch Equipment officially launched the Skogger timber extractor and FASTfell feller buncher in January, and the machines are sought after by harvesting contractors.

The Skogger is a four-wheel drive machine designed with the primary application of timber accumulation and extraction. It is an articulated, hydrostatically driven machine equipped with a 0.5 square metre grapple. Safety and ergonomic considerations include an air-conditioned cab and a 180 degrees swivelling seat for enhanced operator visibility when reversing with a load of timber.

in the field. She and her harvesting teams are eager learners and value input from experienced specialists. A recent visit by Derek Howe, Bell Equipment’s general manager: Forestry, Sugar and Agricultural Sales, and Ashley Bell, Matriarch Equipment marketing manager, was welcomed.

"Derek is very experienced and is a wonderful teacher. He showed the Matriarch FASTfell operator how to cut a swathe into the compartment with directional felling which clears a way that allows the Skogger operator to bunch timber and extract and stack it at roadside from where it can be processed further."

Bell, Matriarch and Sable Hire

Working in tandem, the two Matriarch machines are playing a significant role in the sustainability of Winnie’s Logging Services. It is currently achieving around 320 tonnes per day and Winnie and Violet are confident that as their operators improve, this figure will increase. Working efficiently yet maintaining safety standards is a priority for the whole team.

Sable Hire’s equipment is rented out on dry rates and Winnie says she is impressed by the low fuel consumption of the equipment. The Matriarch FASTfell machine uses five to seven litres of diesel an hour and the Matriarch Skogger only slightly more at between six and nine litres.

“"The big decision for me now is whether and when I should buy my own equipment. If I do decide to buy then machines from Matriarch are top of the list,” Winnie says. "The equipment is competitively priced and we are assured of excellent technical back-up through Bell Equipment, so my first thoughts are that I want both the Matriarch FASTfell and Skogger. Time will tell though, and for now we’re relying on Sable Hire and its favourable rates.”
In an interview with WSA&TT in October 2016, the owner-manufacturers of Matriarch Equipment, brothers Ashley, Kelvin, and Justin Bell, described the Skogger as “unique” because it is a hybrid between a skidder and a logger.

It has the finesse and ability to accumulate timber in field and extract the load. The Skogger boom configuration allows it to be used to sort, stack and load timber with ease.

The FASTfell is a low-cost production feller buncher. It is a hydrostatically driven machine with a low centre of gravity and a rubber mounted air-conditioned operator cab with excellent all-around visibility and protection. The Matriarch MT50FH in-house developed felling head is equipped with a 750mm saw bar, using 0.404 pitch chain, an auto-chain tensioning system, and is capable of handling tree diameters of up to 525mm.

Matriarch’s success hinges on a balance between product durability, productivity, efficiency, and affordability. “This business is in our blood and we are continuously looking at ways of doing things better and improving on the products we offer,” says Ashley. Matriarch Equipment is shipping its products to customers throughout Africa, and to Indonesia, Malaysia, and South America.

Bell Equipment is the official distributor of Matriarch forestry and sugar industry equipment. Matriarch’s products are shipped to customers throughout Africa, and to Indonesia, Malaysia, and South America.

Ashley Bell of Matriarch Equipment describes the workings of the Skogger and FASTfell machines at the Focus on Forest Engineering field day held earlier this year.

Matriarch’s Skogger and FASTfell machines make...
Husqvarna Group is building its first solar power-generating facility at its injection molding site in Nashville, Arkansas, USA. The new facility is expected to reduce the carbon dioxide footprint by approximately 1,000 tonnes in the first year of operation and approximately 25,000 tonnes over the expected 25 year life of the facility.

The power-generation plant will have a capacity of 1.3 Megawatts of solar power, allowing Husqvarna to decrease its reliance on fossil fuels and to increase its share of electricity from renewable sources of energy. This reduced greenhouse gases and other emissions that incur from electricity generated by coal.

“At Husqvarna Group, we are serious about contributing to a low-carbon future and a more sustainable society. ‘Sustainovate’ is our approach to integrating sustainability into our business,” says Valentin Dahlhaus, senior vice president of operations.

Sustainovate is the group’s strategic approach to integrating sustainability into its business. Founded on five key challenges: Carbon challenge, Team challenge, Supplier challenge, Safety challenge and Community challenge, Sustainovate includes ambitious group-wide targets that will drive company performance to 2020 and beyond.

“Earlier this year we committed to reduce our carbon dioxide emissions by a third by 2035 compared to 2015. This onsite solar power installation will generate about 25 percent of the annual power required by the Nashville facility,” explains Dahlhaus.

Construction begins in the third quarter of 2017, and is expected to be operational by the end of the year. The solar generating system is scalable and has the potential to be expanded in the future.
Forestry South Africa (FSA) has welcomed the announcement by Dr Pierre Ackerman that his employment at Stellenbosch University and position as chairman of the Department of Forest and Wood Science (DFWS) has been extended until the end of 2018.

In a letter to the FSA Ackerman says “My role in the University therefore remains unchanged. I will continue to be responsible for forest operations research and teaching, the supervision of postgraduate students and leadership of the DFWS.”

He thanks the dean of AgriSciences, Prof Danie Brink, for his support and initiative in facilitating his continued service to Stellenbosch University and DFWS and to the broader forestry industry. In the context of a great deal of change, adjustment and even uncertainty in the forestry research and professional training environment, this decision will provide continuity within the department, build on current strengths, and position it to become even stronger in the future.

Ackerman continues: “As you are aware, with regards to forest operations, a significant amount of research is still required in the field of supply chain management where decision-making should be focussed on maximising value/benefit of the resource by optimising wood yield, wood quality and production costs from a knowledge based approach.

“Productivity development and benchmarking and data driven solutions within South Africa and in collaboration with international partners remains high on the agenda.

“In addition, I would like to mention that, by all indications, our 2018 intake of first year students will exceed expectations. With the increase in the level of mathematics requirements for first year registrations as from 2016, we are already experiencing a positive impact of better students, lowered attrition rates and hence the potential of a greatly improved final year throughput.

“High caliber students, increased student numbers and a healthy through-put rate bodes well for attracting top quality students into our postgraduate programme.

I must, once again, thank the forest industry at large for supporting, both in kind and financially, our research activities.”

**A robust helmet for tough conditions**

STIHL is a name to be trusted when it comes to combining quality with user safety and comfort. Now the STIHL Economy Helmet is available locally, with enhanced safety features at an affordable price. The operator’s face and eyes are protected by the wide, undepressed visor that is sealed at the brim to ensure that no dust, dirt or particles can enter, while hearing is protected by slim-line ear protection. A longer rear section shields the neck from the sun, while ventilation holes on top guarantee cooling air flow. A low-weight helmet with an ideal weight balance for user comfort. Designed for the demanding forestry sector at a price that anyone needing robust safety gear can afford.

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**Robust:** Just the right thing for use in heavy jobs with a trailer - thanks to the long, continuous bolt-on flange as additional support against lateral forces. All of this with built-in safety as well: 100% of the BPW landing legs production is checked in an endurance test before dispatch.

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NCT’s weighbridge innovations improve turnaround times

One of the crucial elements of the value chain for suppliers of timber is the net weight at destination or market. Weighbridges are installed at this point of sale to accurately measure the gross and tare weights of the vehicle used in the transportation of the timber from farm to mill.

NCT has four wood chipping mills and two depots where they receive round log timber from its suppliers. There are 10 weighbridges that service the various facilities.

According to the National Road Traffic Act (NRTA) of 1996, weighbridges are to be certified, maintained and calibrated every two years, or when major structural changes are made, by accredited service providers to ensure compliance and accuracy. This is done annually by NCT’s wood chipping plants and in compliance with legislation for depots.

When the wood chipping plants became wholly owned subsidiaries of the co-operative a review of the weighbridge software was undertaken. After investigation and enhancing the product unique to NCT’s operations, Wayware was implemented in 2015 to meet the standard weighbridge requirements.

Over the past two years NCT has incorporated many new enhancements and features into the product. These include:

• Overview cameras on entry and exit of the weighbridge. This shows the truck/trailer loaded and unloaded
• Licence plate recognition for verification of vehicle number plates
• The provision of an-unload voucher to manage the timber flow to chipper or log yard
• Improved control and management of internal log stock transfer from log yard to wood chipper
• Improved interface of the NCT load scheduling system; the supplier/transporter with a scheduled load is identified prior to weighing
• Real-time availability to suppliers of tonnage on delivery via the NCT members’ website after synchronisation of data from Wayware system
• Delivery note information is downloaded to the respective mill and can be verified on arrival
• Using the current weighbridge configuration, NCT has provided for axle weighing as required by the NRTA amendments on consignor/consignee legislation
• Integration of the weighbridge information at NCT’s head office for the processing of payment to suppliers.
• A new SMS service to supplier and transporter when an overloaded vehicle is rejected. The SMS is sent out as soon as rejection is flagged on the Wayware system
• NCT liaises with and provides the over-loading information to the Road Traffic Management System (RTMS) to which it is affiliated.

The system faces challenges from time to time however NCT addresses all issues that arise and has found the new innovations are beneficial to its supplier base and transportation service providers. Improvements to total turnaround times from arrival to departure are continuously investigated, and an example of this is the introduction of the digital notice board at NCT Durban Wood Chips that provides useful information to waiting drivers. This new feature will be rolled out to the Richards Bay complex.

• Extracted with permission and edited from NCT News & Views, August 2017
UD trucks launch dealership in Harrismith

UD Trucks has opened a dealership in Harrismith, Free State that is located inside the Highway Junction truck stop off the busy N3 highway, and will offer UD fleet owners convenient sales, service and maintenance support.

The dealership forms part of the Morgan Group, which also owns the UD Trucks dealership in Welkom.

Apart from scheduled maintenance and after-hours servicing (by appointment), the Harrismith dealership can assist in case of an emergency breakdown in the area. The dealership has a full parts department with daily deliveries directly from UD Trucks Southern Africa.

This service dealership also boasts UD Trucks-accredited technicians and apprentices, as well as a parts manager, general manager, and several other support staff. There are sleeping facilities available for drivers’ convenience as their trucks are being serviced. The Highway Junction truck stop also offers an onsite clinic, restaurants and even a laundromat.

Load correctly every time with a Loadtech On-board weighing system. Do not be the one caught paying the fine. Get the right payload every time!
Owning a portable sawmill is just the start of your journey. There is a galaxy of infinite possibilities with your Norwood,” advises Ashlynne Dale, president of Norwood Sawmills. “Unleashing those opportunities happens when knowledge meets passion.

Maximise the value of your wood, get more creative and more adventurous, grow your business, and build your family’s dreams.”

It seems that Norwood’s customers are heeding Dale’s advice. Growing international demand for the portable band sawmills manufactured by Canadian company, Norwood, has seen it get too big for both its US and Canadian warehouses, and establish a Netherlands-based distribution centre to supplement its dealers in Norway and Sweden.

“We have outgrown our US factory warehouse and are pulling up stakes and moving to a larger facility that we are renovating. In Canada, we are building a brand new 32 000 square foot facility that includes an expanded showroom,” says Dale. Since January this year Norwood began servicing customers and dealers in Europe directly instead of working via a distributor. To facilitate this change Norwood established its own centrally-located distribution facility in the Netherlands.

“Norwood ships all band sawmills in compact knock-down form on 1.2m x 1.2m pallets to save the prohibitive cost of shipping large and over-length equipment (a fully-built sawmill can take almost a whole full-length truck to transport). Hugo says a second huge advantage is that, if you accidentally damage any portion of your log deck, you only need to replace a section of the frame and not the whole bed, which makes it more cost effective.

Norwood on YouTube and in print
To support Norwood owners and future owners the company has published a 140-page full colour book, The Ultimate Guide to Portable Sawmills. It has helpful chapters on drying, grading, tips on milling for profit, sawing pattern potential and more. This is in addition to Norwood Connect, an online chatroom devoted to connecting Norwood owners around the world so that they can share sawmilling stories, tips, and strategies. Membership is free.

Norwood’s YouTube channel hosts Sawmill TV that has a playlist of Successful Sawmilking series videos with professional sawmillers giving advice and demonstrations. And if this is not enough, “Sawmill School” is a new playlist on the YouTube channel this year.

Hugo says it is a great place for novice sawmillers to get comfortable with the basics like how to coil blades, sawmill set-up and routine maintenance tips.

In the beginning
Norwood’s roots began in Canada more than 25 years ago when founder, Peter Dale, wanted to build a cabin in the woods but couldn’t justify the high prices charged for sawmills back then. He decided to build his own sawmill that he could count on to efficiently mill accurate lumber and yet was affordable. “The heart of Norwood’s mission and philosophy was born: quality and fair prices. We won’t sacrifice either,” his daughter and heir, Ashlynne says.

Austro and Norwood
Austro represents Norwood in southern Africa, and the product range is proving to be popular here too. Chris Hugo of Austro’s branch in Cape Town says one of the reasons for the growing African demand is the modularity of the machine. Customer needs evolve and grow over time and Norwood’s band mills can be customised. “You can choose the power, the accessories and commercial-capacity attachments, and tailor make your Norwood to match your needs now or as your milling operation grows in the future,” Hugo explains.

Norwood portable band sawmills grow businesses
“When you invest in a Norwood, you can be sure it was quality-built in Canada. Every component of every Norwood sawmill is made of top-quality steel by highly-trained, highly-skilled operators with cutting-edge manufacturing and machining technologies.”

Over 35,000 Norwood sawmills are hard at work in more than 100 countries worldwide, and the company holds more than 50 patents, that Ashlynne says is more than the combined total of all the other sawmill companies around the world put together.

She says Norwood was the very first company to develop affordable personal band mills and is the only company to focus entirely on this class of sawmills. “Since we launched our first LumberMate, other companies followed suit, selling their own lines of personal band sawmills, but only as an afterthought to their main focus on supersized, and super-expensive, hydraulic mills.

“We live and breathe personal, portable sawmills. Every team member, from the engineers to the customer-service specialists, devote 100% of their time and energy to making sure you’re proud to be a Norwood owner.”

The company continues to advance the frontiers of portable sawmill innovation, focusing its research and development on technology to reduce the time it takes to mill a log into lumber. Hugo says that by eliminating unnecessary operator functions and increasing capacity, Norwood sawmills help businesses to be more productive and profitable than any other.
Wood-Mizer recently celebrated another new dealership in the Democratic Republic of the Congo (DRC) with an open day in Mbandaka, which introduced the company’s range of sawmilling equipment to local sawmillers who mostly use chainsaws to fell trees and process logs into sawn timber.

