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Issue 27

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Growth in Second Quarter Aggregates Markets Reflects Housebuilding Improvement and Suggests Construction Activity May be Near the Bottom of the Downward Cycle

MPA survey results show a significant improvement in sales of aggregates, ready mixed concrete and asphalt in the second quarter. Following a poor first quarter, second quarter sales volumes increased by 14% for crushed rock aggregates, 9% for sand and gravel aggregates, 18% for ready-mixed concrete and 9% for asphalt, all compared with the same period of 2012.

These figures represent welcome improvements but also reflect some carry over of work from the first quarter due to bad weather and comparisons with a very poor second quarter of 2012.

For the underlying market change, the moving annual trend figures (i.e. the year to June 2013 compared with the year to June 2012) provide a better guide. These figures have been improving in recent months and the overall aggregates moving annual trend for June is -1% (comprising a 2% increase in crushed rock and 6% decline for sand and gravel), providing an indication that construction activity may be close to the bottom of the decline which started in mid 2011.

There is evidence that private housebuilding has picked up significantly from the extremely low levels of activity in 2012, but there remain many depressed areas of construction. The sharp distinction in June moving annual trends between the no change outcome for ready-mixed concrete and the 12% decline for asphalt sales volumes, for example, highlights that road markets remain constrained following the 41% decline in road construction in 2012.

Jerry McLaughlin, Chief Economist MPA, commented, "Private housebuilding has improved, but this sector represents only 14% of construction and it is sobering to see the latest GDP figures showing that construction output in the first half year was 4% lower than the same period of 2012. However, the better MPA figures suggest that more construction work is underway and that this market should flatten out during 2013. For a sustained recovery, however, we need Government to deliver fully on the infrastructure commitments made in the 2012 Autumn Statement and for the increased confidence in the housing market to spread to other construction sectors."

Sandvik announces the launch of the new mobile "S" Type cone crushers

Sandvik Construction is expanding its mobile crusher portfolio with the introduction of the new QS441 and QS331 track mounted cone crushers, targeted at the most demanding of aggregate producers.

The HUB Magazine recently attended the press and dealer launch of the new 'S' Type cone crushers in Northern Ireland, and also took a detailed tour of the Sandvik factory. Over 120 dealers and press attended the two day event in Ballygawley, which included a visit to Barrackhill Quarry for a full working demonstration of the new 'S' type cone crushers along with other key Sandvik machines.



The "S" type gyratory cone crusher has proven itself in stationary applications for over 30 years, becoming one of the most reliable, versatile and productive cone crushers on the market today. This proven piece of technology has now been incorporated into a self-contained, diesel driven track-mounted plant, offering customers superior performance, and high product quality, in a fully mobile version.

Sandvik's "S" type gyratory cone is able to accept a feed size up to 90% larger than current standard cones, which allows maximum productivity from your primary crusher, or even enables the "S" cone to be operated as a primary crusher on gravel applications. The larger QS441 56 ton unit will feature the class leading CS440 cone, whilst the smaller, more compact 36 ton QS331, incorporates the CS430 cone crusher.

With a choice of three concaves, and four bush settings to control the closed side settings and material gradation, both the new units offer ultimate flexibility. Capable of producing large reduction ratios, with minimal fines, production it is ideally suited for crusher

run (6F5 material), rail ballast / drainage stone or material for a tertiary crushing plant.

Efficiency and productivity are the key attributes of the new models and many characteristics, which are common across the Premium range of crushers, have been incorporated into these units.

Key features include:

Automatic level sensor above the crushing chamber to control the feed rate and minimize operator intervention for maximum production and reduction.

Metal detector fitted as standard to provide maximum stability and protection from tramp material

Remote camera for visibility of the crushing chamber from ground level

Hydroset CSS regulation system to optimise production and keep track of liner wear

Four hydraulic jacking legs for stability and to guarantee a level operating platform

Heavy duty "I" beam chassis to ensure maximum durability

CAT C13 diesel engine with direct drive for maximum power delivery and fuel efficiency

Hydraulically driven cooling fan with auto reverse function to back flush dust from the radiator

Wide selection of optional extras to suit every climate and customer need

Alongside the 'S' type cone crushers was the new QI341 - a unique and versatile primary & secondary Impactor in one. Built utilising Sandvik's market leading Prisec™ technology, the QI341 is the most versatile, compact mobile impactor in the market today. Capable of operating in primary and secondary applications, it has been designed with productivity, mobility, minimal environmental impact and user friendliness at its core.

The QI341 is now available with an optional hanging screen system, which will allow customers an even greater return on investment through the facility to produce accurately sized products for immediate use.

The QI341 utilises market leading Sandvik impactor technology enabling the development of a fully mobile, compact impact crusher designed to either work in a primary or secondary capacity either independently or in conjunction with other members of the Sandvik product line, in order to produce materials of the highest quality. Although designed for the recycling of construction materials, the state of the art Sandvik impactor design enables the QI341 to be the perfect impact crusher for the smaller quarry. Here its compact design is perfect where space and machine manoeuvrability are at a premium, but superb product shape and high levels of production are required.





Features of the QI341 include:

Sandvik Prisec™ impactor - the most flexible impactor currently available on the market designed to meet end product specifications.

Excellent reduction ratios across a broad spectrum.

Fitted with a pre-screen for maximum scalping capability to prevent any undersize material passing through the impactor, thereby maximising throughput and reducing wear costs.

Choice of pre-screen media to provide the flexibility to suit any application.

Fitted with an underpan feeder as standard for maximum belt protection and to reduce any spillage issues generally associated with impact crushers.

The all new Sandvik Prisec™ crusher range has revolutionised the industry, giving customers the technology and efficiency it has long looked for and needed which has been delivered and now available through the Sandvik Mobiles product range.

Complimenting this line up was the new Sandvik Construction QE141 Mobile Scalper - Evolution in motion. The QE141 is the latest incarnation of the world's first mass produced track mounted screener, the Robotrac, which was launched almost 20 years ago, thus beginning a revolution in mobile screening. While tracked mobile screens are very much the established norm, and numerous scalpers and screeners have evolved from the original Robotrac, the QE141 remains the most versatile scalper on the market.

With the functionality to create a windrow or radial stockpile, or simply a 300 ton conical stockpile, load a truck, a screen or a pug mill, with its heavy duty double deck vibrating grid (which is tipped by remote control), the QE141 is the last word in rugged scalping applications (no oversize material to belts or conveyors). Alternatively, the QE341 may be easily fitted with fine grade meshes for precision screening and sizing applications.

The integral flexibility of the QE341 enables customers to deal with a variety of requirements: this may include urgent orders, such as 1000 tons of -1 1/2" (-40mm), which could be easily accomplished through simply tracking the QE141 in under the crusher discharge belt to scalp off the oversize, and stockpile the finished product. As the QE141 is the most adaptable of mobile screeners no busy yard, quarry or contractor should be without one. Its multipurpose design also makes it an ideal rental unit which can be easily deployed anywhere.

The QE141 features, as standard, a CAT engine along with Sandvik's unique new color coded, numeric control system. A lot has changed in 20 years, but the original is still the best, with the QE141 bringing true mobility back to mobile screening.

Features include:

User-friendly color-coded control panel with sequential start up for ease of operation.

High speed scalping of a wide range of materials, yet compact and extremely maneuverable on site.

Independent feeder and discharge conveyor drives allows greater control of the material, reduces stress on the machine and increases longevity.

Simple to operate and maintain, with hydraulically opening side doors and swing out powerpack.

Full radio remote control as standard.

Massive stockpiling capability.

Designed for optimum operator comfort and safety.

Back at Ballygawley, visitors were then given an extensive and very detailed factory tour taking them through the complete manufacturing process, something that you don't see every day. To view images from the factory tour, please visit www.hub-4.com/directory/296.

For further information, please contact Melissa Baker - Marketing Communications, Mobile Crushers and Screeners, Sandvik Construction, +44 (0) 1283 212121, Email: melissa.baker@sandvik.com Web: <http://construction.sandvik.com/>



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New TEREX® MC1300 Cone Module increases production capabilities

Terex® Minerals Processing Systems (MPS) has launched the new MC1300 Cone Module in response to customer feedback, increasing the application and production capabilities of its existing modular product range.

The modular product line consists of several pre-designed static and semi-static crushing and screening "plug and play" modules. Set-up time and ease of operation is aided by the simple design of the modular product range. Each module bolts together on site and requires minimal on-site wiring. Mark Crooks, Modular Product Line Manager commented, "With the addition of the MC1300 to our modular product line, we are now able to offer customers increased production and greater application capabilities. The MC1300 Cone Module can be matched with other units in the modular product line to create a system capable of processing up to 270 tph."

