

# MARTIN ENGINEERING

## KEEPING THE MOVERS MOVING



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*One of South Africa's leading bulk material handling specialists is playing its part in making material handling easier, safer and more productive*

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Regardless of whether they're open pit or deep underground, conveyors are the arteries and veins of every mine. They've been around since the 19th century and despite over 100 years of trying, the basic design of a conveyor hasn't really changed much. But while the basics remain consistent, there has been no shortage of ancillary equipment designed to get the best out of what is often one of the largest capital cost centres on a new project or existing mine.

"It's hard to imagine," says Warwick Smith, marketing manager of Martin Engineering in South Africa, "a more hostile working environment than a mine. The loads, the dust, the abrasion, the non-stop action—a conveyor system might look simple but making it work reliably 24/7 is far from simple. We specialise in material handling and flow technology, driving productivity, reducing down time and ultimately making mines more profitable. Under these conditions, engineering excellence, product component quality and design, and durability are critical."

Martin Engineering is relatively new to South Africa but it hasn't stopped the company claiming a majority share in the coal industry of Mpumalanga centred around Witbank or Emalahleni ('place of coal'), as it's also known these days. And while the coal industry is the most important sector for the company, it has also grabbed a big chunk of business within the country's gold mines, diamond mines and platinum mines. "Within a 100 kilometre radius of our base in Witbank," says Smith, "there are multiple





The factory workforce is 20-strong

# 2003

Year Martin Engineering was founded in South Africa

coal power stations and in the region of 70 mining operations. Our client list comprises all the blue chip names you'd expect: Eskom, Anglo Coal, AngloGold, De Beers, Exxaro, Xstrata and Vale, to name a few."

While conveyor systems are relatively simple in design, managing and maintenance of material flow is not. There are a lot of standard products designed to optimise the smooth running of conveyors: belt cleaners, alignment mechanisms, dust suppression systems and impact beds plus an extensive range of flow aids to encourage the material to keep a move-on, such as vibrators and air canons, in many forms. But there is also a lot of bespoke engineering taking place: transfer stations, bins, silos and even equipment such as vibration on side tippers, trucks and rail cars. "Probably the short answer," says Smith, "is that we do whatever is needed to make bulk material handling easier, cleaner, safer and more productive."

Martin Engineering owes its start not to a Mr Martin but rather to Edwin Peterson, a foundry pattern maker in Illinois, USA. He noticed workers on the foundry's mould-making machines overcoming sand blockages by pounding the hoppers with hammers. He also registered that while the process worked, it was noisy,



MARTIN ENGINEERING

Martin Engineering staff

damaging and not very productive.

Peterson realised that vibrations would stimulate the flow of material and in 1949, he patented the Peterson Vibrolator, essentially comprising a steel ball rotating in a hardened steel raceway, propelled by compressed air. Peterson left the pattern-making business and used an earlier partnership he'd had as the basis for a new company, adopting its name: Martin Engineering.

In 2003, South Africa joined the other 31 countries in which Martin Engineering operates and formed the eighth international business unit, responsible for

all of Sub-Saharan Africa. It achieved this by acquiring the well-respected Scorpio Conveyor company. "Scorpio had very good belt cleaning expertise," says Smith, "which fitted in well with the rest of the Martin range. Previously, Scorpio did very well but with a limited palette. Now Martin Engineering has a complete basket of products we can take to the market, as well as first-class engineering skills and manufacturing facilities."

Visit the factory on the wrong day and it could look a bit like a ghost town. That's because the only stocks held there are those

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Centre for Innovation, Illinois, USA

imported items such as the air canons and vibrators. Everything else is made to order and items from the standard range can be turned around and shipped out in less than three days. The volumes passing through the factory are impressive. Typically up to 20 primary cleaners, 30 secondary cleaners, 20 V plough cleaners and up to 40 impact beds a day are being produced—all from a factory workforce of just 20! “We like to keep

things lean,” says Smith. “Everything is pre-programmed and flat sheet high-quality steel is cut by laser, before moving on first to the bending and welding bay and then for powder coating before being assembled. We have a fleet of six delivery trucks working 24/7 and 30 crews on site providing maintenance and installation expertise.”

Out on site, it’s a bit like a Formula 1 pit stop. Mine operators are reluctant to

shut the system down any more than they have to so Martin’s crews have to take advantage of scheduled inspection stops and then get their work done quickly before the mine maintenance engineers have finished theirs. Teams of five

run by a qualified service technician and experts in conveyor technology make sure the conveyor system is running optimally.

When asked about the reasons Martin Engineering has done so well in such a relatively short time, Smith puts it down to innovation and effectiveness. “We have an R&D team constantly testing new material handling technology and evaluating

**200,000**  
 .....  
**Minimum firings from  
 Martin Engineering’s  
 air canons**

different materials such as polyurethane’s durability,” he says. “We have a very impressive Centre For Innovation located in Illinois, USA, plus our own local solutions and engineering department.

The rewards are seen in our products: our competitors’ impact beds, for example, offer only one angle of repose—ours can handle any. Similarly, there isn’t another air canon on the market that can guarantee the minimum 200,000 firings we promise from ours. Our products are durable, tried and tested, highly engineered, designed around ease of installation and maintenance, and safety.”

**“WE HAVE A FLEET OF SIX DELIVERY TRUCKS WORKING 24/7 AND 30 CREWS ON SITE PROVIDING MAINTENANCE AND INSTALLATION EXPERTISE”**



Within the Martin Engineering global network, there is expertise on moving just about any type of material; and it's part of the organisation's ethos to transfer best practice to other global team members. While Martin Engineering is currently wedded closely to the mining industry in South Africa, Smith is planning to widen the customer base and take some of this technological know-how to other non-mining sectors such as cement, food and grain handling. "While we have been active in East and West Africa, we are moving towards more permanent presence across the whole of Sub-Saharan Africa, having already supplied and installed our products in Tanzania, Mozambique, Botswana, Namibia, Madagascar and Nigeria," says Smith.

Part of the marketing mix Smith has at his disposal is Martin Engineering's bible on bulk handling. *Foundations* is a 600-page hard copy book that contains everything there is to know about maximising productivity and problem solving, and the safe and efficient handling of conveyors. Over the years, Martin Engineering has conducted thousands of *Foundations* seminars across the globe and has courses tailored from beltsman to mining engineers. The same training programme is now available online. "We live by a simple but powerful slogan: 'Problem solved'. That is what Martin Engineering has and will always be about," Smith concludes. **BE**

For more information about  
Martin Engineering visit:  
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