The new branch is an extension of ConneX Forestry that is Wood-Mizer’s authorised dealership 800km away in Kinshasa. Sawmillers in Mbandaka will now have access to the company’s full range of sawmilling and secondary processing equipment including spares, blades, after-sales service, technical support and training.

Mbandaka lies on the east side of the Congo River below the mouth of the Tshuapa River, a tributary of the Congo. Mbandaka is the capital of the Équateur Province, and located only a few kilometres from the equator. Years of war and neglect have taken a heavy toll on the city infrastructure, with no electricity or running water in
large sectors of the city. Most of the streets and avenues of the city are dirt roads.

The rainforest in the Congo Basin is the largest rainforest in Africa and second only to the Amazon Basin in size, with 300-million hectares compared to the 800 million hectares in the Amazon. Roughly half of the remaining rainforest in the Congo Basin lies within the boundaries of the DRC.

Despite the huge timber reserves on its doorstep the Équateur Province remains poorly developed. It can only be reached by air or water, and most of its inhabitants resort to subsistence farming to feed families and provide for income with produce bartered up and down river.

The Congo River is the lifeblood of Équateur. Modern conveniences like a motorbike taxi service that...
recently replaced bicycle taxis, also arrived by river. It links the province to the outside world and riverboats ply the river ferrying goods to and from Kinshasa.

Logs that are felled during the dry season in the rainforest float out of the forests when the rains resume and continue down to Kinshasa where they are trapped and processed into sawn timber or exported in raw log form.

Outdated sawmilling equipment that results in unacceptably high levels of good wood going to waste, together with distant timber markets that can only be reached by water, has produced a pedestrian local timber economy.

The few logs that are channelled to Mbandaka’s shipyards for boat-building applications, are painstakingly sawn into boards using chainsaws. Local sawmillers say it can take up to four months to cut 10 cubic meters of boards from the hardwood logs.

Not only are the boards of inferior quality they are also not cut straight because the chainsaw operator makes a visual estimate of cutting lines. A 25-30% recovery rate is an accepted norm, which results in increased logging, often illegally, to make up for the shortfall.

Wood-Mizer’s introduction to Mbandaka holds the promise of better fortunes for the town, its people and the region.

ConneX Forestry, Wood-Mizer’s authorised dealer in Kinshasa, arranged the two-day event at the local port in Mbandaka. ConneX Forestry has secured premises that will house Wood-Mizer’s operations in the city to provide the backup that sawmillers need to start a sawmilling business and keep it running for the full duration of the mill’s lifespan.

The availability of modern, dependable, and regularly serviced sawmilling equipment that can cut high quality, precisely sawn timber in a fast and productive way with a +70% recovery rate, is one of the keys to unlocking the timber wealth that lies on Mbandaka’s doorstep.

The Wood-Mizer LT15Wide diesel sawmill that was demonstrated during the two-day event, produced four cubic metres of accurately sawn and high value timber. Measured against the four-month period required to cut 10 cubic metres of poor quality timber with a chainsaw, this represents a huge leap forward in productivity.

The sawmillers who attended the open day say they saw many advantages if they bought a Wood-Mizer sawmill, including the:

- Mobility of the portable mill that will boost productivity and turnover. Instead of relying on an unpredictable four-month rainy season to float the logs out of the forests to a sawmilling site, the sawmills can go to the forests to produce sawn timber throughout the year that can be transported directly to local, national or even international markets.
- Modular design that will allow them to grow their businesses over time with more capacity available when needed
- The range of power options including petrol, diesel and electric motors will give them flexibility to
choose the power option that best fits their needs.

- Blades that are designed to cut African hardwoods effectively, together with a full range of blade maintenance equipment, will give sawmillers the ability to maintain blades independently at prescribed standards in the remotest location.

ConneX’s activities in Mbandaka includes identifying areas that require replanting of the species that are endemic to these areas.

The long-term goal is to reinforce the message that timber has value and that replanting trees can protect biodiversity and create a sustainable timber business that can last for generations.

Wood-Mizer will work with ConneX Forestry to coordinate efforts to replant areas in the rainforest that have disappeared because of logging activities. Less wastage and higher recovery means less trees need to be cut down to produce sawn material.

Knysna community benefits from donated sawmill

Wood-Mizer’s donation of a new Wood-Mizer LT20B diesel sawmill to the Knysna Timber Initiative (KTI) will strengthen efforts to rebuild the community, homes and help, albeit in a small way, to alleviate the tragedy that hit the area.

Speaking at the handover of the mill, Wood-Mizer’s corporate director for emerging markets, Jean-Jacques Oelofse said, “First and foremost, from Wood-Mizer, our heartfelt condolences to the people of Knysna and the surrounding areas that have suffered personal tragedy and damage due to the fires that happened in early June. We trust that this contribution will help build a renewed and energised community.”

The mill will be managed by the KTI at its Timber Village location and will provide cut timber for the next six months to rebuild damaged structures for people that have been left homeless. Logs from invader alien species removal programmes in the area will form the primary source of the timber.

Plans are to make the mill available for community projects that require timber to be cut and it will also be used to train new bandsaw operators. In the long-term the KTI would like to set up the machine as a business offering a lumber milling service to locals. This small business will generate funds for the KTI that will be used for future skills development projects.

“Wood-Mizer gladly lends its assistance in making sure that #KnysnaRises again. God’s speed and good luck, says Oelofse.”
Lucas Portable Sawmills have become increasingly well recognised among the farming and timber communities as they are well-known as rugged high quality products at affordable prices.

The company has been providing their range of portable sawmills to the timber industry for nearly 23 years now and according to the head of sales for portable ranges at the Nukor Group - who holds the agency for Lucas portable mills in South Africa - Nico Prinsloo, the Lucas 8” is a staple in the market.

"With the Lucas 8" portable sawmill, Lucas achieved exactly what they set out to do, which is to create a machine that is rugged and powerful, simple to operate, versatile and affordable without compromising on quality," says Prinsloo.

"The machine is highly effective, economical, and only limited by the initiative of its operator. It has proven to be one of the most popular portable sawmills in the world due to the extreme durability and easy portability."

Prinsloo says Lucas Portable sawmills can be transported to nearly anywhere, and set up and run with minimal impact on the surrounding environment. With such a focus on environmental awareness, this is the ideal machine for a smaller operator.

"The Model 8-30 is currently the most popular choice in the Lucas Mill range, making up approximately 70% of global sales. This machine has a powerful Kohler EFI V-twin electric start motor, and the side shift winder and standard track extensions are standard with this model.

The fact that it is a circular swing blade mill adds significantly to its versatility as the blade can be adjusted to cut vertically or horizontally, and the log does not have to be moved and adjusted for every cut.

Versatility and power with the Lucas Mill 8-30
A full range of optional accessories are also available, including:

- 2 metre extension beam extension kit
- 6”, 8” or 10” slabber attachment
- Dedicated slabber (complete head unit)
- Bevel attachment for weatherboarding
- Log lift for lifting timber
- Metal detector kit

Machine specification:

- Engine: Electric start, EFI V-twin petrol 30hp
- Transmission: 5” centrifugal clutch, 3 SPA 1000 belts, 30mm shaft, 1 piece hub/shaft assembly
- Sawblades: 5 tooth TCT 3.2mm plate, 5.7mm kerf
- Cut Length: Up to 6.1m in standard form
- Cut Sizes: Up to 215mm x 215mm, Double cut up to 215mm x 430mm
- Side winder: Standard

Weights:

- Carriage: 168kg
- Tracks: 61kg
- End-frames: 81kg
- Shipping weight: 420kg
- Shipping sizes box: 1.03m x 0.75m x 2.85m,
  Tracks: 0.3m x 0.2m x 6.1m
- Slabber: Optional

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A Lucas 8-30 in action at the Diggers Rest sawmill in George’s Valley

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Peterson’s Automated Swingblade Mill (ASM) is a commercial mill, designed for fast and accurate timber production so you can work smarter, not harder.

“Market research in the US, Canada, Australia and New Zealand showed there was a gap in the market for a completely automated, swingblade portable and commercial sawmill – one that would be highly portable, productive and wouldn’t break the budget,” says company CEO, Kerris Browne.

The world’s first automated portable swing blade mill built by Peterson was released in 2003. After further testing on safety, ease of use, productivity and portability, a re-modelled ASM was launched 12 months later.

The ASM is perfectly suited for those that like the swingblade technology, but are tired of walking up and down on with their manual mills all day. The operator can control the mill without moving from the control panel. The automatic commercial mill can make horizontal and vertical cuts, change the size or depth of the cut, and remove the previous board cut, all at the touch of a button.

Weighing only 70kg more than a manual Peterson mill, the ASM is an automated version of the portable Peterson Winch Production Frame Mill. The automation is handled by a six-button control panel; press two buttons to change the width of the cut and press two others to change the depth of the cut.

The drive speed is controlled with a lever which you move forward to go, and pull to bring back. That’s how easy it is to get consistently accurate boards with high production.

New Zealand ASM owner, Kelvin Williams, agrees with the ease of use and high production. “I cut more timber in one day on my own with the ASM that I do in a day with two people on my manual mill,” he said.

Field tests show that Peterson ASM consistently cut 1.5 to two cubic metres per hour, while manual mills would expect to cut four to eight cubic metres per day.
Glenn Marquette is a woodworker and carpenter based in Wisconsin who needs to cut large beams for his renovation work. Peterson mills allow "double-cutting"; two horizontal cuts, using both sides of the blade, to make wide boards or slabs. Glen loves the ability to double-cut without having to turn the mill around.

"Others try to play this down, saying it only takes a few minutes to turn their mill around. But it’s a big deal if you are cutting several beams. You’d be goofing around, every time shutting the mill down, unhooking and turning, reattaching and starting the mill back up. I believe in working smarter, not harder!"

Another advantage is the ASM’s board remover that allows easy retrieval of boards from the log.

Glenn can cut a board and bring it straight back to him, ready to stack. Or for a two or three-man operation, the board remover also pushes boards out at the tailing end.
Fact: Growth in the forestry plantation industry in South Africa is insufficient to cope with the ever increasing demand for structural timber in the country, and it is a question of time before we will be forced to import timber to meet demand.

While the traditionally used Pine typically takes between 20 and 25 years to mature to structural grade timber, trees are now being cut as early as 15 to 17 years into the growth cycle in an effort to stave off the inevitable. And of course this results in less dense timber with a higher rejection rate when graded to the SANS standards.

Enter Biligom, a revolutionary product that has, for the first time ever, seen young, moist Eucalyptus treated and certified for use in structural applications.

Biligom is the brainchild of industry veteran, Spencer Drake, who has owned and operated Diggers Rest Sawmill in George’s Valley near Tzaneen in the Limpopo Province for more than 40 years before co-founding Biligom International with his son, Fred.

The idea of using wet off saw *Eucalyptus grandis* for structural applications is one that Spencer has been toying with for many years. Despite reservations from within the industry, he spent years researching and developing the Biligom product, even conceptualising, designing, and assembling from scratch, all the machinery used in the production of Biligom structural timber.

With his own research complete, the first Biligom plank was produced in 2007 and after a two year research project to have the product properly certified for use in structural applications, the first Biligom order was produced and shipped in 2012.

Biligom is certified for use in structural timber by the South African Technical Auditing Service (SATAS), the Institute for Timber Construction of South Africa (ITC-SA), the National Regulator for Compulsory Specification (NRCS), and is used in the design programs of roof truss and timber connector supplier, MiTek.

Biligom may yet prove to be the saving grace of the industry, relieving massive pressure on the structural Pine industry to try and keep up with demand due to the fact that *Eucalyptus* needs nowhere near as much time (two to eight years) to mature sufficiently for use in structural timber as Pine does.

According to Biligom International marketing manager, JD Botha, this does not mean that Biligom is meant as a replacement for Pine in structural timber.

“We don’t want to be seen as a threat to the structural Pine industry,” says Botha. “We believe that there is enough business to go around and that, with Biligom, we are able to fill the gap created in the market by the current disproportionate growth in supply and demand for structural timber in the country.

“We have a sound, fully certified product that is fast finding its niche within the market as uptake continually grows.”

And grow it has. Despite the many challenges faced while trying to introduce a new product into
Biligom® is backed by a 25 year warranty
Each and every board is mechanically proof graded
Biligom® timber is pre-treated with tanalith® E
(Contributes to achieving green building rating tool credits for Architects and Engineers)
Biligom® has an supplier accreditation from the ITC and is SATAS certified
Lower environmental impact than any other roofing structure
Less defects and no bow
900 Truss c/c on concrete tile roofs by using Biligom® 38x38 battens
33% Less timber by using the Biligom® 50x50 purlin
Biligom® is much stronger which means:
- Less timber per given roof structure
- Less sundries & consumables
- Greater profitability

The structural timber that is revolutionizing the SA roofing industry
More variety and design freedom, the roof truss designers choice
The cost effective option
Biligom takes structural timber market by storm

Sawmilling

a notoriously conservative industry, the team at Biligom International has managed to pull off what many thought would be impossible, gaining a firm foothold – and garnering lots of respect along the way – within the industry, managing in 2016 alone, a year-on-year growth rate of 189%, with no sign of the growth trajectory slowing down.

"It has been an amazing journey," says Botha, adding that the company’s focus on continual research and development into the effectiveness of the Biligom product in structural timber applications and intense engagement with the industry has greatly contributed to the company’s success.

While the company is adamant that it is actively pursuing a sustainable growth rate, there is already lots of interest across the borders from the rest of Africa, as well as other international markets such as Australia and South America, where testing is being carried out to ascertain the viability of the Biligom product for these markets.

"We are focusing our efforts on growing our footprint in South Africa at the moment," says Botha. "But there are definite plans to expand our reach into Africa. We are working hard to ensure that we have firmly established cross border trade into the rest of Africa by the end of 2017."

Breaking into the local industry

Introducing a new product – especially one that is so radically different to the traditional thinking – into an industry well-known for being fairly set in its ways, is quite a challenge, not made easier by the fact that the company was, from the beginning, dead set on marketing Biligom as a premium quality product, not only equal in every way to the traditionally used Pine, but in many instances preferable to Pine, depending on the application.