The MC1300 Cone Module features the robust Terex TC1300 (1300mm) cone crusher powered by a 225 kW electric motor. An unrestricted feed opening and a full range of configurations for short and long throw give the TC1300 high versatility. The all roller bearing design improves crushing efficiency. Additional TC1300 features include hydraulically adjustable closed-side setting, easy manganese changes, and a weather-protected control panel with user-friendly controls. Other key features of the MC1300 Module include an extra heavy-duty I-beam frame and a galvanized steel structure including walkways, steps, and guard rails. The module structure and all its components are CE compliant.

 www.hub-4.com/directory/8597



Worsley Plant appointed the exclusive UK distributor for the Variolock Quick Coupler System

Worsley Plant, a leading UK supplier of materials processing equipment to the construction, demolition, waste management, landscaping and recycling industries, are pleased to announce their new partnership with Lehnhoff Hartstahl in Germany, to become the exclusive UK distributor of their Variolock Quick Coupler System.

Lehnhoff, originally established in 1960 offer trend-setting products not only for the construction and road building industries, but also for special sectors like demolition and recycling, gardening and landscaping, as well as quarry and gravel works.

Their Variolock range of fully automatic quickcoupler systems are ideal for hydraulic excavators.

Variolock turns your hydraulic excavator into an all-round specialist allowing easy and frequent changes of tools. Each attachment is ready for safe use in a matter of seconds.

Changing any attachment is effortless, safe and fast. The operator can change any tool including the hydraulic connection at the touch of a button from the comfort of his cab. The hydraulic unit and the tried and tested original Lehnhoff quick-coupler form a compact unit.

The fully automatic changing of attachments with Variolock gives the user a variety of benefits:

- Increased efficiency by saving time and manpower
- More efficient working - tool changes are viable even for short working cycles
- Cutting costs by treating machinery, attachments and hydraulic hoses with care
- More safety and comfort for the operator
- Less contamination of the hydraulic system, environmentally friendly
- Prevention of hydraulic hose failure

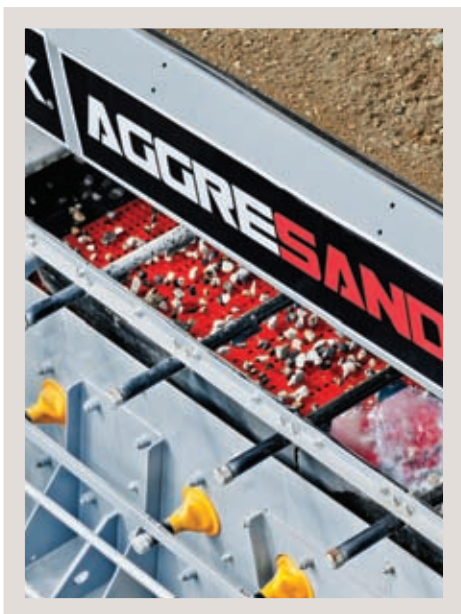
The Variolock range is ideal for Worsley Plant's range of high-quality attachments such as crushing and screening buckets, grabs, shears and pulverisers and can work with other similar products on the market.

To find out more please contact Worsley Plant now on 01606 83 55 44 or info@worsleyplant.co.uk or visit www.worsleyplant.co.uk.

 www.hub-4.com/directory/7833

The eagerly anticipated Aggresand is unveiled at premiere event

September 5th saw the official launch of the Aggresand™, Terex Washing System's (TWS) newest modular aggregate and sand washing plant. The modular wash plant brings together aggregate and sand washing on one modular chassis, producing three aggregates and two sands on one machine. The official unveiling and live demonstration took place at Dowling Quarries, Abbeylax as part of TWS Annual Dealer Forum held at the Heritage Golf & Spa Resort, Killenard, Co.Laois.



More than forty TWS distributors from around the world attended this exclusive premiere event, where they saw for the first time ever a live demonstration of the Aggresand modular plant. Reaction to the new plant has been remarkable to date and enquiries resulting from the event have been phenomenal. Elaine Donaghy, Marketing Manager of TWS, commented, "TWS is delighted to officially launch the Aggresand washing plant after what has been an eagerly awaited event for TWS distributors and customers. Following the event, we are already witnessing a huge surge of enquiries. The Aggresand plant will undoubtedly set TWS apart from other providers in the market, and this particular system will revolutionize the wash plant market by continuing to serve our customers' needs around the world."

The main objective in developing the Aggresand plant was to meet our customers' needs for a modular system that can efficiently wash and produce multiple aggregates and sands within one machine. The Aggresand plant's design

achieves this by providing a throughput capacity of 250tph as well as having quick set-up time allowing the plant to be erected in one day. Through the expertise of dedicated TWS engineers, the newest modular plant is also designed for efficient transport by fitting into six shipping containers. During the packing process at the TWS factory the containers are loaded and arranged in a specific manner to help speed up installation time on site. Quick set up time is also achieved through essential 'plug and play' plumbing/pipework and electrical wiring, compared to traditional methods where this work is carried out onsite after installation.

The first Aggresand machine is working successfully in Dowling's Quarry, Abbeylax, Co.Laois for the past six weeks and is processing to date glacier sand and gravel material formed during the ice age with consummate ease. Quarry owner, Humphrey Dowling, commented, "We are delighted to be the first quarry to install and operate the world's first ever Aggresand, which is truly is a superb washplant. This plant ultimately replaced an older Terex washplant that was installed 13 years ago, so far I am very impressed with the functionality of the Aggresand. The plant arrived on site and was installed in approximately ten hours. I like the idea of the modular aspect, allowing it to be moved to another site later if the throughput currently being achieved on the plant is excellent and the quality of the aggregates and sands being produced is very impressive. The high performance two deck vibrating grid allows us to feed material directly from the face of the quarry, at 200mm, large material is scalped off while the minus 50mm material goes straight into the wash plant. This eliminates the need for expensive pre-screening of the feed material."





The Aggresand plant at Dowling's Quarry is fitted with a 12' double deck vibrating grid with 100mm bofor bars and 50mm woven wire mesh, this particular plant separates 0-40mm to the wash plant that gives 3 aggregate materials and 2 sand. Reject material from the live head is stockpiled and later crushed when accumulated into stockpiles of 50,000 ton, then crushed into 6f2 material via a Terex Crusher. On the bottom deck the <50mm product is delivered by the feeder belt to a 1000mm wide electrically driven inclined feed belt. This wide conveyor is fitted with an integral wash box to pre-soak the material and delivers the material to the full width of the screen thus utilizing the full screening area. The 16' x 5' (4.9m x 1.5m) three deck screen is electrically driven producing an aggressive 6mm throw and is fitted with eight individually controlled spray bars on each deck. The sized and rinsed aggregates produced by the screen are stock piled on three integral 9m stockpiles. The dual sand plant includes two rubber lined centrifugal pumps and two heavy duty rubber lined cyclones which remove silt (<75 micron).



The silt-free sand is delivered to a split 12x5 screen to produce two grades of dewatered (12% moisture) silt-free sand. The sand stockpiles are radial powered through electrical wheel drives and have an impressive stockpiling capacity of 350m³. The end products are used as follows: 6-14mm (503 drainage material), 14-22mm (503 concrete material), 22-40mm (505 drainage material). 0-3mm

sand is used for plastering and block making, the 0-5mm sand is used in the production of concrete. Overall there is zero waste from the plant and minimum sand being lost to ponds.

Humphrey added, "From the initial engagement with TWS through to the final launch event the entire team has been efficient and professional. The quality of the construction and design of this plant as well as the excellent manufacture quality was instantly recognizable. I particularly like the modular design and the control system, which is the most advanced and user friendly I have seen on any wash plant. The Aggresand has been working effectively for us at the quarry since the installation and is producing a top class quality of aggregates and sand."

When asked about his favorite feature of the plant, Humphrey commented, "My favorite feature on the entire plant is the radial sand stockpiling conveyors which provide great capacity and save on re-handling. The sand is also coming off the conveyors extremely dry. I also like the hydraulic operation of the feeder and the vibrating grid which works well and gives great levels of control. I can safely say the Aggresand compares to nothing else currently on the market." ►





Plant operator, John Hamm, at Dowling's Quarry added "The plant is a dream to operate. Initially, I was apprehensive about the advanced control system, however this was quickly addressed once I had the opportunity to use and familiarize myself with the system. The control panel is extremely user friendly and provides a simple interface, while at the same time being very effective and offering full control of the plant remotely, for example the ability to radial the sand conveyors from the cab is an excellent feature. I was also impressed by the construction of the machine and level of access for service to pumps and screens."

After speaking to some of the distributors who attended the event, TWS UK distributor, Duo Plc's Fintan McKeever, commented, "I am extremely impressed by the build quality and features of the machine and really believe that this is a

world class machine with nothing comparable on the market. I am confident it will serve my market particularly well."