Biligom is graded to Biligom structural grade, which makes it equivalent to a high grade SA Pine in some characteristic values.

Partly as way of breaking into the local roofing industry, but mostly as a research and development project into how using Biligom can save roof truss manufacturers, suppliers and installers money while allowing for creative and innovative roofing designs without compromising on quality and strength, Biligom International decided to open Bilitruss, which specialises in the design and manufacture of pre-fabricated roofing solutions, using Biligom timber.

"Bilitruss has gone a long way toward changing attitudes in the roofing industry in our favour," says Botha. "Using the Mitek 20/20 truss design software, our highly qualified experts are able, in most cases, to produce average savings of between 20 and 30%.”

Bilitruss hits the nail on the head

ntroducing a new product into an established market is a challenging proposition even under the best of circumstances. Doing so in an industry that is known for being a little conservative to put it mildly, is a completely different animal altogether.

When Biligom International started using young, moist Eucalyptus grandis to produce structural timber, they realized just how big a challenge convincing the industry of the viability of their product could become.

So, in typical fashion, Biligom International founders, Spencer and Fred Drake, did exactly what no-one expected them to do - open a company that specializes in the design and manufacturing of roofing systems and trusses.

"It was quite a worry initially, as we were afraid that our clients would see it as us opening a company that is directly in competition with the very people that we would supply of structural timer for the production of roofing systems and roof trusses," says Biligom International marketing manager JD Botha.

"But the idea was actually to use the new company, Bilitruss, as research and development tool, with the aim of winning the industry over and convincing them of the merit of the Biligom product, while showing them the possibilities that this product opens up to them in terms of design, and showing them that this can be done in a very cost effective way.”
And has it worked? “It is still early days, but so far, things are looking really good” says Botha, adding that the company has designed and delivered their prefabricated roof trusses for a number of projects, large and small.

“We have partnered with a number of installers who have put this product to the test in just about every type of structure, from normal family homes, to major government projects like schools and clinics, and the feedback has been wonderful.

“We are approved by roof truss and timber connector suppliers MiTek, and they have set up their 20/20 roofing design software with a Biligom parameter, allowing us to do roof designs with Biligom specifications.

“This has truly given our design team the freedom to experiment with their designs and to see what is possible using Biligom.

It is probably one of the most useful tools that we’ve had at our disposal when it comes to convincing roof truss manufacturers of the viability of the Biligom product.”

The Bilitrus factory, situated in Tzaneen, is a hive of activity with continuous orders from roofing installers ensuring that there is never a dull moment.

“It has been such a success that we have had to come up with a completely new system for assembling the roof trusses within the factory,” says Botha.

The system consists of a number of movable tables on which the trusses are assembled before being moved to the MiTek Rollerpress which inserts the gangnails flush with the roof trusses.

The individual slats for the roof trusses are cut with a MiTek Easysaw, and a MiTek dual blade web saw.

“We are fully certified by the Institute for Timber Construction (ITC), with a category (A) I.T.C.
accreditation, meaning there are no minimum parameters or limitations to the projects that we can take on.”

One such project is situated in the Thorny Bush Estate in Mokopane (erstwhile Pietersburg), where local roofing installer, Rodney Prinsloo from RPD, is in the process of completing something that many in the industry would have deemed impossible with Biligom – installing an exposed truss roof in a luxury house.

According to Botha there exists a lot of misconceptions with regard to the cracks that appear in Eucalyptus as it dries out.

“Studies undertaken by the University of Stellenbosch have found that the cracks are merely cosmetic in nature and does not in any way have an impact on the strength of the wood,” says Botha, adding that the vertical fingerjointing technique used by Biligom has largely eliminated the issue of cracking, as cracks are generally stopped at the fingerjoint line.

According to Prinsloo, the trusses were designed with the help of Bilitruss design specialist, Henk van Wyngaard with a firm brief from the homeowner as to the effect that he wanted for the interior of the property.

“Henk managed to come up with a design that looks absolutely stunning,” says Prinsloo, adding that the trusses for this project ended up being at least 30% cheaper than that of the nearest competitor, and looking much better than any of the designs from other quotes that he’d gotten for the job.

“I’ve already secured a further four contracts just off the back of this job. It truly is an impressive design that not only fits aesthetically, but also meets all the legal requirements.”
A recent visit to the Diggers Rest sawmill and the nearby Biligom International factory in the vicinity of Tzaneen, proved to be an eye opener in more ways than one.

The Diggers Rest sawmill has been in business since the early 70s supplying chromate copper arsenate and creosote treated fencing and poles to clients throughout South Africa, Botswana and Namibia.

The sawmill has, since 2007, been supplying all the timber for Biligom International - started by the father and son team who also own the Diggers Rest sawmill - Spencer and Fred Drake.

One of the first things that comes to mind while walking around the busy sawmill, is the fact that all those years of operation has resulted in a well established, well planned, and cleverly executed production process where every step flows quite naturally into the next and no energy is expended unnecessarily.

According to Biligom International marketing manager JD Botha, this is exactly the focus of the operation at Diggers Rest. “We are very much geared toward running the sawmill as optimally as possible,” says Botha, adding that the entire management team at Diggers Rest gets a very early start every morning.

“Keeping your finger on the pulse of every aspect of the business is key to ensuring that we remain as efficient as possible. And the only way to do this effectively is to ensure a clear line of communication between the different departments is maintained.”

Thus every day is kicked off with a 6am management meeting where each department gets to report on what was achieved the previous day and any problems that may have arisen can be addressed immediately and without delay before the next shift starts.

“This level of dedication is one of the key reasons that this company has always run like a well oiled machine.”

Our tour starts in the log yard where Diggers Rest’s own fleet of trucks make several daily deliveries, and the waiting Bell threewheelers offload and sort the logs, ready for their journey through the sawmill, or to be turned into transmission poles or construction poles.

Logs that go through the mill for the production of Biligom structural timber enters the mill via a completely in-house designed and built conveyor system, from where the logs are sorted according to size.

Once sorted into length and diameter classes, the logs enter a double log edger – once again designed and built in-house – which leaves two flat sided cants. These cants are then put through a multirip saw that cuts them into the correct sizes for the Biligom planks.

Larger diameter logs are cut by a special LucasMill portable sawmill especially set up for this purpose. After exiting the LucasMill, the cants are put through a very special piece of machinery – a completely rebuilt 1965 Wehrhahn vertical rip saw affectionately known by the sawmill staff as ‘uncle Spencer’s baby’ – which cuts the cants into the correct sizes for Biligom production.

The sides that are removed are further processed into smaller planks that are sold for pallet wood and other applications.

At every stage of the process, a fully automated, and once again in-house designed and built waste collection system ensures that all the waste sorted and stacked.

Biligom International plant manager Rudolph Sonnekus with Biligom International sales manager JD Botha at the Biligom International plant in Tzaneen
collected. The sawdust and fine chips is sold to among others, pulp manufacturers, and the solids are burned in a massive furnace, which will soon deliver heat to another in-house manufactured marvel: a large room in which the timber can dry to ideal levels when the rainy season makes life difficult.

From the Diggers Rest sawmill in Georges Valley the cut planks are loaded onto trucks and transported to the Biligom International factory in Tzaneen, where they are further processed into the finished product.

At the Biligom International factory, it is evident that the Biligom product has seen quite a growth spell in the last year, with trucks at the ready and loading for delivery to clients.

According to Botha, the team at Biligom International is very pleased with the growth that they have managed to achieve within such a short space of time. “There has definitely been quite an uptake of Biligom structural timber over the past year or so,” says Botha. “More and more roof truss manufacturers are starting to see the benefits of using Biligom in their roof designs.”

Once offloaded in the Biligom International log yard, the planks are sorted into grading divisions before being cross cut to remove all knots and deficiencies and ensure that only the best short lengths are sent for fingerjointing.

The Biligom International factory, from start to finish, consists of machines designed and built by Spencer Drake and the Diggers Rest engineering team for the production of the Biligom product.

The planks first pass through the fingerjoint profiler, which cuts the fingerjoint profile vertically into the plank instead of across the plank as usually seen with Pine, before a polyurethane (PU) glue is applied to each plank and it is assembled using a hydraulic press.

After being left to cure for 2.5 hours, the planks are planed and nail plates are inserted before the planks are stress graded to Biligom structural timber grade. The plant currently produces Biligom in lengths up to 6.6m in 300mm intervals.

Lastly, the planks are pressure treated with the Lonza Tanalith E wood preservative, after which they are bundled and stacked for transport.
“The planks can be transported directly after being treated if necessary,” says Botha. The entire production process takes place in a production line that is optimally designed to ensure that the finished product can be produced in one single production day.

“A lot of time, expense, and planning went into designing the production process,” says Botha. “We pride ourselves in our efficiency and the efficiency of our production lines. No unnecessary energy is wasted in the production of Biligom products.”

While loathe to go into detail regarding the volumes that the plant is churning out, Botha did add that, despite the massive growth that the company has experienced in the past year, they are still able to up production significantly with no danger – yet – of reaching full production capacity.

“But just in case,” he says, “we have contingency plans in place which will enable us to erect a fully functional, fully automated production plant within two months if and when it becomes necessary to do so.

“We are exceptionally excited with the new plant designs as they will enable us to fully automate the process, reducing the number of staff to run the plant from 100 to around 20 for both shifts.”
The Use of Biligom as a structural material

MiTek has previously sent out a MiTek Guideline in September 2014 regarding MiTek and the use of Biligom, wherein we stated that:

Aesthetic Considerations
It must be noted that in the drying process, the Biligom material has a tendency to develop surface and end cracks. In addition to this cupping and shrinkage could be seen. The surface cracks have no influence on the structural strength of the timber. The end cracks may be more severe on larger timber sections and an anti-split plate may be required.

We have come across several situations lately where the end of the timber has indeed cracked, and the splitting has been significant.

We would like to recommend that:
• All Biligom trusses be protected from the elements, both at the factory and on site. Repeated wetting and drying of the timber appears to make the end cracking worse.
• Any cut end should have an anti-split plate hammered into the end grain, or in the case of an overhang, a M20 anti-split plate placed 100mm away from the final cut line (to allow some tolerance on the overhang cut on site).

Biligom is placing anti-split plates on all ends of their stock, before being supplied to the industry.

The normal anti-split plates are available as EA02x10, EA02x12 and EA02x16.

These can be cut to size as required.

<table>
<thead>
<tr>
<th>ANTI-SPLIT PLATES (sizes in mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 x 10</td>
</tr>
<tr>
<td>02 x 12</td>
</tr>
<tr>
<td>02 x 16</td>
</tr>
</tbody>
</table>
MiTek and Biligom

General
Biligom is a registered trade name for a Eucalyptus structural timber which can be used in the manufacturing of trusses.

The timber itself is cut from young Eucalyptus trees, which are left to dry in the plantations for a period of 6 weeks. They are then sized and finger jointed before treatment. The actual process can be seen on YouTube at https://www.youtube.com/watch?v=wPwZbN_TBY4.

Developing and testing
In developing the product, the timber was assessed at the University of Stellenbosch and the various strength properties allocated to the timber. Biligom then adopted a Quality Assurance scheme in collaboration with SATAS, where the timber was structurally graded to a private specification to give a Biligom Grade with its own characteristic strengths.

Treatment
It is a requirement that all Saligna used in SA need to be treated. Biligom is being treated to H3 SANS 1288 specifications with the approval of SANAS and SAWPA.

Prototype testing
MiTek Industries were then approached to undertake prototype tests with this timber to ascertain whether the timber could be used in a wet off-saw state, the effect of the timber drying out on the plates and the differences between the wet off-saw and the dry timber trusses.

We manufactured 6 trusses spanning 9 000mm with a fink configuration and tested 2 of these trusses immediately at a moisture content of 20% as measured on the edges and 35% as measured in the middle of the section.

We then allowed the timber to dry out for a period of 6 months and then tested another 2 trusses.

Results and discussion
In accordance with the prototype testing requirements as laid out in SANS 10163, a tested truss need only reach a safety factor of 2.5 averaged over 3 trusses. These BiliGom trusses exceeded the requirements with ease, and showed that they were possibly much stronger that the strength allocated to them.
It was very interesting that the third truss failed as a result of bending failure of the timber in the first panel. This does not normally occur in SA Pine species. The failure occurred as a result of compression failure in the member (resulting from the combination of the moment and compression forces acting together). On analysing this particular section under the loads and moments, we found an excellent correlation to the compression strengths found by the University of Stellenbosch, being a failure stress of 24.7 MPa compared to a 5th percentile of 19.4 with mean of 24 MPa.

The stiffness of the members appears to be comparable to the of Grade 7 timber, even though some of the other characteristics appear to be better. It must be noted that some of the characteristic strengths are weaker than a Grade 7, which led to the private specification for Biligom.

**Plate Testing**

We had made up matched samples of individual pieces of timber to test the characteristic plate strengths of MiTek nail plates in Biligom.

The strength exceeded our expectations and calculations, and we had the plate failing across the joint at its characteristic strength. This served to show us that the plate strengths into the Biligom equalled or were better than that which we use in Pine. An example of this also could be seen in the failure mode of the first 2 trusses, where the heel plates failed at a safety factor of 5, compared to the required safety factor in practice of 2.5

**Conclusion**

We could then safely say that the Biligom Material could be used for the manufacture of MiTek trusses using our proprietary plates, in both a wet or dry situation, and the strength of the final product would equal or exceed that of a Pine truss.

**Aesthetic considerations**

It must be noted that in the drying process, the Biligom material has a tendency to develop surface and end cracks. In addition to this cupping and shrinkage could be seen. The surface cracks have not influence on the structural strength of the timber. The end cracks may be more severe on larger timber sections and an anti-split plate may be required.

The shrinkage of the timber had no effect on the plates, whereas on pine, in a continual wet and dry process, the fibres tend to push the plates out.

**Implementation**

The Biligom material will be provided in the following sizes

<table>
<thead>
<tr>
<th>Cut size</th>
<th>38 x 38</th>
<th>finished size</th>
<th>35 x 35 (Battens)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut size</td>
<td>50 x 76</td>
<td>finished size</td>
<td>45 x 70 (Purlins)</td>
</tr>
<tr>
<td>Cut size</td>
<td>38 x 76</td>
<td>finished size</td>
<td>35 x 73</td>
</tr>
<tr>
<td>Cut size</td>
<td>38 x 114</td>
<td>finished size</td>
<td>35 x 100</td>
</tr>
<tr>
<td>Cut size</td>
<td>38 x 152</td>
<td>finished size</td>
<td>35 x 148</td>
</tr>
</tbody>
</table>

**Design process**

Biligom has been added as a new species to MiTek 20/20 with its own characteristic strengths, where the user will have the ability to select timber as he or she requires. A mix and match of timber (Biligom and SA Pine) will also be possible.
STRONG TIMBER CONNECTION

MiTek Industries® is the leading Roof Truss System supplier in South Africa and the world. No need to go anywhere else!

We are the world leaders in the industry, with 9 Engineers totalling 170 years’ experience (combined), we are also ISO 9001 accredited and backed with an international P.I. Insurance.

We also offer full size prototype truss testing as an alternative truss design method. With a network of over 190 licensed truss manufacturers utilizing MiTek’s state-of-the-art software we can provide a competitive and economic solution to even the most complex of roofs.

With all our products and designs warranted, we offer total peace of mind.

Inventors of the Nail-Plate System (Gang-Nail) 1956.

MiTek®, creating the advantage

*MiTek Industries South Africa (Pty) Ltd, a division of the worldwide MiTek Group.
When Africa’s largest supplier of treated poles, the R&B Timber Group, decided to convert two treatment plants from producing Tanalith C products to Tanalith E products, Lonza Wood Protection’s experienced team stepped in to provide the depth of resources needed to do so.

“Our decision was prompted by the growing demand for Tanalith E preservatives in the West African countries, which is influenced by the European market. A highly informative presentation by Lonza on the product benefits helped us realise that this move would align our business with a sustainable future investment,” says Cliff Gilson from the R&B Group.

“A smooth transition was our number one priority, which meant fully utilising our depth of skilled resources,” explains Doug Sayce, Lonza’s general manager, who undertook the initial plant audit to determine the conversion requirements at Harding Treated Timbers.

This was followed by an inspection at Natal Forest Products by Shaun Schouten, Lonza’s engineering coordinator, who later supervised and supported the R&B engineering teams who undertook the minor treatment plant modifications.

To provide optimum customer training, Lonza went the extra mile by flying in Daryll Ehrke, Lonza’s export manager, to conduct the production and quality management training. After the conversion and stock delivery, Absalom Mngomezulu, Lonza’s customer accounts manager from the Cape region, assisted with training the operators at both sites.

JJ du Plessis, Lonza’s sales manager, conducted Tan-Treat training with the production administration clerks to ensure easy and accurate record keeping of the Tanalith-E product charges. Regular and ongoing onsite support is provided by Gareth Wesselman, Lonza’s KwaZulu-Natal customer accounts manager.

“The team was focused on timeously and meticulously executing the project within the quality and safety requirements, and with the bare minimum disruption to production. This approach demonstrates our commitment to ensuring that our customers experience every benefit of Tanalith-E, which includes Lonza’s hand-in-hand personalised service,” says Sayce.

Gilson complimented Lonza saying that the support and work carried out was very professional. “They were extremely accommodating and their ability to meet our unique requirements was a huge benefit. Looking ahead, we are confident that this will have a positive impact on our business.”

Tanalith-E is a water-soluble, chromium-free and arsenic-free wood preservative designed for industrial application using a purpose-built vacuum/pressure treatment plant. Use of pressure treatment allows the preservative to be forced deep into the wood to give long lasting protection against insects such as borers and termites, and decay fungi.
It’s all about confidence
Tried, tested and trusted preservative protection for timber.

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1/a Arch Wood Protection (SA) (Pty) Ltd
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PO Box 54344, Marburg 4282,
South Africa.

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Fax: +27 (0)39 682 9022
Email: wood.sa@lonza.com
Visit: www.lonzawoodprotection.com

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PROMOTING THE USE OF PRESERVATIVE TREATED TIMBER
PROMOTING TREATED TIMBER PRODUCED BY SAWPA MEMBERS

CHOOSE THE CORRECT HAZARD (H) CLASS:

H2 – Low Hazard: Inside above ground
H3 – Moderate Hazard: Outside above ground
H4 – High Hazard: Outside in ground
H5 – High Hazard: Outside in contact with heavy wet soil or in fresh water
H6 – High Hazard: Prolonged immersion in sea water

FOR MORE INFORMATION ON ANY ASPECT RELATED TO TREATED TIMBER PRODUCTS AND THE CORRECT USE OF TREATED TIMBER, OR WHERE TO CONTACT SAWPA MEMBERS, PLEASE CONTACT:

Tel: 011 974 1061
sawpa@global.co.za
www.sawpa.co.za
How to get more from your bandsaw mill

No matter its size, a sawmill is only as good as the blades used on its machines, so choosing the correct one is critical to maximise cutting performance and output.

Dakin-Flathers, UK manufacturer of the primary wood processing and ripping bandsaw blades, Ripper, talks us through the key elements of blade selection and usage and explains why not all saw blades are created equal.

Dakin-Flathers is a privately owned, family-run company with over 125 years of saw manufacturing experience. Purpose-built 24-hour production facilities in Yorkshire, England are combined with state-of-the-art machinery to manufacture bandsaw and bandknife blades for a wide range of industries including the sawmilling and woodworking industries.

Thanks to their focus on quality and performance, Dakin-Flathers has grown from being the leading supplier in the UK to one of the leading suppliers in the world, exporting to over 100 countries. So they know a thing or two about blades...

Choosing your blade

Choosing a blade can sometimes be confusing with such a variety of options available from several manufacturers. Raw material, tooth set, tooth shape, width or thickness of a blade and even just the price all contribute to a tough decision for the user. Why do some blades cost more than others? Are you getting a good deal with a cheaper blade? Is there even a difference between premium and budget blades? The answer to the last question is a definite ‘yes’.

There are many variables which need to be considered when selecting blades but the two main areas are the manufacturing process, and the way you maintain them - ensuring you really do get the most from your sawmill.

Manufacturing process

The key factor to consider when choosing any brand of blade is the technology used to manufacture them. You may think that in this day and age all manufacturers use the most cutting-edge technologies available, but you’d be wrong.

Luke Murray accepts directorship at Wood-Mizer

Luke Murray, a Nelson Mandela University (Saasveld) diplomate with over 15 years experience in the southern African sawmilling industry, has accepted the position of corporate industrial products director at Wood-Mizer and will work from his base in Cape Town.

Making the announcement, Richard Vivers, president of Wood-Mizer Holdings says the company is diversifying its global footprint with new product lines and an expanded geographical presence. They are embarking on a strategy of providing solutions for sawmilling customers require higher levels of output and more advanced equipment and expertise.

Murray will be responsible for overseeing the development and positioning of industrial sawmilling products to sell into markets worldwide. He will work closely with the engineering, marketing, sales, and customer service departments within Wood-Mizer LLC (USA) and Wood-Mizer Industries (Poland) to develop, promote, sell, and service industrial equipment.

Murray’s sawmilling machinery development background has its roots in the family-owned business Multisaw. He was instrumental in designing and selling Multisaw industrial equipment in Southern Africa and Japan. Wood-Mizer now owns the rights to Multisaw products which are branded as Wood-Mizer TITAN.

“Our plan is to continue expanding the TITAN line to reach a broader customer base.

Luke’s experience and energy will be a great addition to our team and the global sawmilling market. Luke will work closely with Adam Kubiak in Poland, Gary Vande Linde in the USA and Wood-Mizer’s sales directors to sell the TITAN product,” says Vivers.
The saw blade industry is a relatively traditional and mature market and there are only a handful of manufacturers taking the next steps in saw blade technology.

### Punched or ground tooth?

Many blade manufacturers still use traditional production methods for producing tooth profiles such as punching and sharpening. These methods, like punching teeth, put unacceptable levels of stress on the blade before it is used. It can result in reduced life, inconsistent performance and blades that often need to be re-sharpened before they can be put to work. Something many a sawyer will have experienced in their time.

Some leading manufacturers, like Dakin-Flathers, fully profile-grind teeth using a specially designed diamond-grinding process on state of the art CNC machinery. Grinding teeth is a more time-consuming, costly and exacting process; but the results are sharper, more reliable and longer lasting blades. Something which every sawyer can truly appreciate.

The ‘finite model’ (Fig.1 and Fig.2) demonstrates the result of cheaper punched blades versus quality ground teeth. Red, yellow and green areas in the body and gullet indicate high stresses, which can lead to premature band saw breakage.

### Tooth set

Producing the ‘perfect’ tooth set is critical in optimising a blade’s performance. Consistency is key. Good balance from one side to another means the blade will cut straighter, and the optimum kerf allows the blade to cut freely, with lower feed pressure, whilst maximising yield and surface finish. Even the smallest of differences in set will result in a wider, uneven cut – creating a rough finish, more waste and a less finished product.

The latest development in setting technology, which Dakin-Flathers utilises, is a proprietary dual-contact action process which passes through a highly accurate digital photometric gauge that automatically checks and adjusts any misaligned teeth. This enables the optimum degree and balance of set to be placed on every single tooth with exacting precision.

### Tooth hardening

Hardening teeth is a fine science. Hardening that does not extend to sufficient depth on each tooth limits the number of re-grinds that can be performed during servicing, causing a loss of performance after a few re-grinds, and shortening the life of the blade. Conversely, hardening teeth too deep into the body of the blade increases the likelihood of the blade cracking and breaking.

There are several ways to harden teeth, including flame hardening, but the most accurate and effective way by far is induction hardening. This allows the manufacturer to maintain a predetermined hardness programme which is consistent and highly repeatable. This ensures every blade, no matter when it is manufactured, has the exact same specifications and tolerances.

### Maintaining your blade

No matter which blade you choose, budget or premium, even the best blades don’t last forever! To maintain high levels of service and consistent output, the blade will periodically need maintenance.

The ‘rule of thumb’ is to service a blade after around three hours of work but, people who cut regularly will instinctively ‘feel’ when blade performance starts to decline significantly due to wear. Resist the urge to push for a few more boards. It really is a false economy, as forcing a blunt...
blade will result in poor finish and often premature blade fracture due to the heat generated.

So, here are a few key elements (though there are many more) which you can adopt to maintain excellent blade performance.

1. Blade break-in
When you install either a new or freshly sharpened and set blade, make a few cuts at a slower speed and feed rate to ‘break-in’ the blade (sometimes referred to as honing) before continuing to cut at full speed. This basic and quick procedure can extend blade life.

2. Blade tension
You should follow the machine manufacturers’ instructions for correct blade tension, making sure that you check and adjust accordingly, particularly each time you start work.

Expansion as the blade heats up while sawing will reduce the tension in the blade during the first few cuts.

Many saws have pre-set tensioners but the only true way to measure tension accurately is with a purposely engineered tension gauge. Using a tension gauge not only ensures your blade is set up accurately, it also reduces your operating costs by increasing blade life, extending production time and reducing machine operating costs.

Over tensioning blades is also an issue. Blades that are over tensioned can become stressed and fail prematurely. Signs to look out for are hairline cracks on the back edge of the blade and/or in the gullet area between each tooth.

TIP: Always de-tension the blade when you have finished working as the blade will contract as it cools down, which can cause damage to the blade and/or the saw.

3. Re-sharpening and re-setting
Whether you maintain the blades yourself or use a professional sharpening service, the job needs to be done correctly.

With careful usage, good results can be achieved with a variety of brands and styles of sharpener and setter.

For the best results, we at Dakin-Flathers recommend that you use a grinder with a full profile Borazon plated grinding wheel, with the correct tooth geometry for
Fires and dust explosions are a constant threat in any industry where combustible materials are being processed. Thus, the timber industry is especially susceptible to fire-related accidents occurring. It takes only an instant for a spark to become a fire.

A lot of focus is placed on having an effective dust extraction system in place, and while this will certainly help, it does not take the place of a proper spark detection system.

According to Branslav Petrovic from the Nukor Group, the local agents for GreCon range of spark detection and fire prevention systems, spark detection systems are primarily used as a fire prevention method in dust collectors, mechanical and pneumatic conveying systems by detecting and extinguishing sparks and embers.

“The causes can range from foreign objects in the conveyed material, defective parts of production machinery, and friction processes that can cause sparks. “With the GreCon system, the problem is tackled where it starts, with spark detection sensors installed along the production line at points where sparks are likely to be generated thus it can be detected and extinguished within milliseconds.”

In today's business environment, most production plants need to push to become more efficient and effective spark detection with GreCon

No matter what the cause – and there are many possibilities – sparks have to be detected and controlled quickly,” says Petrovic. “It can occur anywhere along the production line, although most likely in filters, dust collection bins, and silos.

TIP: If your tooth set is accurate but you still encounter a ‘washboard’ effect, check your blade tension as it may be too low. A blunt blade can also lead to the same effect.

4. Setting your guides
The vast majority of premature blade failure and substandard blade performance is due to guides being set incorrectly by the operator. Guides need to support the blade during cutting but should not rub hard against the blade as this will generate heat, which will ultimately lead to fatigue cracking and blade breakage.

Following these simple guidelines when you use your saws and maintain your blades, should vastly improve your overall sawmilling performance. Happy sawing!
constantly try to increase productivity. This often comes at
the expense of safety and issues like the possibility of fire
generating sparks and systems to detect these early and
stop fires before they occur, get forgotten.

“Spark detection and extinguishment systems can detect
and eliminate ignition sources before fires or explosions
occur,” says Petrovic.

“A GreCon spark detection and extinguishment system is
suitable for almost any position of the production process
to ensure fire protection or monitoring functions by means
of special sensors. Infrared detectors monitor conveyors and
can, if necessary, activate high-speed water extinguishing
devices within a few milliseconds.

“The spread of ignition energy can be
effectively prevented.

A diversion or shut-off of the product flow is an option
and is used whenever extinguishment with water is
impossible, but in most cases, a GreCon spark detection
and extinguishment system is able to locate and extinguish
sparks without having to interfere with the
production process.