Also commenting on the Aggresand plant, Giuro Kravlev from Powerscreen, Bulgaria, commented, "I can witness at first hand the excellent job of TWS at this fantastic showcase. The Aggresand is an extremely good concept for washing, with the ability to produce five products, including two sands. I am amazed by the quality and build of this unique machine, which demonstrates what washing should be. I really believe it will be a good product for our market."

Sean Loughran, Director of TWS, added, "The Aggresand washing plant is already proving to be a market leader based on enquires and demand following the initial soft launch back in March at Bauma Germany and this has grown exponentially following the official launch event at the beginning of September. The Aggresand plant definitely serves our customers various demands and needs worldwide and will continue to meet and exceed customer expectations. This machine is the first in a line of planned modular plants to be released over the coming 24 months that will quite simply change the very nature of how aggregates and minerals are washed and managed throughout the world"

 www.hub-4.com/directory/15386

Mach Tech services keep adding to their Lindner line of shredders

Mach Tech Services Ltd, the UK's leading industrial shredder specialists, has added three more state-of-the-art machines to its already extensive range of Lindner shredders.

The Urraco 95 is a larger version of Lindner's popular mobile shredder, with an increased aperture and drive system.

The Komet 7HP machine has joined the Komet range of shredders and is capable of producing cement kiln grade SRP at between 15 tonnes and 18 tonnes per hour. It gives an output size of minus 30mm with variable screen sizes to enhance performance or for very high volume shredding for RDF.

And the Limator - launched for the anaerobic digestion market - is a versatile modular impact crusher, designed to improve gas yield by breaking up renewable resources, waste and foods as part of the anaerobic digestion process, to produce bio gas.

Mach Tech Services is the UK's sole distributor for Austrian-based Lindner Recyclingtech, manufacturers of award-winning world-class industrial shredders. Mach Tech specialises in supplying a wide range of Lindner machines across the UK and Eire and can offer a finance package to new and existing customers.



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Introducing the new Precia-Molen i series of indicators

Following years of research and development, weighing specialist Precia-Molen has introduced a new unique family of indicators based on an excellent quality/price ratio.

Replacing an existing range of instrumentation the new i series offers high levels of performance with unparalleled technical features.

With four models (i20/30/35/40) available the new range can accommodate simple vessel weighing, weighing of products, and provision of an interface between the weighing platform and management systems, or integration into any plant process requiring weight measurement.

With an increased number of functions available, whilst maintaining ease of use, the new range of indicators provide weighing information to management or automation applications via the latest software tools (USB, Ethernet, Fieldbus), with easy implementation.

The new i range has been developed to aid preventative maintenance and remote system monitoring.

Innovation and environmental responsibility

The new range has been specifically developed to limit the carbon footprint with both the FSC LCD display using less energy, and on a 'like for like' power consumption the new i range of indicators is 10 times lower than that of the models they replace.

Additionally, Precia-Molen selected LifePo4 technology to limit the environmental impact as it is manufactured without the use of toxic elements. The ATEX version presents any risk of explosion in the event of shock or short circuit.

Features

- IP66 stainless steel housing - wall or table mounting
- Extended range of operating temperatures
- ATEX version
- EC approved 2 x 6,000 divisions with Vmin per division - 0.5µV
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CBI Magnum Force 5800 Grinder

With the outstanding success of the Magnum Force 6800 grinder, CBI went back to the drawing board to apply the same principles to a machine designed for contractors dealing with lower production needs or transportation restrictions. The end result is the Magnum Force 5800; a mid-sized upswing grinder built without compromising strength or performance!

Decreasing headaches from load restrictions and permitting was one of the primary design goals of the 5800 and it delivers! The offset helix rotor, anvil, and screen designs and dimensions remain similar to the 6800 to retain its superior grinding performance, however the rotor width is decreased to produce a machine with a total width under 8'6" (2.55m). Each component was scrutinized, weight was engineered out where it wasn't needed and engineered in where it was. The end result is a high volume grinder weighing 64,850lbs.

The Magnum Force 5800 grinder is engineered for land clearing and logging companies and yard waste and demolition wood processors, and mulch yards who demand high-volume throughput and maximum reliability. The 5800 features a high lift upper roll for ease of maintenance; high torque,



hydrostatic feed system; PT Tech hydraulic PTO; and a Caterpillar engine. High strength drum rotor and screen system are shear pin protected. The entire system is controlled by CBI's IntelliGrind logic incorporating a variable infeed speed that automatically adjusts to engine load and an optional modem communications system that provides for real-time system diagnostics.

The Magnum Force 5800 was designed to meet specific size constraints while still containing all of the design features and ingenuity that makes strength and performance of CBI machines legendary.



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The innovative Portafill 5000CT (pictured above) is a versatile, heavy duty machine that is economical and very easy to transport. Built strong enough to withstand the toughest of material, the 5000CT is perfectly suited to contractors in quarry, demolition, construction and waste applications.



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Powerscreen unveils new paint scheme on its machines at the inaugural Bauma Africa

Powerscreen, one of the world's leading providers of mobile crushing and screening equipment, exhibited the Trakpactor 320 impact crusher, Warrior 2400 screen and Warrior 800 screen at the inaugural bauma Africa in conjunction with South African Distributor ELB Equipment in Johannesburg, South Africa.

Powerscreen used the bauma Africa show to launch its newly painted machines. The rugged new look maintains the traditional Powerscreen green colour while adopting a dark grey colour on the chassis and conveyors. The new paint scheme provides an updated, modern look to the machines. The first machine to be enhanced with the new colour scheme was the Trakpactor 320 on display at bauma Africa. The machine was sold to Mr. Hein Senekal of Warthog Carriers CC. Mr. Senekal has been an ELB customer for 20 years and owns a fleet of Powerscreen® machines. Mr. Senekal said, "ELB has a knowledgeable sales team and

provides great service to their customers. I am delighted to own the first 2 tone machine anywhere in the world."

Powerscreen® Trakpactor 320 Impact Crusher

The Trakpactor 320 is a mid-sized horizontal impact crusher designed to offer operators and contractors excellent reduction and high consistency of product shape for performance in quarry and recycling applications. With tracked mobility, the plant is capable of working in the most demanding environments and features rapid set-up time, fuel efficient direct drive system and excellent output potential of up to 320 tph (352 US tph).

Powerscreen® Warrior 800 Screen

The Powerscreen® Warrior 800 is a multi-purpose, heavy duty incline 2-deck screen, capable of stockpiling, 3-way splitting or scalping before and after the crushing units. The screenbox will accept a wide variety of screen media making it suitable for a range of applications including topsoil, recycling, construction and demolition waste, sand, gravel and aggregates. The machine is available in either tracked or wheeled mobile versions, with both configurations offering a compact transport footprint with a width of 2.5m (8' - 2"), reducing transport permit requirements.

Powerscreen® Warrior 2400 Screen

Specially designed for large scale operators in the quarrying and mining sectors, the Warrior 2400 screen is capable of handling larger feed sizes and output potentials of up to 800 tph (881 US tph). Featuring a heavy duty incline screen with a high amplitude triple shaft drive mechanism, a maximum feed size of up to 750mm³ on 2.5 solid density and the ability to separate materials at 300mm, it is ideally suited to screening, scalping, 2 or 3 way splitting and stockpiling materials such as aggregates, topsoil, coal, construction, demolition waste and iron ore.

User benefits include a slide out tail conveyor feature to aid media access and a load sensing collection conveyor circuit to avoid blockages. The Warrior 2400 screen is the ultimate solution for large-scale end users who require a high performing versatile screener that remains easy to transport, set-up, operate and maintain.



www.hub-4.com/directory/679



Severe weather warning

The early reports for the UK Winter 2013/2014 weather forecast are alarming, with a colder than average winter predicted.

Considered in context with the ever increasing cost of heating commercial properties the forecast is definitely not a sunny one.

However, a brighter outlook is within reach, with the range of biomass heating systems from Fercell, especially with the economics of 'good-as new' refurbished plant.

Electing to buy a Fercell refurbished system is fast becoming the hot option. Such a purchase can offer healthy savings over new, improve your company's green credentials, and bring greater efficiencies and reduced fuel consumption.

Every purchase receives a free bag of marshmallows to enjoy in front of your refurbished heater, we'll even throw in the toasting fork!

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www.hub-4.com/directory/15128



CMS Cepcor™ makes further investment to their service fleet

Leading manufacturer and supplier of crusher spare parts, and crusher services, CMS Cepcor™ have recently made a further investment to their service fleet.

To meet the substantial increased demand for on-site crusher service work the company has taken delivery of a new MY2013 Scania-Fassi combination truck mounted crane. This new addition adds to their service fleet of 15 vehicles, which includes an existing Scania-Pesci truck mounted crane.