“Depending on the events – which are recorded exactly
to the millisecond - adequate measures are automatically
and specifically activated via a fourfold graduated alarm
system. These measures can be carried out without
interrupting the production process.
TIMBER PROCESSING CONFERENCE 2017

14 INTERNATIONAL SPEAKERS
25 - 27 OCTOBER 2017

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Randpark, Johannesburg

GPS Co-ordinates
S26°06.862 E27°58.000

Presented by the NUKOR GROUP of companies
## Conference Program

### Wednesday, 25 October 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30-8:30</td>
<td>Registration, Coffee, Tea</td>
</tr>
<tr>
<td>8:00-9:45</td>
<td>Microtec: The sawmill of the future with CT Log scanner. Using the internal defects, CT Log 360° X-ray CT-Sawing Optimization evaluates appearance, quality and strength before the breakdown of the log.</td>
</tr>
<tr>
<td>9:45-10:15</td>
<td>Yalon Korne: Whole tree debarking vs. log debarking. Wood is brought to the mill either as whole trees or logs cut to specific dimensions. At facilities that process whole trees, the debarking is normally performed before cutting.</td>
</tr>
<tr>
<td>10:15-10:45</td>
<td>Tea</td>
</tr>
<tr>
<td>10:45-11:15</td>
<td>Springer: SPRINGER log sorting lines to ensure trouble-free infeed and singulation, with the least noise. The potential capacities of log infeed units range from 10 to 50 logs/min.</td>
</tr>
<tr>
<td>11:15-12:00</td>
<td>Linck: The processing of unsorted logs allows logs of different diameters. Processing of logs with small end diameters ranging from 12 cm to 65 cm and with lengths from 2,400 m to 7,000 m and feed speed up to 180 m/min.</td>
</tr>
<tr>
<td>12:00-12:45</td>
<td>EWD: High Performance - Eiger Optimizer System for more than 20,000 boards per shift with 50 - 70 pcs/min.</td>
</tr>
<tr>
<td>12:45-13:45</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:45-14:15</td>
<td>Mills: Narrow Band saw technology for production output of 1,500 m³ – 4,000 m³ per month.</td>
</tr>
<tr>
<td>14:15-14:45</td>
<td>Vollmer: Stelliting with enhanced plasma welding technology. Sharpening gang saws with VOLLMER advanced grinding technology, combined with an intelligent control system.</td>
</tr>
<tr>
<td>14:45-15:15</td>
<td>Tea</td>
</tr>
<tr>
<td>15:45-16:15</td>
<td>URBAS: The combined generation of heat and electricity ensuring maximum efficiency in the utilization of biomass fuels. URBAS have successfully realized and established over 1,000 plants throughout Europe with power ratings ranging from 500 kW to 15 MW.</td>
</tr>
<tr>
<td>16:15-16:45</td>
<td>Q &amp; A</td>
</tr>
<tr>
<td>16:45-18:30</td>
<td>Cocktails and Drinks</td>
</tr>
<tr>
<td>19:00-22:00</td>
<td>Nukor Gala Dinner</td>
</tr>
</tbody>
</table>

### Thursday, 26 October 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30-8:30</td>
<td>Registration, Coffee, Tea</td>
</tr>
<tr>
<td>8:00-9:15</td>
<td>Weiing: Group introduction and overview. Moving towards Industry 4.0: Digitization with sound judgment.</td>
</tr>
<tr>
<td>9:45-10:30</td>
<td>Luxorcan: Drymill Board Scanning Solutions. Fully-automatic, high-performance lines are being used increasingly in modern wood processing, even in rough mill applications.</td>
</tr>
<tr>
<td>10:30-11:00</td>
<td>Tea</td>
</tr>
<tr>
<td>11:00-11:45</td>
<td>Grecon: Finger joint solutions for short and long timber.</td>
</tr>
<tr>
<td>11:45-12:15</td>
<td>Springer: Springer conveyor systems, grading and sorting plants for speed rates in the planing lines of 60 to 1200 m/min. CLT (Cross Laminated Timber) Production Plants.</td>
</tr>
<tr>
<td>12:30-13:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:30-14:00</td>
<td>Raiman: Drymill Optimizing Edgers. High-performance multi-blade rip saw for all requirements.</td>
</tr>
<tr>
<td>14:00-14:30</td>
<td>Weima: Wood Shredders and Briquetting.</td>
</tr>
<tr>
<td>14:30-15:00</td>
<td>Grecon: Spark detection and extinguishing systems for dust extraction installations.</td>
</tr>
<tr>
<td>15:00-15:30</td>
<td>Tea</td>
</tr>
<tr>
<td>15:30-16:00</td>
<td>Bruks: Waste disposal lines for the timber industry.</td>
</tr>
<tr>
<td>16:00-16:30</td>
<td>URBAS: Power generation and gasification from dry biomass.</td>
</tr>
<tr>
<td>16:30-17:00</td>
<td>Q &amp; A</td>
</tr>
<tr>
<td>17:00-18:30</td>
<td>Cocktails and Drinks</td>
</tr>
</tbody>
</table>

### Friday, 27 October 2017

**Nukor Golf Day**

- **Nukor Suppliers and Customers**
  - 07:00 - 14:00: Golf, Four Ball format
  - 14:00 - 15:00: Prize Giving
  - 15:00 - 16:00: Suppliers depart to the Airport

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**OUR EXPERIENCE, YOUR ADVANTAGE**

**HEAD OFFICE**
Johannesburg

**Contact Information**
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Email: info@nukor.co.za
Glossmax High Gloss boards are decorative shiny surface wood panels that are put through various industrial processes with an advanced and unique technology and achieved through the application of adhesive and UV lacquer to the single surface of MDF or chip boards. During the hot coating application which provides an excellent adherence to melamine surfaces, PUR (Polyurethane) adhesive coating is applied onto the material surface. After the chemical curing of the polyurethane adhesive an outstanding scratch, shock and wear resistant hard surface is achieved. The PUR material is also durable against UV rays and chemicals. The top layer which is applied immediately afterwards and which hardens under UV rays provides an excellent degree of gloss.

This technology provides a solution that opens new possibilities in surface coating, emphasizes the natural appearance and texture of solid wood and makes surface finishing applications considerably easier.

Glossmax high gloss boards create furniture combinations that are modern, graceful and shiny for kitchen, bath, home, office and all kinds of decoration projects. Glossmax high gloss boards which are resistant to wear, impact and scratches not only reflect the natural beauty of wood but will also enrich your venues with a variety of color options and a shine like glass. While useable in furniture production as a symbol of style and quality, Glossmax high gloss board products are paving the way to a whole new era in the sector with a technology that maintains the special glossy appearance for a very long time.

Available Decors:
Arcadia, Lacquered White, Venezia, Nova, Light Sapphire, Dark Sapphire, Galaxy Caramel, Galaxy Black, Moonrock, Coral, Daphne, Black, Red, Salvador, Bamboo, Elvira, Verde, Arcadia Dark, San Remo, Ultra White, Super White, Rose, Berry, Cotton Latte, Cotton Mink, Kuvars, Anthracite, Sandstone, Ibiza

DIMENSIONS: 2100 x 2800 mm.
Production can be done at thicknesses between 8-40 mm.

Product Colour References in Image
D161 - DAPHNE
D129 - LACQUER WHITE

Illustration of layered panels using Glossmax technology
Time to Explore

The advantages of Gloss Panels ...

GlossMAX®

by kastamonu

MAX SIZE, MAX PERFORMANCE, MAX MATCH, MAX SERVICE

Glossmax® is a registered trademark of and distributed in Sub-Saharan Africa by Contemporary Creations
70 Kyalami Drive, Killarney Gardens, Cape Town, South Africa
Tel: +27 21 556 0576 • Fax: +27 21 556 0596 • Email: info@contemporarycreations.co.za
www.contemporarycreations.co.za
FULL RANGE OF MDF BOARDS (E1)

The woodgrain, modern and sophisticated, is accompanied by a syncropore very matt, deep, with a natural touch of raw timber.

Registered embossing and modern synchronised key melamine are exclusively available from us.

A woodgrain with irregular flowers with a large scale and important cathedrals, both elegant and sophisticated, enhanced by a synchronised finish which makes the product identical to timber.

Matching edging available for all products.
NEW VENEERS

AMERICAN WALNUT
BOARD SIZE: 2750 X 1830 X 16MM (E1)
R 975.00 PER BOARD
T&C APPLY

Screw Holdings for our 16mm white E1 Melamine
Face Side: 850N
Edge: 500N
Contemporary Creations opening in Algeria soon!

At Contemporary Creations we have become aware of a gradual decline in manufacturing within the South African market. The decline was first noticeable in 2015 with the uncertain political situation in the country being a large contributing factor.

External regulatory counsel have implemented numerous changes over the past years which only added to the already strenuous manufacturing arena.

Our research has resulted in noticing an active growth in Algerian Industry of 4% compared to a growth in South Africa of 1% within the same business space. Algeria is also logistically located to allow for export potential to Europe and endless clients with active buying power.

We will be working in synergy with a well established company to ensure rapid growth and a smooth business activation.

We feel confident that the partnership between Contemporary Creations, Algeria LTD and North African Timber Importers LTD will result in the securing of a large portion of the Algerian quota as issued by their government.
Combining Global trend inspiration with local insight

Colour influences every aspect of our lives – from fashion and décor to art and design. As South Africa’s largest paint manufacturer, colour is something that Kansai Plascon truly immerses itself in.

For decades, the brand has combined the science behind innovative coatings with the inspiration to make understanding and using colour, easy and exciting.

Every year, Kansai Plascon publishes their viewpoint on the latest colour trends in their Colour Forecast. It starts with the experts in the brand’s Colour Team surveying the way colour is being used across the creative industries, and then filtering this insight into a set of trend stories that truly reflect the global mood.

These curate a palette of colours from the Kansai Plascon colour system, brought to life through inspiring room sets and inspiration imagery. With this approach customers can get an insight into the trends at play, supported by the guidance to bringing the looks to life in their own spaces.

The Kansai Plascon Colour Team are responsible for making sure that the brand’s viewpoint on colour is both on-trend and accessible for their customer.

They bring the creative complement to Kansai Plascon’s scientifically-advanced and innovative product development and the Plascon Colour Forecast is the company’s way of both inspiring people and showing them how to make that inspiration a reality, be it in an office, home or commercial space, using a combination of creativity and guidance to make the Colour Forecast relatable and so useful.

This year, the Forecast was conceptualised in partnership with WGSN, a global leader in trend insight.

Creatives around the world trust the agency to provide the trend knowledge they need to give their work the competitive edge, making them ideal collaborative partners for the Forecast.

At Kansai Plascon, value is placed on the global perspective WGSN brings to the project.

Combining WGSN’s high-level insight into global creative trends with the Colour Team’s own research and intimate understanding of the South African market, results in the production of something that’s both inspirational and easy for everyone to use.

The colour stories for 2018

Current colour trends are seeing an experimental spirit in design coming through. Seemingly unusual colour combinations are being brought together, and while not what would be considered a typical colour combination, when you see them together they really do work.

This year, the Plascon Colour Forecast Team reiterate that when bold colour choices are on trend, the Forecast is even more important to give customers confidence to explore these in their own homes.

Neutral of the year

Along with four themes that express the key trends in the world of colour, Plascon also chooses one colour in the Forecast that captures the overall mood for that year.

This year, the team decided to do things differently and pick a Neutral of the Year.

This means that the colour is still directional and trend-right, but much easier and versatile enough for anyone to use, whether it’s by itself or with other hues from the Forecast.

The Neutral of the Year for 2018 is Amadeus: an earthy, yellow-tinted hue.

The overall feeling in design at the moment is that the world is in flux, and the current colour trends are often about bringing together eclectic influences to create something new.
The Colour Team picked this neutral because it balances this tendency out and brings the grounding energy that holds a more diverse palette together.

**Exotic Euphoria**

In this first theme, the distinction between natural and artificial blurs in response to scientists and artists hybridising the two in their work.

The palette’s supercharged and jungle-inspired brights are almost phosphorescent, especially against the backdrop of lush natural hues. The overall feeling is a little wild and overgrown, and it’s perfect to create living spaces that feel connected and natural but energetic at the same time.

**Soft Composition**

Soft Composition is about editing spaces and styles to create room for contemplation. The mood is calming yet grounded and the whole look is inspired by classic form and colours.

The palette gets its on-trend update through the inclusion of bold retro accents alongside the muted colours. In this way classic and contemporary are combined. The whole idea is to create spaces that feel familiar but at the same time look new. It’s a warm take on minimalism for the way we live today.

**Craft Spirit**

Every culture has a craft heritage and this theme is inspired by the way this common past connects us all today. It’s about combining North and South, East and West, and finding that the ties that bind are invariably colour.

This rich global mix is expressed in a palette of pigmented hues, fruity accents and watery blues. The overall feeling created in Craft Spirit is one of connection and it’s ideal for creating rich and textured living spaces.

**Hi-Glo**

One for the adventurous, Hi-Glo is the mash-up of digital and physical. It’s inspired by how the digital space allows people to express new identities and at the same time how colour still has such a physical presence in our lives.

It’s a rule-breaking palette of citrusy sorbet tones, soft pink, mid-toned primaries and grounding earthy colours to hold it all together. It’s the perfect way to create youthful and more experimental spaces, and lends itself well to artistic colour treatments and paint effects.

**Where to find it**

The Forecast is launched each year at Decorex Joburg, where the colour stories are brought to life on the Plascon stand.

Copies of the Forecast are then included in leading decor publications around the launch in August, as well as with Plascon’s own Spaces magazine. After the launch, customers can visit their nearest Plascon stockist to collect their own copy.
From safer working spaces to hard-working finishes

PLASCO SAFE

PLASCO SAFE Floor Coating  PLASCO SAFE Furniture Coating

We design every product with one aim - to improve people's lives. If even in the smallest of ways. This holds true for Plascosafe, a water-based, wood coatings range that includes Plascosafe Floor and Plascosafe Furniture Coatings.

Plascosafe Floor and Plascosafe Furniture Coatings are environmentally-aware, non-flammable wood coatings, that are suitable for the production of all wooden floors and furniture. Free from formaldehyde, air pollutants and low in odour, both these products are extremely safe for factory use. Designed to be stain-resistant and quick-drying, Plascosafe Floor and Plascosafe Furniture Coatings are the ideal choice for timeous delivery. And with no need to clean up with solvents afterwards, all Plascosafe Wood Coating products offer ease-of-use, a hard-working finish and durability you can rely on.

So why not consider Plascosafe Wood Coating range and see for yourself how our products make life that much easier?

Because if it doesn’t improve people’s lives, it isn’t Plascon.