Capable of safely lifting 15,000kg within a 3.4mtr radius, to 4,465kg within an 11.5mtr radius the new truck mounted crane is capable of lifting a wide range of major crusher components and even complete crushers.

The new truck mounted crane is also ideal for completing manganese liner changes on a range of popular cone crushers, depending on site specific installation, including crushers manufactured by Terex® Pegson, Parker, Metso™, Sandvik™, Svedala, Symons and Nordberg.

Minimise downtime and maximise efficiency

Supplying many of the major quarry groups with scheduled cone crusher manganese liner changes and servicing, factory trained CMS Cepcor™ technicians constantly minimise downtime and ensure cost effective operations. With written engineer reports completed and filed to help plan preventative maintenance this ensures a reduction of lost time through breakdowns.

Health and safety

With health and safety of prime importance CMS Cepcor™ is constantly updating all aspects of their crusher service training, ensuring that all engineers who operate the new crane have successfully completed an ALLMI accredited lorry loader course.

CMS Cepcor™ is Europe's leading and largest aftermarket manufacturer and supplier of quality replacement crusher spares and service, supplying worldwide to the quarrying, mining, demolition and recycling industries.



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Anaconda launches 3 deck mobile screen!

Anaconda Equipment has just announced the launch of their largest mobile screen to date. The SR514 screen is a conventional screen used mainly in the segregation of aggregates and offers the option of 3 or 4 screened products.

The SR514 has a 14 x 5 triple or double deck screen, a 14ft feed hopper, main conveyor and either 3 or 4 hydraulically folding stockpiling conveyors. The 3rd/4th product transfer is done by way of a reversible transfer belt to improve efficiency and remove the build-up problems associated with steel chutes commonly found with other brands. Weighing in at almost 29,000kg for the triple deck, the unit is powered by a CAT 4.4 water cooled engine developing 100 HP (75kW). The screen is very easy to set up and can be running within 45 minutes with hydraulic controls to aid the setting of all conveyors, screenbox and landing legs.

The SR514 has variable speed controls to set the belt speeds to suit each application and the screenbox can be set between 20-34° to ensure maximum screening efficiency. The hopper comes with a remote tipping grid as standard to scalp large material pieces off and the screenbox has a full



access walkway to help with any maintenance requirements. The unit also offers options such as radio remote control, vibrating grid, anti roll back on main conveyor, dust suppression covers and/or spray bars. In Summary, this unit from Anaconda is designed, built and kitted out to handle tough and varied applications.

Commenting on the latest offering from Anaconda, Operations Director Martin Quinn seemed very happy with the end result: "This is yet another step up to the mark in terms of machine size and the overall results are very good. Demand is driving us to design and manufacture larger units and so far, our distributors have supported that demand with sales orders."

Anaconda continues to surge forward in the manufacture of new products and the range now extends to more than 20 products. Their dealer network extends across the globe and their overall presence in this sector is becoming more dominant. Their participation at the Conexpo show in Las Vegas in March 2014 is further testament to their intention of becoming one of the leading suppliers of mobile screening equipment worldwide.



www.hub-4.com/directory/12687

INNOVATION IN SEPARATION TECHNOLOGY...

... 3D Combi Flip-Flow Screen

The **NEW** Terex Finlay 883 Spaleck is the ultimate in mobile screening and separation technology. At the heart of the machine is the 2 deck German designed and constructed high performance Spaleck screenbox.

The unique stepped top deck design combined with state of the art flip flow technology on the bottom deck catapults the Finlay 883 Spaleck into a class of its own.

Its processing capabilities and application flexibility make the machine the ultimate all-in-one mobile solution for processing mixed waste, recycling, slag, C&D, C&I, shredded metal, wood, compost, mulch, ores, coal and soil.

Features:

- ▶ Virtually blockage-free screening in the upper and lower deck thanks to tried and tested 3D and Flip-Flow technology.
- ▶ The 3D screening segments guarantee accurate screening with no long pieces passing into the middlegrade material.
- ▶ The Flip-Flow screen with screwless mounted screen mats avoids unnecessary cleaning and reduces maintenance times.
- ▶ Screenbox discharge end can be hydraulically raised 500mm to facilitate efficient and easy media access and changing.



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New Generation of Tilt Level Controls

The new generation of Tilt Level Controls is designed for dry bulk material level indication and control applications.

These new UL Listed Control Units are enclosed in a rugged cast aluminum housing with LED Indicator lights to alert the operator of either the presence or absence of material. Equipped with a new Surface Mount PC Board the unit now allows for a maximum of 5,000 feet of cable between the Control Unit and Probe, permitting placement of the Control Unit in an easily accessible area.

The Control Units are available in three different Models for use in various environments. The Model CT-105 Control Unit is UL Listed NEMA Type 4, 4X for use in general purpose outdoor applications and is dust proof and weather tight. The Model CT-106 Control Unit is UL Listed NEMA Type 9 Class II, Groups E, F and G for use in hazardous locations. The Model CT-107 Control Unit is UL Listed NEMA Type 7 Class I, Groups C and D explosion proof; NEMA Type 9 Class II, Groups E, F and G for use in hazardous locations.

When suspended from a fixed support, the Probe indicates material is present when it is tilted a minimum of 15° for the mercury version or 25° for the non-mercury version. The surface mount PC board is resistant to shock and vibration and has a logic selector switch and adjustable time delay to prevent false signals. The Control Unit has a 5 amp DP/DT output relay.

Two Probe sizes are available. The CT-200G is a compact, 6 inch Probe for use on small bins and hoppers where space is limited. The CT-201G is our standard 9 inch, heavy duty Probe for applications where an abrasion resistant Probe is necessary. The probes are intrinsically safe and UL Listed only when used in conjunction our control units Models: CT-105, 106 and 107. Both Probes are available in stainless steel for corrosive environments and optional fittings are available to permit easy suspension from fixed supports. Paddle options are available for use on moving materials as a flow indicator. Probes are air tight, dust tight, waterproof and come with a standard 25 feet of three conductors 16-3 SO cable. Additional cable lengths are available up to 5,000 feet.

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40 years of long service



Founded in 1970, Warwick Ward (machinery) Ltd was initially a business comprised of Warwick and his wife Susan, who with no premises at the time operated initially from an office at home in Sheffield.

Due to Warwick's knowledge, tenacity and enthusiasm the business quickly grew and it became obvious that premises to house the rapidly growing stock of used earthmoving machines was essential for the business to thrive further.

Premises were found in Barnsley and in October 1973, Warwick interviewed a 16 year old young lad from Barnsley named Richard Allen for the position of mechanic. Having made a good impression at his interview Richard then became the 4th member of the team.

40 years on Richard is still with the company - a very rare and fantastic achievement.

As a big show of thanks for his loyalty and commitment over the last 40 years, the current owners Ashley and Matthew Ward recently presented Richard with a watch in recognition of this milestone achievement.

The company who still operate out of Barnsley has now grown beyond all recognition from those early days and now employs over 60 staff!

Warwick Ward is now widely recognised as Europe's largest supplier of used earthmoving equipment and is the UK main agent for new CASE Construction equipment, and more recently has been awarded the sole UK distributor for TANA waste shredders and compactors.

Time for Government to scrap the Aggregates Levy

As predicted by the BAA, the Aggregates Levy has fallen foul of European State aid law due to the fact that a number of exemption granted to products such as clay, slate and shale cannot be justified by the nature and scheme of the Levy. The EU has now opened a Phase 2 investigation to formally decide whether or not a long list of exemptions constitute illegal State aid. Under EU law any exemptions under investigation must be suspended for the duration. Phase 2 investigations are supposed to be completed within 18 months but are presently taking up to four years.

The opening of a Phase 2 investigation left the UK government with two options; they could either scrap the levy altogether or suspend the exemptions. Unfortunately, HMG would appear to have chosen to extend a hopelessly flawed and unaffordable Levy in an effort to appease the EU rather than admit that it is beyond repair.

At the time of writing, guidance on timing for exemptions to be ceased has yet to be issued by HMRC. All they have said is that the matter is presently being considered but that it may involve primary legislation. This delay leaves the companies with exemptions in an extremely precarious position.

Companies who have exemptions for clay, slate and shale will be expected to begin paying the £2.00 Levy with little, or no lead in time. In addition, if their exemption is proved to have been State aid during the EU Phase 2 investigation, they will be liable to repay the full amount, plus compound interest going back to 2002.

Northern Ireland quarries whose derogation has already fallen foul of a State aid investigation also face a massive liability going back to when the 80% derogation began. The implementation of the Levy was delayed in NI and, as the law stands, this could also be added to their final account.

The BAA has called on the Government to suspend the Levy altogether as an alternative to causing further damage to an already hard pressed sector. However, it would appear that HMRC is determined to actually extend the scope of the Levy, which has only ever had negative effects, in order to save face and avoid a possible claim from those who have been paying the Levy.

The AGL has distorted competition in the industry and done enormous damage since 2002. Although the alleged intention was to promote the environment, the Government has admitted that the AGL is inherently incapable of achieving its environmental objective of promoting the use of by-products in an even-handed manner (as set out in paragraph 25 of the Commission Decision). The solution that the Government now proposes is to remove the environmental component of the AGL and simply tax all extracted aggregate. Since it will effectively have to do this retroactively, it will inflict significant further damage on industry (albeit a different part of it).

Robert Durward, commented, "At long last the Aggregates Levy saga is reaching the climax of an eleven year legal battle by the BAA. However, given the nature of cash-strapped governments it is vital that the entire quarry industry and not just the BAA, now makes a public call for the Aggregates Levy to be scrapped forthwith before it is allowed to damage the clay, slate and shale sectors as well."

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Sims Metal Management plays an Ace with Dolavs

Sims Metal Management is the world's biggest metals and electronics recycler working from 260 locations on five continents. Its South Wales region handles some 80 tonnes, nearly 4,500, of used lead-acid batteries.

Integral Runners

These are recycled every month out of its sites in Crosshands, Skewen and Bridgend. Sims' South Wales chosen container is the Dolav Ace plastic pallet box as Sims demands a sealed container which does not leak battery acid, is strong and does not break. They have been collecting end-of-life lead-acid batteries for years and sending to a local company to break up and recycle. Now they select the Dolav Ace plastic pallet box, known for its strength by other battery recyclers, who call it the 'Battery' Ace', to do the job. First they tested a Dolav Ace for themselves.

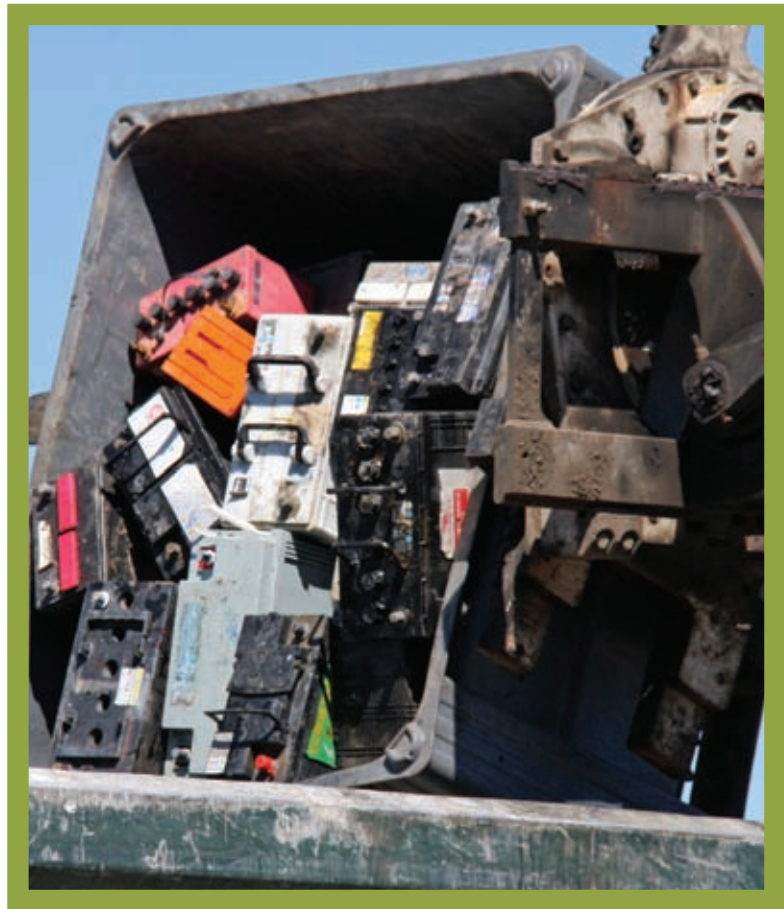
Safety

Sims regional manager, James Norman said, "Due to the hazardous nature of end-of-life batteries, Sims Metal Management needed boxes with several 'must have' qualities. Firstly the material of the box must be electrically insulated and resistant to battery acid.

Secondly the boxes must be strong enough to be filled with batteries, which are exceptionally heavy due to the lead content, and be able to be stacked if necessary to reduce storage space. Finally the boxes must be able to be lifted and tipped through 180 degrees with a forklift truck, without causing damage to the runners or side mouldings. To date we have only found all of these qualities in one product, the Dolav Ace box. It may cost a little more, but will easily outlast other products - quite simply, it saves us money."

Specification

Sims takes the Dolav Ace with lids. It has three moulded-in runners, is specified to 900kg and supports a static loading of 5000kg. Recent 'abuse testing' for Dolav by TUV SUD shows the Dolav Ace can withstand rough and abusive handling beyond its designed specification. That all contributes to a pallet box which can survive the demanding tasks of lead-acid battery recycling. The Ace pallet box pays for itself rapidly and then keeps paying back.



Dolav Ace lead acid battery recycling at Sims Metal Management





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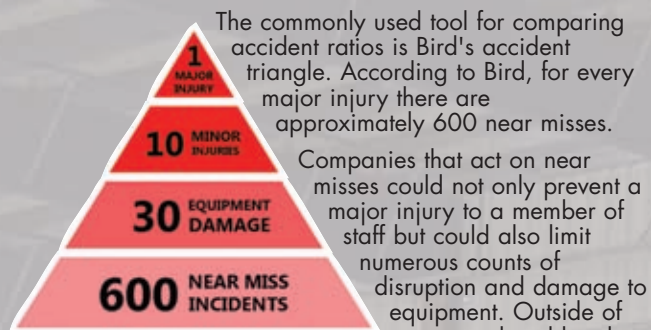
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Preventing Near Misses in the Waste Recycling Industry



Many companies use near miss reporting but few carry it out effectively enough to really get the most out of the process. Without looking closely at the issues and applying the lessons learned, they are missing out on the real benefits to be gained by making the relevant improvements.



obligations to keep staff safe, there are many financial benefits to be gained by a company that learns from its near misses.

Learning from near misses

Vitality companies should learn from their near misses. The reporting process should be as simple as possible. They should follow up investigations and provide thorough corrective training or they risk missing the opportunity to put their findings to the best possible use.

By taking a closer look at one of the most common problems within the waste recycling sector, Mentor demonstrate how companies can get the most out of the near miss reporting process.

A closer look at: Segregation

When a near miss involving site segregation occurs, the investigation may find that the plant had already considered major safety measures, such as:

- All round vision assessment including mirrors and cameras
- Clean windows
- Sensor vision radar equipment (VMS)
- Operator training
- Segregated walkways - clearly marked and free from obstructions
- Dedicated crossing points
- Speed limits
- High visibility PPE for pedestrians

From this, the conclusion often drawn is that every control has been implemented, and little else can be done. However, a thorough investigation must take into account the root cause of the near miss and whether or not it is a reoccurring problem; the following table outlines points to consider and applies them to the above example.

If the hazard had not been identified before:

Every effort must be made to eliminate it	Prevent vehicle or pedestrians from entering operating area
New procedures and systems have to be implemented, so far as reasonably practicable to ensure incident doesn't happen again	Whenever personnel are in an operational area the barriers must be lowered to prevent vehicle access
Training must be carried out on these new procedures	Tool box talks to be administered

If the root cause had been identified before, the following may be required:

Re-training of individuals	Tool box talks to be administered or additional training courses arranged
Extra resources	More signs or banksman
Instigation of better inspections	Tool box talks to be administered or additional training courses arranged

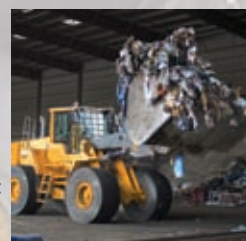
By looking closely at the root cause of a near miss and ensuring preventative action is taken against it happening in the future, the chance of injury or damage can be greatly reduced and a safer working environment created for all.

Top Tip: Reduce your reversing!

One of the most common hazards when working within a busy operational area is reversing vehicles. In this case the risk cannot be eliminated but it can certainly be reduced. Many industries have seen a dramatic reduction in reversing-related incidents by enforcing a policy of reverse parking only.

By ensuring that vehicles are reverse parked, operators can take into account any potential hazards as they approach their machine, as well as being able to easily recognise them from the cab, in the natural, forward-facing driving position. If a vehicle has to be reversed, there is a tendency that the vehicle may begin to be moved backwards (though sometimes only very small distances) before the correct observations have been completed and, as a result, collisions occur.

Results have shown that vehicles parked in a position where the first movement must be in a forward direction are far less likely to be involved in a collision with a pedestrian, structure or another vehicle, when first operated. So if near miss reports suggest that reversing vehicles are proving problematic, putting a reverse parking system in place could significantly limit the danger on site.