FOR MORE INFORMATION, GET IN TOUCH WITH US ON 0860 20 40 OR WWW.PLASCON.CO.ZA

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It's a Wrap!

With a range of specialised adhesives and the backup of its own technology centre in Germany, Kleiberit has the business of profile wrapping all wrapped up.

Wrapping technology has undergone massive change in the last couple of decades. In the 90s, solvent-based products were the adhesives of choice for bonding paper or fail to an MDF substrate.

They worked well enough but the advent of EU wide directives aimed at reducing VOC emissions, together with a greater requirement for wrappings that could be used in high moisture or high heat areas, pushed development of a new generation of adhesives. First came thermoplastic hotmelts, then came the reactive hotmelts we have today.

“For an application with standard demands in end use, such as a low humidity environment, a standard polyolefin, or a standard EVA could be used,” explains Kleiberit’s Brady Larkan.

“Where there is a demanding end use, polyurethane is always the better choice because it’s cross linkable, waterproof and heat resistant.

Once it’s cross-linked, the bond is solid. For applications such as caravans, over ovens in kitchens, or near an extractor fan where there’s high heat, polyurethane is the better choice. For bedroom furniture, a thermoplastic EVA or polyolefin may be adequate.”

PO hotmelts (polyolefin) and EVA hotmelts (ethylene-vinyl acetate) are based on thermoplastic resins that achieve strength directly after crystallising, and they offer temperature resistance of up to 90°C (EVA) and 120°C (PO).

Examples from the Kleiberit range include the PO hotmelt 750.0 for wrapping papers, veneers and laminates to wood and wood based materials. They offer good melting
properties and high green strength. For thin papers and micro veneers, which tend to telegraph and require a lower viscosity adhesive, Kleiberit recommends its PO hotmelt, 750.3.

For wrapping profiles with PVC furniture films where a very low application temperature (from 130° C) and best surface quality are required, 743.3 is a good option. PO and EVA hotmelts offer good dosing, long open times, and good green strength.

The adhesive is always applied to the rear of the wrapping material using rollers, doctor blades and slot nozzles. The application temperatures for EVA and PO hotmelts are generally between 180°C and 210°C compared with reactive PUR hotmelts that require 120°C to 140°C.

Kleiberit’s 702 and 708 ranges of hotmelts are the PUR (polyurethane) furniture wrapping grades in its portfolio. In addition to physically setting, PUR hotmelts chemically cross-link allowing much higher moisture resistance and temperature resistance up to 140°C. They are also suitable for materials like metal and plastic profiles.

For wrapping CPL, papers, veneers and thermoplastic foils made from wood, wood based materials, PVC and aluminium,

Kleiberit recommends its 702 series because these PUR products are very sticky with high green strength and have very fast settings properties. They are ideal for line speeds of up to 60m/min.

If greater heat or cold resistance is required, Kleiberit 708.7 has been formulated for bonding wood based materials (and profiles made from PVC) with PVC films, CPL, thick decorative papers, or veneers for interior use. It provides heat resistance to over 150°C (heat storage) and cold resistance down to -40°C with very high green strength and pronounced tackiness.

“The market is driving towards thinner and thinner papers and foils,” says Larkan. “The thinner the foil, the greater the chances are that imperfections will show when it’s wrapped. You need a fluid adhesive that can be applied in a smooth manner to either hide the imperfections, or at least not exaggerate them. If it’s PUR you need to use, within the 702 and 708 furniture-wrapping grades we have solutions that will help with most issues.

The Kleiberit Technology Centre in Germany can run tests on any new or unusual combination of products a manufacturer might want to assess – for example, a new foil, a new board, or any other substrate.

This article by Melvyn Earle first appeared in the UK’s Furniture Journal, September 2017 Edition 2, pp 42 - 43.
Austro recently appointed adhesives expert, Marnus Ferreira-Netto, to the position of sales manager: Adhesives & Edging, and almost immediately sent him to Germany for an intensive study period at world leading adhesives manufacturer, Kleiberit.

Welcoming the new sales manager to the team, Trevor Williams, Austro’s CEO, explains that Ferreira-Netto’s primary objective is to grow the adhesives section of Austro’s business. “We have supplied adhesives for a number of years and believe the time is right for us to expand this service by appointing a technical expert to support our branches and their clients,” he says.

Ferreira-Netto previously worked for Henkel, the global manufacturer of special adhesives for the structural timber market. He grew Henkel’s Loctite Purbond market share from 65% to 100% in a very brief time. A key contributing factor to this success was his technical knowledge and understanding of high-performance solutions based on polyurethanes and other reactive systems.

“I have been asked to draw on my more than 10 years’ sales and technical experience in the timber adhesives industry and to build Austro’s reputation as a company that offers its clients everything they need to be a successful woodworking business,” says Ferreira-Netto. “This includes sound advice and world-leading tooling, woodworking machines, power tools and accessories, adhesives and edging.”

Ferreira-Netto describes his experience at Kleiberit’s headquarters in Weingarten Baden in southern Germany, as “intensive and exciting.”

Kleiberit has adhesive systems for a wide field of applications and all are designed specifically for customer requirements. Worldwide availability is ensured with an intelligent logistics system that incorporates a modern high rack warehouse that is fully automated.

He spent time in one of the most modern and innovative research and production centres for adhesives. “I discovered new technologies and experienced the incredibly fast turnaround time that is possible when you have the right people in the right place and give them the facilities and tools they need to find solutions for customer problems.”

“It was amazing to discuss new product development on a Tuesday and by Thursday an outline draft of the product was available.

I believe it is important for Austro’s customers to know that this service is available and that we have the knowhow and expertise to facilitate it.”

Williams says Austro is living its mission to provide a comprehensive range of quality products and services to the specific needs of its customers. Ferreria-Netto agrees, saying he believes that Austro is an organisation that is truly a “one-stop full service shop” for all woodworking related products and services.

Forestry industrialisation conference

The Forestry Industrialisation Conference, to be hosted by State-owned forestry company Saicol on October 4 and 5 in Pretoria, will highlight the potential of industrial and commercial forestry and wood products to support economic growth.

The conference will host national and international forestry experts who will share their insights, best practices and technical knowledge on forestry and related industries.

For more info contact Thabang Senona, Public Relations Coordinator, Cell: +27 63 172 9043 Email: thabang@moshatemedia.co.za
The PUR Specialists

KLEIBERIT manufactures high quality adhesive products for the Wood Industry with following applications:

**Flat Lamination**
- Low coat weight
- Highest glue line strength
- Pressure stable surface
- TEO – no formaldehyde

**Edge Banding**
- Extreme strength
- No chip swell
- Proven thousands of times

**Profile Wrapping**
- High heat resistance
- Reduced fibre swell
- Bonds to many inner core materials

Individual solutions  No Glue Line? ...No Problem!  Cornice and skirting boards

We have local Southern African Agents. For further information please contact us:

**KLEBCHEMIE M. G. Becker GmbH & Co. KG**
Johannesburg - Durban - Cape Town - Germany - United Kingdom
Phone JHB: 010 500 9165
Email: sales.sfrica@kleiberit.com

[www.kleiberit.com](http://www.kleiberit.com)
Bulldog Abrasives recently announced the launch of the new Gold Max stearate coated paper abrasive from Mirka, a world leading abrasive developer and manufacturer of complete sanding systems.

From its base in Johannesburg, Bulldog supplies Mirka’s complete range of technically superior, high quality abrasives, innovatively designed tools, supplementary products, and sanding systems in sub-Saharan Africa.

Mirka invests heavily in product research and development and the new Gold Max abrasive has been specially designed for intermediate and fine sanding applications. Gold Max is available in a grit range of P240-P800 and is suitable for paint and lacquer sanding.

It is made from heat treated aluminium oxide that enables a high cut-rate even on harder paints. The semi-open special stearate coating treatment minimises clogging and increases the sanding lifetime. It can do this because the stearate coating, which prevents clogging and gives the product a longer lifespan.

In addition, the stearate reduces the initial cut, which produces a more consistent surface finish over the lifetime of the product. Mirka explains that because stearate is quickly worn off when, for example, sanding with wide belts, stearate treated abrasives should not be used for coarse sanding with high sanding pressure. Stearate treated products achieve best results when sanding painted, lacquered and similar surfaces.

The antistatic E-paper gives good strength and stability to the product and a smooth surface finish. Static electricity load can cause significant dust problems when sanding with a wide belt sander. However, using anti-static belts prevents dust problems and provides a better work environment and a clean, dust-free sanding surface. Providing a better surface treatment result.

Bulldog introduces the new Gold Max from Mirka
Gold Max

For over 30 years Mirka’s Gold has been the industry benchmark for abrasive finishing products. **Gold Max** has the semi-open special coating that minimises clogging and gives a smooth finish. The heat treated grains and antistatic paper give Gold Max extra strength and durability needed for belts.

**Features:**
- Specially developed for intermediate and fine sanding
- Well suited for paint and lacquer sanding
- Antistatic paper gives good strength and stability
- Heat treated grains for a high cut rate even on harder paints
- Available as rolls, narrow belts and wide belts

**MIRKA GOLD MAX**

<table>
<thead>
<tr>
<th>Grain</th>
<th>Blue-fired aluminium oxide</th>
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<tr>
<td>Colour</td>
<td>Gold</td>
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<tr>
<td>Backing</td>
<td>Antistatic E-paper</td>
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<tr>
<td>Bonding</td>
<td>Resin over resin</td>
</tr>
<tr>
<td>Grit range</td>
<td>P240-P800</td>
</tr>
<tr>
<td>Coating</td>
<td>Semi-open</td>
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</tbody>
</table>

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Over the last 25 years, wide-belt sanders have superseded many of the older types of sanding machines like the drum and stroke sanders. Furniture manufacturers opt for wide-belt sanders because they can get uniform stock removal, increased stock removal, a finer and more consistent finish, quick changeover of abrasive belts, longer belt life and greater output.

There are now various makes and types of wide belt sanding machines on the market. Some have one or more contact rollers, some a finishing pad or platen and others a contact roller and platen. The latter being the most popular in larger machines. As well as these combinations, machines may be purchased in belt widths varying from usually varying from 150 mm up to 2100 mm.

There are many factors that need to be considered when you try to achieve the desired finishing result and the best possible efficiency with a wide-belt sander. In this article, Mirka, the biggest manufacturer of coated abrasives in Scandinavia, and its sub-Saharan Africa agent, Bulldog Abrasives, advise wide-belt sander users how to get the most out of their abrasives.

**Desired results**

Achieving the desired result with any surface treatment is affected by a wide variety of factors. When sanding is performed correctly, it will ensure:

- an even, smooth surface finish
- an accurate thickness and uniform surface
- effective denibbing
- a better result due to less dust on the surface
- cost savings, both on sanding products, as well as coatings and lacquers

There are many variables that affect the wide-belt sanding process. These include the competency of the operator, mechanical failures, the calibration and adjustment of the sanding units, the choice of sanding speed and materials handling. Notwithstanding machine-related issues, effective machine sanding can be achieved if attention is paid to the abrasive belts.

**Optimising belt lifespan**

The abrasive qualities of any sanding belt are reduced as it becomes slowly clogged while in use. After a sanding belt has been used for a certain period of time, clogging becomes so severe that the risk of lines or marks on the sanded material rapidly increases. Further clogging will make the sanded material overheat due to the high friction that occurs when greater pressure is applied to a clogged belt in order to continue achieving stock removal.

**Overall sanding costs can be minimised simply by choosing the most suitable product for each sanding operation. That means:**

- choosing the right type of grit
- choosing the right type of coating
- using the optimal grit sequence
- avoiding sanding with finer grits than necessary

The lifespan of the belt can be further increased by ensuring that the sanding equipment is well maintained and operated by a trained technician:

- choose the right type of sanding machine for each sanding operation
- adjust the sanding machine correctly
- ensure the machine is properly maintained
- check that the dust extraction is adequate

**Grit size and sequence**

In general, the first sanding belt is used for stock removal, while the following belts are only used for creating an even surface finish. Typically, the first sanding unit consists of a contact roller made of materials such as steel or hard rubber. The contact roller, in combination with coarse grit belts of between P36 and P80, is ideal for efficient stock removal.

When it comes to producing an even surface finish, sanding units that incorporate soft rubber drums or sanding pads are normally used. In these units the grit range varies from P100 to P320. For sanding between coats or intermediate sanding, grits of P220 to P800
How to get the most out of wide-belt sanding

Are most commonly used along with a very soft rubber drum or a graphite covered sanding pad.

When choosing a grit size, the recommendation is to select belts that are no more than two step from each other in grit sizes. For example, P80 – P120 – P180 are appropriate steps, whereas P60 – P120 – P220 often results in problems with the surface finish and product lifespan.

Stock removal per sanding unit

With a three-belt machine, the starting point for stock removal per unit can be divided according to the following:
• Station 1 – 60%
• Station 2 – 30%
• Station 3 – 10%

With a two-belt machine, the division can be as follows:
• Station 1 – 75%
• Station 2 – 25%

An effective way of controlling whether the adjustments are correct is to check how the belts are used in comparison to each other. If adjustments are made according to the requirements given by the grit sequence and machine, then the belts are used at the same rate.

Belt sanding speed

The general rule is that higher belt speeds result in larger stock removal. A higher belt speed means that both friction heat and load increase on the belt which, in turn, reduces its lifespan. Different types of material require different sanding speeds, See Figure 1, and it is a good idea to discuss your needs with your Bulldog technical sales person.

Typical problems with belt sanding

It is essential to understand what causes a problem so that it can be successfully corrected. The most common problems associated with wide-belt sanding are:

Chatter marks in cross direction (Figure 2)
• Check the condition of the belt joint.
• Is the machine working as it should? A malfunctioning drum can cause chatter marks. Uneven feed speeds indicate a mechanical fault.
• Wrong type of sanding unit? A hard drum with a short sanding contact patch is more likely to result in chatter marks, compared to a soft sanding pad.
• Worn bearings

Positive stripes (stripes coming out of the wood piece) (Figure 3)
• Narrow stripes in a pattern following the belt oscillation? These are normally caused by sharp objects in the work piece which destroy the...
from page 67

How to get the most out of wide-belt sanding

abrasive. Change the belt and examine the work pieces for sharp objects.
- Wide straight stripes? Typically, a problem with sanding drums or pads. Clean the pad and have the drum calibrated.
- Clogged belt

Negative stripes (Figure 4)
- Wide straight stripes? The most frequent problem is dust on the sanding pad. Clean the pad or, if necessary, change the graphite cloth.
- Narrow straight stripes? It is possible that small wood pieces or dust are stuck to the pressure shoe. Clean the machine.