Aerosol recycling - on-site

The problem of storing and disposing of used aerosols has been a costly problem to solve for many years now there are options of units that can be used on site which remove and filter the residual propellant and where there is a liquid present can release into a drum for eventual disposal as a fuel. Awarded the Green Apple Award for Good Environmental Practice.

The APU2 unit is used mainly for empty aerosols - one at a time - where there is only a small amount of product present and the propellant is passed through activated carbon filters and deals with cans up to 750ml - ideal for Line Marking sprays.

The Drum based unit will deal with part-full or completely full aerosols - one at a time - releasing both propellant and product into a 205 litre metal tight head drum, the propellant is filtered through activated carbon filters and the liquid remains in the drum for onward recycling. This model will also deal with aerosols up to 750ml.



The brand new Trio Unit will treat 3 aerosols at a time and again operates as the Drum based unit by filtering the propellant and storing the liquid in the 205 litre drum. This unit at present only deals with aerosols up to 255mm but we envisage this being expanded to accept the 750ml aerosols as well.

Any of the units will produce an immediate saving on Hazardous Waste Disposal costs and companies who have purchased and are benefiting from this treatment are diverse including Construction and Civil Engineering, Hospitals, Furniture Manufacturers, Paint & Varnish users, P&O Cruise ships, Oil Industry, Helicopter manufacturers, NDT laboratories, MOD, Crossrail, etc.

Once the aerosols have been treated they are left to air dry and are then re-classified as normal metal cans for recycling purposes. Using the unit does require the site to complete a T15 Exemption which enables



them to treat up to 3000 aerosols per annum per site which can be done on the Environment Agency website, free of charge.

We have recently instigated some company changes and now sell under the name of Aerosol Recycling Equipment Ltd and we are pleased to offer on-site demonstrations so prospective purchasers can evaluate for themselves the safety and effectiveness of the units.

Terex Finlay nominated for 'Manufacturers' Innovation Award' at World Demolition Awards, 2013

We are pleased to announce that the new Terex Finlay 883 Spaleck screener has been included on the shortlist for the 'Manufacturers' Innovation Award' at the World Demolition Awards organized by KHL's Demolition and Recycling International.

"Reaching the final shortlist for this award is testament to the hard work, dedication and foresight of our product development and engineering teams. They identified customers' needs, formulated the concept and built an outstanding machine for the global market place that can be used in a diverse range of applications" remarked Nigel Irvine, Sales & Marketing Director, Terex Finlay.

The winner of this prestigious award will be announced at the World Demolition Awards 2013, being hosted in Amsterdam on 31st October.

About the Terex Finlay 883 Spaleck

The Terex Finlay 883 Spaleck is the ultimate in mobile screening and separation technology. This new product offering is the result of a joint partnership between Terex Finlay, pioneers in mobile tracked processing equipment and Spaleck, a market leaders in static recycling screening technology.

At the heart of the mobile plant is the two deck German designed and constructed high performance screenbox. The unique stepped top deck design combined with state of the art flip flow technology on the bottom deck catapults the 883 Spaleck into a class of its own. Its processing capabilities and application flexibility make the machine the only all in one mobile solution for processing difficult waste, recycling, slag, C&D, shredded metal, wood, compost, mulch, ores, coal and soil.

Even large-grained material can be screened on a screening machine with a Flip-Flow screen deck. The screening deck with 3D screen segments, which is positioned above the Flip-Flow screen deck to form a cascade, protects and reduces the stress on the Flip-Flow screen mats. Their service life is increased and optimal screening results are guaranteed.

The 3D screen segments with maximum open screen area can be changed quickly and simply thanks to the modular construction. The screen mats of the 3D Flip-Flow screen are fastened without screws and have no edges that could cause difficulties. This means that the screen mats can be changed quickly and there is an optimal product flow on the screen mats.

For more information please visit: www.terexfinlay.com

Key Features:

- Virtually blockage-free screening in the upper and lower deck due to 3D and Flip-Flow technology.
- The 3D screening segments provide accurate screening with no long pieces passing into the middlegrade material.
- The Flip-Flow screen with screwless mounted screen mats avoids unnecessary cleaning and reduces maintenance times.
- Screenbox discharge end can be hydraulically raised 500mm to facilitate efficient and easy media access and changing.



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KKB Group Takes First Delivery Of New Model Jaw Crusher

Kent-based KKB Group is ramping up productivity with the introduction of a new model Terex Finlay J-1170.

Supplied by Finlay Plant South East, the J-1170 is already proving its worth - supporting KKB Group's commitment to provide innovative techniques and technologies to maximise the value of waste material.

Specialists in the recovery and recycling of construction waste, the KKB Group has been providing specialist services to support the construction and regeneration sectors for more than 10 years.

KKB Group is using the new machine to crush concrete, making Type 1 MOT.

The Group, which has its headquarters in Rochester, has a local authority permit to perform on-site crushing of concrete aggregate to produce Type 1 graded material, which is re-used as infill, piling mats and sub-base.

KKB Group has a multi-million pound turnover and specialises in remediation, contract recycling and specialist material processing - as well as the supply of plant.

The company has gone from strength to strength in the marketplace and has relied on Finlay Plant South East - part of the Finlay Group of companies - for a range of Terex Finlay equipment to continue its expansion programme.

Colin Basi of KKB Group, said: "The Terex Finlay J-1170 is delivering excellent production rates and is working well on site."



"Finlay Plant South East has helped us over the years to build up a highly productive and efficient fleet.

"We also benefit from same day service and spares back-up, to keep our sites running."

The Terex Finlay J-1170 is a compact and aggressive tracked primary jaw crusher, offering a range of valuable features for the recycling and quarrying industries.

At the heart of the machine is a robust hydrostatically driven Terex jaw chamber, which provides high capacity with large reduction ratios. The jaw chamber configuration can be set up specifically for either processing construction demolition debris or quarrying applications.

It also features a heavy duty variable speed VGF and integrated prescreen giving excellent production throughput. Notable options include a variable speed pan feeder along with an independent prescreen system.

Furthermore, its compact size, quick set up times, ease of transport and user friendly operational features make the J-1170 ideal for all sized operators.

And the jaw chamber is also available with optional hydraulic release, of value when crushing construction and demolition debris, due to an automatic overload protection system to prevent damage by uncrushable items in the feed material.

Leon Sheehy, managing director of Finlay Plant South East, said: "This is a great machine that meets the industry's demands for durability, efficiency and value for money."





AGG-PRO gets it all sorted for RWS Contractors!

Founded in the early 90's, RWS Contractors is a Groundwork Contractor based in Burnley, Lancashire who has several operational sites in the county. As part of this infrastructure the company own and operate a remediation site in Nelson, Lancashire and have recently purchased a McCloskey R105 Mobile Vibrating screener from Aggregate, Processing and Recycling Ltd (AGG-PRO) for on-site screening duties.

Following a brief introductory meeting, AGG-PRO engineers proposed a free trial of the R105. The material to be processed is quite difficult, in that it contains a high percentage of moisture and clay, and although other equipment suppliers were trying to convince RWS that different screening methods would work it was clear to AGG-PRO that they could see and predict the outcome.

Having discussed all the available options and configurations, Geoff was duly advised that a McCloskey R105 with its aggressive screening action and up-to-date design features, such as the transverse Cat power unit with large engine compartment would be the way forward.

Geoff Eccles - MD, commented, as I knew of other local companies who were very

satisfied with AGG-PRO, I welcomed the proposal and the trial. I was highly delighted with the outcome and didn't hesitate in making a decision as I felt very comfortable dealing with AGG-PRO as they are obviously an experienced and trusted supplier."

McCloskey R105 Tracked High Energy Screener

The McCloskey R105 two-deck, High Energy Screener fulfils its duties as the best option for operators who require similar performance to other manufacturer's models, but within a smaller footprint on site. Built from high quality components the heavy duty R105 offers durability, reliability and proven performance that RWS Contractors sought. Driven by a 100HP engine the R105 offers the highest larger stockpile (3,600mm) and largest screening area (12 x 4.5) in its class. Meeting the European transport regulation width the R105 also represents the most cost effective productivity and quality on the market.

A professional parts and service package

With branded components throughout and a high efficiency diesel hydraulic system providing higher throughput and lower fuel consumption the McCloskey machines are backed by a professional parts and service package supplied by AGG-PRO who has an accumulation of over thirty years of experience in the construction industry. This experience has been gained from design, manufacture, sales and servicing of all types of construction equipment, specializing in crushing and screening equipment.

Employing their own fully trained service staff, AGG-PRO has its own 28,000 sq. ft workshops located at Tamworth in the UK which is complete with 'state-of-the-art' equipment to service, or if necessary manufacture new parts on site. They also operate extensive spares and service facilities in the Middle East and West Africa and firmly believe that having full control of staff and facilities allows them to operate at maximum efficiency, offering their clients a total service package.

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Vulcan Burner preferred choice for Natural Gas project

Asphalt Burner Services (ABS), the Northern Irish designer and manufacturer of energy efficient, asphalt burners, has recently installed a Vulcan Dual Fuel and Natural Gas burner for FP McCann, one of the region's leading civil engineering, construction and building companies.

The contract is the result of a tender from FP McCann for a replacement for their existing burner that would provide significant costs savings and increase the overall competitiveness of the business in today's challenging markets.

FP McCann, based at Magherafelt in Co. Derry, is working at Boyd's Quarry at Mallusk, near Belfast, major source of high-grade aggregates for a wide range of construction and infrastructure projects.

Ian Lewis, ABS Burner Design Engineer, says: "While we've been working with FP McCann for more than eight years in servicing and maintaining the existing burner and also involved in a wide range of the asphalt operations, we were delighted to win the competitive tender for a new burner.

"We were successful because our new Vulcan Burner Dual Fuel and Natural Gas V16 burner has an established track record with major international operators in the provision of significant operational savings.

"This is the first asphalt plant in Northern Ireland to install the Vulcan burner system to existing operations and is a very timely boost at a time when construction here has been adversely impacted by the economic downturn.

"The Vulcan system was chosen as part of a substantial investment that includes the extension of natural gas to the asphalt plant within the quarry," he adds.

"FP McCann has invested substantially to upgrade systems particularly in terms of costs because the market here is now more competitive than ever. Making existing plants run more efficiently, helps in the process of winning contracts as well as improving performance on environmental issues including a significant reduction in carbon emissions.

Kieran Fields, FP McCann's Marketing Manager, states, "Like most companies, the economic downturn made companies focus manufacturing efficiencies in order to remain competitive. The installation of the Vulcan burner has reflected a 20% decrease in fuel and the installation of Natural Gas to our Mallusk plant has seen an important step in reducing our carbon footprint."

The McCann contract is among a series of significant projects being carried out by ABS during 2013.

The Northern Irish company is undertaking important contracts for industry leaders such as Aggregate Industries, Cemex UK Materials and Eurovia Infrastructure. It has also secured significant business in China from a leading contractor there. Performance monitoring has indicated average fuel savings in excess of 30 per cent.

Vulcan Burners are the outcome of the experience in asphalt burners over 40 years by the ABS team. This experience has enabled the company to develop burners with a unique and highly effective dryer combustion to optimise asphalt recycling and reduce carbon emissions. The technology effectively doubles the amount of asphalt that can be recycled.



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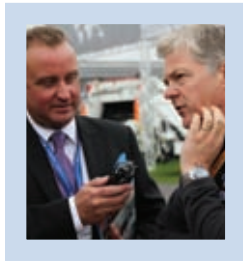
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Warwick Ward are on the CASE!



David Roberts from the HUB recently visited the RWM show and caught up with Simon Causier, General Manager of

Warwick Ward, and Scott Freeman, Business Director of CASE Construction, to find out a little more about Warwick Ward and the CASE partnership. A complete audio interview with them both can be heard at www.hub-4.com/directory/888

The considerable growth of the business over the last 7 years has been in part as a result of undertaking the CASE Construction dealership in 2006. As such, Warwick Ward Machinery are now the main CASE Construction equipment dealer in the UK offering the full range of new CASE equipment, products and machinery backed up with professional full-after sales team in the Parts and Service departments. CASE Construction which was founded in 1912 has a long association in the Construction, Earthmoving and Material Handling sectors and is a global leading brand well renowned within the industry for innovation and manufacturing machines with excellent reliability, build quality and strong resale values.

Taking on a new equipment dealership was a natural progression for Warwick Ward as they already had connections with both CASE (whose UK headquarters is based 20 miles from our depot) and a strong customer base which had been established over 40 years after constantly offering a first class service. Their customers are companies both large and small who operate in all types of markets and industries and needs are wide ranging. Being able to offer a full product range of equipment from a mini excavator to a 30tonne loading shovel puts Warwick Ward in an ideal position to service all customers needs.

The CASE wheel loaders offer many advantages over the competitor machines. The unique features which result in customer benefits such as increased productivity, reliability and crucially lower operating costs mean Warwick Ward have been extremely successful in expanding the market share. Having the best in class product backed up by the expertise and experience of Warwick Ward means the



customer can be confident they are getting a tailor made solution and a after sales service that is second to none.

The New CASE 'F-Range' Tier 4i loading shovels use SCR after treatment which means a higher combustion temperature and hence excellent combustion efficiency. Customer feedback over the last 18 months has been that fuel savings in the area of £8,000 to £10,000 per annum have been realised against the CAGR route which utilises the expensive Particulate filter. Also the innovative cube design cooling box on the CASE shovel which is situated behind the cab means the radiators are kept clean and operate extremely efficiently with the auto reverse fan. Customers have reported more power, much lower operating costs and increased reliability with these machines which have led to increased customer satisfaction and sales, with both existing and new customers. Because of the expertise and experience built up over decades Warwick Ward are able to work with the customer to help and advise them such that the machine sold is specified to do the job they want it to. Options on bucket type and size, load over height, 4 or 5 speed transmission, type of axle and tyre choice all form part of the sales process when looking at the specific job with the customer to make sure the machine is optimised to the task whether that it is a bulk material loading or waste recycling duties. In particular the waste recycling sector and industry has for some years now been their strongest market with sale of Waste Spec Loading Shovels sales increasing dramatically.

Along with the Loading Shovels Warwick Ward offer a full product line up with new CASE CXC Tier 4i tracked excavators, as well as Material Handling hydraulic cab excavators, Backhoe Loaders, Skid Steers, Wheeled Excavators and Mini/Midi tracked excavators. All machines can be viewed at their 15 acre site based just off J36 M1 near Barnsley, South Yorkshire.

Warwick Ward offer a full after sales service whether that is a service contract or full repair and maintenance contract. The further advantage we are able to offer trade in values for machines that are traded in which feeds our used sales business. For any enquiries please contact scausier@warwick-ward.com, visit www.warwick-ward.com or call 01226 747260.

A complete audio interview can be heard at www.hub-4.com/directory/888



Two Doosan New Generation Wheel Loaders Launched

The new generation DL200-3 and DL250-3 wheel loaders from Doosan Construction Equipment combine high engine power with a number of new features to minimise fuel consumption and provide better operator comfort, exceptional performance, ease of handling, easier serviceability and extended durability.

High operator comfort

The DL200-3 and DL250-3 wheel loaders feature a new cab design offering better visibility thanks to a wider front glass section and an extended wiper blade area. Now that the reservoir for the wiper water is located on the outside of the cab, space inside has been increased, providing more foot room. The air conditioning system is regulated automatically by a temperature sensor.

A new instrument panel has an integrated VCU (vehicle control unit). The control panel has been redesigned for more convenience, allowing the operator to choose the information they wish to have displayed. Using the Main Menu, the operator has access to several functions and machine information. Data such as pressure, temperature and engine speed can be monitored in real time. The operator and service staff are able to get detailed information via the Special Menu.

The cab has a new cool box compartment to keep cans and food fresh. There is also more storage room behind the seat.

Access to the cab is easier thanks to an improved hand rail and steps. The width and length of the mud guards have been increased to provide cleaner access to the cab.

Lower fuel consumption

The DL200-3 and DL250-3 are both powered by the Doosan DL06K 'common rail' 6-cylinder turbocharged diesel engine meeting Stage IIIB engine emission regulations through the use of Exhaust Gas Recirculation (EGR) and Diesel Particulate Filter (DPF) after-treatment technologies.

Three working modes - ECO, NORMAL and POWER - allow optimum fuel consumption for different applications. With the 'Power-Up' function, the operator can manually adjust to the next highest working mode by applying a full

stroke of the accelerator pedal. With this feature, the operator can travel in NORMAL mode and switch to POWER mode when it is needed, such as when taking material from a pile. The ECO bar provides information about fuel consumption in relation to machine performance in real-time, allowing the operator to select the driving mode for the best fuel efficiency.

The operator can set a password for machine start. If Auto Idle is activated, engine speed goes down about 200 rpm after 10 seconds if there is no machine movement. Auto Idle is ideal for applications with longer waiting times, such as truck loading. Thanks to Auto Idle, fuel consumption is reduced by up to 8%.

Improved hydraulics and differential axles

Like all the new generation Doosan wheel loaders, the DL200-3 and DL250-3 models are equipped with load sensing controlled, variable hydraulic piston pumps, improving performance and reducing fuel consumption. With load sensing, the hydraulic pumps receive a signal from the MCV (main control valve) informing how much oil is needed. This helps to save on engine performance.