Broken belt
- Check the oscillation of the machine and clean inside the machine.
- Check the storage of the belts
- Avoid too much stock removal. Avoid using clogged belts.
- Check the condition of the belt joint.
- Check the belt size

Short belt life-span: Is the belt clogging?
- Avoid too much stock removal per sanding unit – check machine adjustments.
- Make sure you are using the correct product and grit sequence.
- Make sure the cleaning system and the dust extraction is operating correctly.
- Use the whole belt width when sanding.
- Check moisture content of your work piece.

The surface feels uneven
- Steps too big in grit sequence.
- Stock removal with sanding unit which has a sanding contact that is too soft.

Wide belt storage
By simply following some basic recommendations on wide belt storage, you can ensure that the belts remain undamaged and maintain their full working potential.

Prior to placing the belt in the machine, new belts should be taken from their cartons and hung on racks at least 100mm in diameter and no shorter than the width of the belt. These racks should be located near the machine and allow a free passage of air over the entire surface area of the coated abrasive belt. They will then be suitably acclimatised and free from creases.

Avoid keeping belts hanging close to a cold wall or a heating source and do not expose the belts to direct sunlight. It is also advisable not to store belts on a cement floor because cement retains moisture that can distort paper-backed belts.

During periods when the machine is not in use, partly used belts should be handled in the same manner. However, if this is not convenient, the tension should be released and the dust extraction shut off to prevent unequal pick up of moisture. Before starting the machine, if possible, rotate the belt by hand while it is on the machine, to permit areas that have been in contact with the contact roll, or the idler roll, to become equalised before starting.
Flexible solutions for individual requirements

The K 700 is available in 3 different models, all with the 'X-Roll' sliding tables from 1300 mm in length on the basic, 2050 mm on the Professional and 2500 (optionally up to 3700 mm) on the K 700S, ensuring perfect woodworking results.

With the solid outrigger tables on both the Professional and S models the panel saws leave nothing to be desired.
Woodworking

“Wood from mature trees is a rare natural resource and we owe it to each tree to reveal its splendour and help it transform into bespoke artisan-crafted solid wood furniture, architectural fittings, and flooring, says South Africa’s woodworking doyen, Pierre Cronje.

Pierre is the owner of the solid wood furniture manufacturing company in Cape Town that carries his name. Over three decades ago, when he launched the business, he specialised in his passion of furniture restoration and making fine reproduction pieces in the classic English style. An engineer by profession and a master craftsman, Pierre steadily established a reputation for his high quality, custom designed and hand-crafted solid wood furniture.

Inspired by the engineered lines of the bridges he constructed, and blending the designs of the Cape Dutch and French Huguenot settlers with Shaker-style simplicity, his furniture is unique yet always recognisable as a piece originating from the Pierre Cronje stable. If there is any doubt this can be quickly assuaged by looking for the Pierre Cronje makers-mark embossed on each item.

Pierre only works with solid woods. The Forest Stewardship Council (FSC) certified French oak and hardwoods like ash, beech and some cherry are imported from various sawmills in France, while indigenous yellowwood, stinkwood and local oak is sourced mainly from private growers in Knysna.

All Pierre Cronje furniture is locally manufactured in Cape Town and is available from two exclusive showrooms in Cape Town and one in Kramerville, Johannesburg. He and his wife and business partner, Frances, have established an on-line presence, however they find that many of their returning and new clients enjoy the vibe of the in-factory sales they host each year.

True craftsmanship by “real” artisans

Pierre is an open and affable person who never hesitates to welcome visitors and is always willing to share his knowledge and experience. This is particularly evident when it comes to passing on skills.

Aspiring artisans are apprenticed to a master artisan who oversees the honing of their new skills.

Despite today’s culture of disposability and conspicuous consumption of all things that are hi-tech and fashionable, the concept of “provenance” and true artisanship is slowly beginning to return. Pierre has always remained to true to his belief that cherished handmade possessions gather memories and meaning during their lifespan.

Makers-mark doyen creates tradition of pride in craftsmanship
Pierre Cronje furniture pieces carry a lifetime quality and structural guarantee, and Pierre and his artisans are so proud of their handiwork that the company offers a unique trade-in service for items that carry the original Pierre Cronje-imprinted signature – his maker’s mark - and serial number. “We have a full history of each furniture piece that includes the names of the artisans who worked on it, the source of the wood and how long it took to make,” explains Pierre.

“When we started the company, we focused on traditionally hand-made and hand-restored furniture.”

Discussing the intricacies of making bespoke doors are, from left, Pierre Cronje’s CNC fundi, Grant Longmore, Chris Hugo of Austro and Pierre, the owner of Pierre Cronje.
using cabinetmaking hand and power tools. However, as the number of clients increased we needed to invest in people to shorten the turnaround times, and the rising costs of living and raw materials soon made it impossible to sustain a reasonably sized business based only on hand-crafted furniture,” explains Pierre.

**From Wadkin to Bacci, Boere and Biesse**

“The only machines I wanted were those made by Wadkin and its big brother, Robinson. These machines are more than 75 years old and are cast iron, and extremely heavy-duty. They are completely indestructible! Basically, if it wasn’t a Wadkin or Robinson I wouldn’t look at it,” Pierre says wryly. “We are still using them to some extent, but their tooling is cumbersome and largely unsafe and we take extreme safety precautions if we use them.”

Pierre knew he needed to upgrade his machine shop however it took diligence on the part of local suppliers to convince him to buy newer machines, but they did succeed.

Chris Hugo of Austro Cape said it took years to persuade Pierre to buy the first product from Austro, a mitre F-joint cutter. This lead to the Bacci mortise and tenon machines, which threw up a different type of challenge.

“They needed a non-standard machine capable of producing a 90mm tenon. Fortunately, Bacci could customise the machine and it is one of the few machines in the country that can produce such large tenons,” says Hugo.

The step up from traditional woodworking machines to CNC machines was a tough decision however Pierre is adamant that it does not detract from the philosophy of hand-crafted furniture. “Working with solid wood is very different to working with board products. In the hands of artisans, machines are simply tools that need to be controlled to produce components.”
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The next machine from Austro was the Biesse Rover B three axis CNC machine that could be upgraded with a fourth axis. Biesse worked closely with Pierre’s production team to develop tooling for solid hard woods up to 90mm thick. The request for the fourth axis happened sooner than Hugo expected, and it wasn’t long before Pierre placed an order for a second four-axis Rover B.

Pierre then decided they needed a wide-belt sander. They did their homework and asked Austro to demonstrate the Boere 1300 Elite.

Once again, the Pierre Cronje team pushed the limits to ensure that the machine would be able to serve their needs. Joos Joiners has a Boere 1300 Elite and agreed to let Austro demonstrate the machine to Pierre.

“When the truck arrived with the test pieces we could not believe it,” says Hugo. “The first item was a 3m long yellow wood top 70mm thick followed by French oak table top more than 8m long and 75mm thick.” The Boere passed the tests and was duly bought and commissioned.

The next item on the shopping list from Austro was a straight-line rip saw fitted with a laser guide light. This allows the company to cut down on waste by carefully optimising each unique plank. A second rip saw capable of ripping stock up to 140mm thick soon graced the factory floor. The company’s entry into the flooring, skirtings and roofing markets resulted in the purchasing of a Weinig Unimat Gold six-head moulder.

The latest arrival from Austro is the Biesse Rover Gold CNC machine, and Pierre says “Biesse machines are brilliant, we have almost zero down time and Austro’s back up is excellent.” Grant Longmore from the design office put his hand up when the first CNC arrived and installed himself in the factory next to the machine. He imports the designs into BiesseWorks and then fine tunes them before machining starts.

“Grant has pushed boundaries on the machine that even surprised Biesse,” Hugo explains and added “He makes the machines do exactly what he wants and his skills combined with those of the factory artisans ensure that Pierre Cronje will always be at the top of their game.”
produce the desired finish, then yes, I believe it is hand-crafted.

“We work with unedged boards and lean towards extreme cuts and the interpretation of a design is decided by the stature and wane of the tree. Many of our pieces display the untrimmed outer contour of the tree, simply to celebrate its raw origin.”

Pierre Cronje machinist artisans need to interpret the specifications, select the best planks for the job – often from lower grades of oak that are full of character - check the moisture content, use the various machines to produce the product components, consult the finishing artisans about the visual appearance of the wood and together use their creative skills to decide on the best layup that will reveal new beauty and “make the wood talk.”

Pierre’s engineering artistry and awareness of the properties and characteristics of wood are carried through to his range of hardwood floors and structural products. Depending on the width of the boards, the straight line rip saws equipped with laser lights, or the Weinig moulder, are used to prepare the 22mm thick, and 150mm to 225mm wide floor boards of varying lengths for hand-finishing. Wider boards can be custom made.
When a young Jacob Malabola started at Donald Fuchs Woodworking Machinery as a cleaner in 2002 no one expected that he would end up 15 years later as one of the top sales, technical service and installation agents at the company.

Malabola says one of the main influences in his life, and a major part of the success that he has achieved, was his father, who taught him from a young age that anything is possible if you are willing to work for it.

“My father never made things easy for me,” says Malabola. “But that was the best thing he could have done for me, as it taught me that there is no such thing as an easy ride. I had to do things for myself.”

Malabola’s go-getter attitude greatly impressed Donald Fuchs, who is well known for his knack to spot talent. And he was proved right when within approximately two years of starting as a cleaner, Malabola proved himself and was promoted to a gluepot technician.

“From day one I told myself that I did not want to be a cleaner,” he says. “So I made sure that I kept my eyes and ears open and I learned everything about every machine that I was stripping and cleaning.

I eventually became a gluepot technician, and continued learning about the small machines like panel saws, planers, multiforbers, thicknessers, wide-belt sanders, radial arm saws, etc.

“And eventually, once I’d mastered all those, I moved on to the bigger machines like edgebanders, milling machines, and beam saws.”

Slowly but surely Malabola was given more responsibility and he was eventually allowed to go and visit clients for repairs and maintenance work on their machines. And in addition to his technical ability, he also started showing great promise in sales.

Today, Malabola is known far and wide among the clients of Donald Fuchs Woodworking Machinery as a competent technician as well as a well travelled and astute salesman, who has made significant sales all across the country as well as in Tanzania, Zimbabwe, Nigeria, Botswana and Namibia.

“The team at Donald Fuchs Woodworking Machinery has become like family to me and gave me the freedom to learn and I was never held back.

“I have visited all these countries in Africa, so my next dream is to visit Germany and China, and to see where these machines are made.”

Malabola has now taken on a whole new challenge, working as a salesman as well as a technician for N&D, the arm of Donald Fuchs Woodworking Machinery recently taken over by Donald Fuchs Junior.

N&D is the agent for what is proving to be a highly popular range of woodworking machines imported from China, named Nanxing.

According to Malabola, he is very excited about the Nanxing range, and he is especially impressed with their edgebanders.

“I was very surprised by the Nanxing machines,” he says. “The quality of the machines is among some of the best that I have ever seen.

Also, the machines are easy to set up and very easy to operate, which makes the training on them so much easier than with some other machines.

“Nanxing is easily the best woodworking machine range to come out of China. The range is becoming more and more popular because of its superior quality, and the fact that they don’t cost as much as some European machines.”
Respect the wood and take care

Everyone who handles, cuts, sands, and assembles wood should be aware that they could have a minor or major reaction to different species of wood.

The same warning applies for plywood, composite boards or other materials that contain chemicals like urea-formaldehyde, phenol-formaldehyde resin glues, and wood preservatives and any other chemically treated woods including the interior and exterior fire retardant treated woods.

Reactions vary and can occur instantly, or over time. Some toxins are accumulative and you will not feel their effects until you have reached an unknown quantity of the toxins in your body.

Sawdust from hardwoods, especially from exotic species, are sensitizers and can cause allergic skin reactions, eye inflammation, hay fever, asthma, coughing and respiratory diseases.

Highly toxic species include the giant sequoia, hemlock, yews, cypress, cork oak and other oaks, beech, rosewoods, some maples, redwoods, and western red cedar.

Softwoods do not cause as high a frequency of skin or respiratory problems as hardwoods, but some people develop allergic reactions to some softwoods. The sap present in many green woods can cause skin allergies and irritations from direct contact.

Also, minor and major reactions to certain woods can include pneumonitis alveolitis (hypersensitivity pneumonia); permanent lung scarring (fibrosis); headaches; salivation; thirst; giddiness; nausea; dizziness; irregular heartbeats; skin, eye or respiratory system problems; cardiac conditions and malaise.

The wood, sawdust, leaves, and bark of the trees can cause all of these conditions. In addition, there have been studies that link wood dust to nasal cancer in rare cases. Wood dust studies are ongoing to determine any negative effects.

A good dust collection system is an investment for good health. These systems, used in conjunction with personal protective equipment that meets international standards will help prevent some of the reactions. People with sensitive skin must wear long sleeves when handling wood and prevent sawdust from settling on their skin.

Show the same respect for the woods you work with as you do for the power tools and hazardous chemicals used in the factory.

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Always start with safety and protect against potential risk from certain woods that can be unhealthy

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Respect the wood and take care

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Festool launches new sliding compound mitre saw

The innovative features of the new Festool Kapex KS 60 compound mitre saw, include its sliding head, variable speed and the ability to measure and cut inside and outside corners without complex calculations.

The Festool Kapex sliding compound mitre saw has a unique “rail forward” design that includes a pair of large 30mm diameter stationary rails on the front side of the saw. The wide spacing of the rails adds stability and rigidity and, because the Kapex’s head assembly slides, there are no protruding rails behind the saw. This allows the user to position the tool closer to a wall and this feature, combined with the small foot print of 61 x 71cm and light weight of the magnesium alloy base, makes it a space saving tool that is easy to transport.

The Kapex KS 60 is the first variable speed mitre saw. A 1400-3400rpm variable speed, 1600-Watt, 13-Amp motor powers the 260mm 60-tooth carbide-tipped blade. It provides a cutting capacity at 90° of 30 x 9cm, and at 45° the capacity is 20-18/40 x 8-18/40cm. Mitre cuts can be adjusted to the left up to 50° and to the right up to 60°. In addition, a special cutting position allows for cutting 45mm material up to 10-27/41cm high. The compound tilt mechanism moves smoothly and is perfectly balanced anywhere along the 47° left and right swing. A large twist knob micro-adjustable twist knob dials in the compound angle settings.

The Kapex’s LED light displays the cutting edges of the blade, making it easy to see a pencil line beneath the projected shadow. Changing the blade is a breeze with the Festool FastFix blade change system and the blade reference is always 100% accurate.

Festool’s MiterFast angle transfer tool, a standard feature, makes it simple to measure, calculate and cut bisected angles. Used like a bevel square to pick up the work angle, you lay the tool on the saw, lining up the laser lines with the centre handle to arrive at the correct bisecting angle to cut.

Mitre saw stand
The Festool MFT/3-Mini work table, which is a smaller version of the standard MFT/3 multi-function table, is designed specifically for the Kapex. It measures 81 x 53cm, stands 79cm high and has folding legs with a floor leveller. The saw mounts to either table using the optional clamping kit.

Festool also offers the Kapex UG mobile mitre station for use on the job site. It folds easily, includes wheels, and can be used by itself or with left and right extension wings.

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KTB Cupboards upgrade production with new Weeke CNC

As a furniture manufacturer, the only thing you can really ask for is that orders come in as steadily as can be hoped for, and that your production process runs as smoothly as possible.

Of course one also wants to be in a position to tackle and solve any problem that arises without delay.

So, it was with some concern that Midrand-based KTB Cupboards owner, Hans Veltman, has been keeping a watchful eye on a growing problem in his production process; a bottleneck that was developing at the CNC machines whenever things got a little busy.

“It’s been quite a problem, but with a full production schedule and no time to lose, one has to wait for the opportune time to address the problem,” says Veltman, adding that they pushed hard to get ahead and thus create an opening in the schedule for the problem to be solved.

The solution came in the form of a brand new Weeke PTP 160 CNC machine from Donald Fuchs Woodworking Machinery.

Having met Donald Fuchs around eight years ago, and with two other machines from Donald Fuchs Woodworking Machinery already up and running in the factory, it was the obvious move for Veltman to return for a third.

“I met Donald Fuchs when I was having a problem with another machine, which I had bought from a local machine supplier. Unfortunately something went wrong with the machine and the original supplier was unable to get the parts to fix the machine.

“Someone recommended that I call Donald, who quickly made a plan and got the machine up and running again.”

According to Veltman, Donald Fuchs Woodworking Machinery has been his preferred machinery supplier since then.

“They stand by the machines that they sell,” says Veltman. “The machines are rugged and tough and of exceptional quality, and should something go wrong, the service that you get is prompt and professional.

“A technician is assigned and dispatched without delay and your problem is solved there and then. I can pick up my phone now and call up Donald or Iain, or even one of the technicians, and know that they will make a plan to ensure I am back up and running without any significant delay in production.”

The new PTP 160 from Weeke will not only sort out the bottleneck that has been plaguing the KTB production process, it will also significantly increase the capacity at which they can produce cupboards by as much as 40%. Some of the other features of the machine include:

• Vector speed X/Y 80m/min
• Simple positioning of the vacuum cups through the pin laser
• Two CNC-controlled Z-axes
• Second row of stops
• Four-field operation
• Software optimization of the working field
• K-table – tubeless vacuum clamping system
• Routing up to 1600mm in Y-direction possible
• High-speed 7500 – 29 drilling spindles (21 vertical and 8 horizontal)
• Patented automatic spindle clamping system
• High-speed grooving saw (0° / 90°)
• 12 HP (9 kW) HSK routing spindle
• 8-fold tool changing system including tool pick-up station
• Software bundle for machine and PC
• Optional C-Axis
The right way to plan, build and maintain timber decks

By Peter Bissett of Cottage Concepts.
Peter is a timber deck member of the Institute for Timber Construction South Africa (ITC-SA)

I am often told by prospective clients that other decking contractors have told them that they do not need plans or an engineered design for their timber deck, because, among other reasons, their deck will be located at a private home, will only be used by a few people, or will not be high off the ground.

This is simply not true. The general rule is that if anyone could get injured due to a structural failure, like a decking slat breaking, for example, then an engineer (a civil or structural engineer, who is qualified and competent to engineer timber structures) should be engaged to check the contractor’s design.

Planning your deck
It is in your interest to submit plans for approval to the city council before you build your deck, even if it is not high.
off the ground. If you don’t have plans, when the time comes to sell your property, you may end up having to submit them as most city councils now require that plans are up to date prior to the release of a rates clearance certificate.

There are many decks that collapse every year in South Africa, and this usually occurs when the deck is loaded, such as at a New Year’s party or when heavy rains washes out one of the supports.

Timber decks that have not been designed properly can even be lifted off their posts during storms or strong winds.

The homeowner is liable for any damage, injuries or death resulting from such failures if an engineer has not been engaged to certify the design and construction. Engineers must carry indemnity insurance which will cover most of these types of incidents.

Legislation
Timber structures must be designed and built in accordance with South African National Standards (SANS) 10163, which governs the structural use of timber and SANS 10082 ‘Timber Frame Buildings’. An engineer would make use of SANS 10163 on a timber decking project.

SANS 10082 is the code of practice for timber structures and your decking contractor should have a copy of this document as well as SANS 10043 (Solid Wood Decking) on hand.

The National Building Regulations must also be strictly adhered to when constructing a deck – or any other structure for that matter – and will refer the designer, builder and engineer to the relevant code or regulation for correct execution of the project.

Decks that are more than 1.5m off the ground should be designed by an engineer with experience in timber construction. The ITC-SA can help source an engineer with the relevant experience.

Treated structural timber
Deck sub-structures are usually built with CCA-treated pine due to the high cost of naturally durable hardwoods. Pine that is exposed to the elements should be CCA treated to Hazard class 3 if above ground and Hazard class 5 if in contact with the ground (mostly poles).

This treatment is done in a pressure vessel, usually at the sawmill and is not something that can be painted on. Any cutting or planing of the timber on site should be touched up with a suitable remedial timber preservative, like ‘Enseal’ or CuGard 20 or similar.

Many decking contractors do not coat the sub-structure, especially if it is not visible. This is a short-sighted approach, as the wood below the deck often remains damp for extended periods after heavy rains, creating an ideal environment for fungi, which can eat or erode the timber.

Timber poles should not be encased in concrete and should rather be supported on a pre-cured concrete foundation pad on firm ground or erected with a concrete ‘collar’ to allow for sufficient water drainage at the base of the pole.

Support posts should not be supported on fill at the edge of a new embankment which will subside with time.

Metal fixings
A serious error often made by decking re-furbishers is that when they remove the old decking slats, they immediately fix the new decking onto the old timber structure. The screw holes left behind are ideal catchment areas for water, which can help advance rot in the structure.

These holes should be filled with a waterproof filler and the top of the joists should be coated with supplemental and remedial brush-on preservative. Once dry, at least two coats of a good quality exterior wood sealer should be applied prior to fixing the new decking slats.

Keep in mind that timber is an organic material and part of its charm is how every piece is different. Markings and small cracks and checks are fine, as long as they do not affect the safety or structural integrity of the deck. Large, unsightly cracks or those that collect water must be avoided wherever possible.

All metal fixings should be galvanized or of stainless steel, if possible, and screws should be Kal coated or of stainless steel.

Screws should be countersunk in hardwoods and the holes should be filled with wooden plugs, epoxy or a suitable waterproof wood filler.

Do not use regular wood filler for this application as it will dissolve after the first heavy rain.

Points to consider when hiring a contractor
Decks are worthwhile additions to any structure, but they are expensive; and one mistake on the contractor’s part can ruin the deck and be very costly to repair. For complete peace of mind, hire a decking contractor who is a member of the Institute for Timber Construction South Africa (ITC-SA). Not only will the contractor be well versed in the construction regulations, the client will have a professional body to refer to should the workmanship or materials used not be up to standard.

Decking to dos and don’ts
• Do not accept a deck that bounces when walked over.
• Balustrade posts should be bolted to the sub-structure and not nailed, as they will eventually come lose.
• The balustrade should not have any gaps 100mm and larger.
• Any part of the deck that is higher than 1m off the ground requires a balustrade.
• Timber structures should have space of at least 450mm below the decking for air to flow around the timber. Where this is not possible, try to keep the timber above soil.

A timber deck is an attractive addition to any structure and should be approached as an investment. Engage the services of an accredited professional from design to final inspection, and conduct proper and regular maintenance.
The Davis Tax Commission is proposing the introduction of three taxes: a land tax, a property tax and an annual wealth tax, all of which Forestry South Africa (FSA) and other representatives of civil society organisations believe are morally unjustifiable.

Roger Godsmark, FSA’s operations director and economist, points out that the invitation to submit comments is not clear whether the commission is looking at the possibility of introducing all three of these taxes as a package or one or the other of them. It is also not stated if these taxes would only be applicable to individuals or whether other juristic persons and government would also have to pay.

“Despite the fact that FSA acknowledges the high wealth inequality that exists in the Republic and that in order to improve economic performance and social and political stability, this needs to be addressed as a matter of urgency, we are not convinced that the introduction of such taxes would be the most effective way to address these problems.

A lot of questions need to be raised, analysis undertaken, unintended consequences investigated and the current circumstances faced by the economy and individuals taken into account before any decision is taken.”

The FSA’s submission asks the question: “Is it morally justifiable to burden taxpayers further knowing that a sizeable amount of taxpayers’ money is already wasted or stolen?”

In closing FSA states that taxpayers are reluctant to pay any additional taxes until the government uses its existing tax revenue far more efficiently and effectively. It needs to adopt best business practices, employ properly qualified officials matched to the jobs they are employed to do, state owned enterprises must be run properly, the billions of rands spent annually on irregular and wasteful expenditure must stop, and most importantly, a meaningful attempt must be made to root out all corruption.

“If the government were to tackle these four issues, the savings generated would be many times greater than any proposed wealth tax / taxes could generate. Government would also win back the confidence of taxpayers who would become more willing to entertain the idea of paying more tax.”

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N&D make inroads with Nanxing range

The Nanxing range of woodworking machines, imported and distributed in South Africa by N&D, is growing in popularity among South Africa’s board products manufacturers.

N&D decided the time was right to introduce the brand in South Africa because of its international reputation. The Chinese manufactured range of processing equipment are heavy duty and precision made machines.

A recent study placed Nanxing in the top 20 panel saw manufacturers in the world.

“I am very impressed at the level of quality Nanxing has been able to achieve with these machines,” says N&D Technician, Mike Engelbrecht. “In addition to the good quality of the machine and its significantly lower price tag when compared with some of the top European machines, the easy setup and operation of the machines are definitely a huge drawcard for clients.”

Conti Kitchens
Engelbrecht commissioned a Nanxing MSB 60 F edgebander at Conti Kitchens in George, and comments: “Installing the machine literally took two hours, and that includes training the staff on the machine.”

Conti Kitchens owner, Francois Vorster, says their Nanxing edgebander, which has been running for a number of months now, is probably one of the best investments he has made. “It’s brilliant. The machine is tough as nails and so simple to operate. It’s made for Africa.”

Vorster says he was not familiar with N&D, but was referred to them in his search for a new edgebander.

“I must say I was pleasantly surprised. The service is fantastic to the extent that you call the office today and a couple of hours later, a technician is on a plane to you. The team at N&D is completely professional and always ready to help, night or day.

“Not that there has been any reason for that since the machine just goes and goes with no issues at all. If you compare the service from N&D to those of other well-known European machine suppliers that cost three times as much, there is no comparison. With N&D you get double the service for less than half the price.”

Vorster says he will never look back. “In terms of value for money, I think I’ve hit the jackpot with the Nanxing edgebander,” he says. “The operators love the machine due to the ease and simplicity of use and the quality is outstanding.

CosiHome
Another company that purchased a new Nanxing machine is Port Alfred-based Cosi Home, where N&D technician Barry Maloney recently completed the installation of a Nanxing edgebander and panel saw.

The installation was a breeze,” says Malhoney. “In addition to the fantastic quality, the easy installation and operation of the machine is one of the reasons that these machines are fast becoming hugely popular in South Africa.

“Machine maintenance is also very simple and easy.” Marius Claasens from Cosi Home is impressed with the Nanxing range, saying that these machines are going to make the world of difference to their production lines.
"We used to outsource the cutting and edging part of the business, so the acquisition of these machines has helped us to bring this activity in-house, and even to start delivering a cutting and edging service to some of the smaller local companies."

According to Claassens, he did a lot of research before taking the leap to invest in Nanxing machines, even visiting a number of sites where the machines are already operational. “The quality of these machines is really very good. It is rare that one finds something of such quality for a reasonable price.”

However, adds Claassens, one does not simply buy a machine for the price or the quality, but for how it will fit into existing production lines. “The new machines enable me to deliver to my clients a higher quality product at a better price. This, coupled with the excellent service that I received from N&D has won me over.”
Blues Alley Trading

Another new client for N&D is bedroom suite manufacturer, Blues Alley Trading, where a Nanxing edgebander has been in operation for a short time. According to maintenance manager at Blues Alley Trading, Allan Brown, the Nanxing is already showing its worth with staff loving the machine for its simplicity of use and excellent quality.

“I am impressed with the service that we received as well as with the sturdiness and quality of the machine,” says Brown. “It has not been running for very long, but the benefit is already clear to see.

Ease of use is a big thing for us and the uncomplicated operation of the machine makes it the ideal addition to our existing production line.”

Welkom Woodmaster

Welkom-based Woodmaster also decided to buy into the Nanxing range with a new edgebander, a panel saw, two double back dust extraction systems, and a hinge portal drill.

N&D sales, service and installation agent, Jacob Malabola, says that he was over the moon with this sale and that these machines are sure to significantly enhance the client’s production lines.

According to Welkom Woodmaster owner, Jaco Botha, the machines have been in and running for some weeks and thus far he has no complaints.

“The machines are of exceptionally good quality and the fact that they are easy to operate and maintain is a big selling point for me, since we do not need to spend days training the machine operators on how to use them. Training on these machines is reduced from hours to literally minutes.

“The service that we have received from N&D was incredibly good and we could not be happier.”
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