With the clutch cut-off system engaged, the driver is able to disconnect the transmission from the engine by operating the brake pedal in order to have 100% engine performance for the hydraulic system. As a result, movements are faster, breakout force is maximised and fuel consumption is reduced. The brake pressure for activation can be adjusted by the operator.

New ZF limited slip Type II differential axles provide more durability and a longer lifetime. Rolling resistance for the axles is reduced, improving traction and decreasing fuel consumption. As an option, customers can choose ZF axles with a hydraulic differential lock. This function is engaged via the operator pedal or in automatic mode, depending on the torque resistance in 1st and 2nd gear. The hydraulic lock system offers less rolling resistance than the limited slip system.

The radiator fan is hydraulically driven and controlled by the ECU (electronic control unit). Changing the fan direction for cleaning the radiator can be done manually from the cab without having to switch off the engine. Fan reverse intervals (30 minutes to 2 hours) can be set via the menu.

Durability and serviceability

On both wheel loaders, the lift arm has been strengthened with thicker metal in the tilt lever.

An automatic front control system allows the operator to save one low and one high position. The boom raise "kick out" function reduces cycle times. "Return to dig" positions can also be saved.

New kinematics and a larger cylinder on the lift arm have allowed the main pressure in the front hydraulic system to be increased, with a corresponding increase in breakout and lifting forces.

The SKF Vogel Auto Lubrication system, which improves the lifetime of the machine and increases operational hours for better productivity, is available as an option.

A larger opening angle for the side door makes it easier to service the machine. Swing-out side doors provide easy access to the rear for cleaning the new one-block radiator.

Increased space in the engine compartment ensures that components such as filters, valves and batteries are within easy reach for service work. The operator can set and monitor the time remaining to the next service. If the maintenance period is exceeded, a pop-up warning will appear.

As well as offering more standard features than other machines of their size on the market, there is an expanded choice of options for the DL200-3 and DL250-3 wheel loaders, including electric steering.

With bucket capacities of 2.0 and 2.5 m³, respectively, the DL200-3 and DL250-3 wheel loaders are intended to meet a wide range of material-handling needs from loading and transporting granular material to industrial, mining and quarrying applications.

For more information about Doosan construction equipment, visit www.doosanequipment.eu

Brief specifications for the Doosan DL200-3 wheel loader

Capacity, heaped:	2.0 m ³
Static tipping load, straight:	8906 kg
Static tipping load, at 40°:	7760 kg
Static tipping load, at 37°:	7900 kg
Length with bucket:	7340 mm
Width with bucket:	2550 mm
Height:	3280 mm
Bucket hinge height:	3858 mm
Dump height (at 45°) with bolt-on teeth:	2817 mm
Dump reach (at 45°) with bolt-on teeth:	1064 mm
Wheel base:	2900 mm
Maximum travel speed (4th gear):	38 km/h
Engine:	6-cylinder Doosan DL06K EGR, delivering 119 kW at 2100 RPM
Operating weight:	12300 kg
Breakout force:	9700 kg

Brief specifications for the Doosan DL250-3 wheel loader

Capacity, heaped:	2.5 m ³
Static tipping load, straight:	11000 kg
Static tipping load, at 40°:	9500 kg
Static tipping load, at 37°:	10000 kg
Length with bucket:	7720 mm
Width with bucket:	2740 mm
Height:	3280 mm
Bucket hinge height:	3900 mm
Dump height (at 45°) with bolt-on teeth:	2750 mm
Dump reach (at 45°) with bolt-on teeth:	1225 mm
Wheel base:	3020 mm
Turning radius, bucket edge:	6100 mm
Maximum travel speed (4th gear):	38 km/h
Engine:	6-cylinder Doosan DL06K EGR, delivering 128 kW at 2100 RPM
Operating weight:	14400 kg
Breakout force:	12400 kg



New wash plant at Lightwater Quarries delivers increased production with ease

Owned and operated by Lightwater Quarries Ltd, Potgate Quarry lies near Ripon, North Yorkshire.

Part of a family owned local business, quarrying started in the 80's and in recent times the company has experienced a growing market in the demand for aggregates to be used in concrete or filter drainage materials. This change in demand has recently made the company to focus on premium products, such as sand and small sized washed limestone, instead of crushed rock for fill. This made sense for several reasons as Potgate Quarry is well known for a quality of limestone not usually found in North Yorkshire. Furthermore, there is an imbalance in North Yorkshire between hard rock and sand and gravel deposits, as there are quite low sand and gravel reserves.

When Lightwater Quarries decided to improve the quality of their materials by washing, this has allowed them to produce an end product that would normally be produced from a normal sand and gravel operation. This decision has a positive environmental effect by helping to preserve the land bank in North Yorkshire by not depleting the natural sand and gravel reserves. All of which became the main drivers behind the decision to invest £1.5 million in a new wash plant.

Now successfully commissioned and running David Roberts of the HUB went along to talk about the new plant and see it in operation.

Design from experience

After committing to the new wash plant Kevin Parker - General Manager at Potgate spent some time to review what was currently available on the market that would be suitable for the proposed production, and also fall 'in-line' with his experience and the flaws he had spotted on other plants whilst making a decision on whether to utilise a log washer, or a barrel in the process line. Kevin then asked



Whitwick if they could design a 'walk around' the plant to follow the process.

Consequently Whitwick then designed a structure of galvanised steel allowing personnel to 'walk' the process in order, providing permanent easy access to every element of the plant; including all the screens and logwasher (all fitted with handrails around the perimeter), and a permanent access ladder to enable safe access for maintenance.

Ed Reed - MD - Whitwick Engineering, commented, "The plant was designed with generous access for ease of maintenance as well as a considerable amount of detailed design attention to achieve the lowest possible long term cost of operation and ownership in terms of both energy consumption and repair and maintenance costs."

With Whitwick Engineering of Coalville installed as main contractor, layout design and supplier of the galvanised plant structure and supervision of the whole build, the civil work commenced in February 2011. After been delayed by the worst winter for decades Lightwater personnel utilised their own on-site volumetric concrete trucks to make C40, completing the fully slabbed footprint which accounted for the plant and surrounds by September 2011. However, the plant wasn't fully commissioned for a further six months until a larger electricity supply was made available in March 2012.

The wash plant

All the process equipment for the new plant including the sand plant was specified and supplied by Syscom, with Whitwick subsequently building a plant around it. With sticky clay being the main operational issue the decision was made to purchase a large log washer, with a second-hand one being purchased and refurbished.

The equipment utilised included:

- Eagle Iron Works(EIW) - 46" x 35' long Log washer
- EIW - 30" x 25' Fine Material Washer
- Krebs Gmax20 Cyclone and SlurryMax 6 x 6-17
- Hewitt Robins - VX-13 1.6m x 4.2m Heavy-Duty Single Deck Scalping Screen
- Hewitt Robins - VC-16 1.8m x 6.0m Triple Deck Washing Screen
- Hewitt Robins - VC-13 1.6 x 4.2m Triple Deck Washing Screen
- Hewitt Robins - Single Deck Dewatering Screen
- Tema Isenmann screen media - 'PS-Gitter' pressure welded wire mesh
- Tema Isenmann screen media - WS85 modular polyurethane

Guido Pas - MD - Syscom BV, commented, "Kevin Parkers's request was simple: provide a solid plant that doesn't break down, and that allows us to supply really clean products to all our customers. This all sounded very simple, but having seen their deposit it was clear that they needed the best equipment available. The deposit can be extremely dirty with patches of tough non-soluble clay and up to 50% silt so we designed the plant around the two critical factor. This meant supplying the heaviest scrubber available (EIW 46 x 35) and a reliable sand washing system to wash out the high silt content with minimal wear. The combination of a 30" x 25' EIW fine material washer and a Krebs Gmax 20 cyclone ensures the process. To make it all happen we found two excellent local partners in Hewitt Robins International for the supply of all screens, and Whitwick Engineering for combining all the equipment into a user friendly and robust plant."

The wash plant is fed from a remote tracked primary crusher fitted with a live roll grizzly, and no vibrating tray feeder, basically a long series of rollers that separates the clay from the rock. The crushed product meets the full specification for adoptable MOT Type 1 and all the material that falls through the grizzly is the material that is washed. This material is then transported by dumper to an 85 tonne dump hopper which is wide enough to take a 35 tonne dumper load. This dump hopper is designed with a very wide, slow moving belt which is the same width as the dumper, ensuring that it feeds material slowly. It then discharges onto a conveyor set at a 90° angle. This ensures that because the material is so sticky there is no funnelling taking place; the concept being that it falls off the big wide belt onto a conventional inclined conveyor in such a way that there is no channelling effect, subsequently making it thinner, thus eliminating any possible block-up. ►



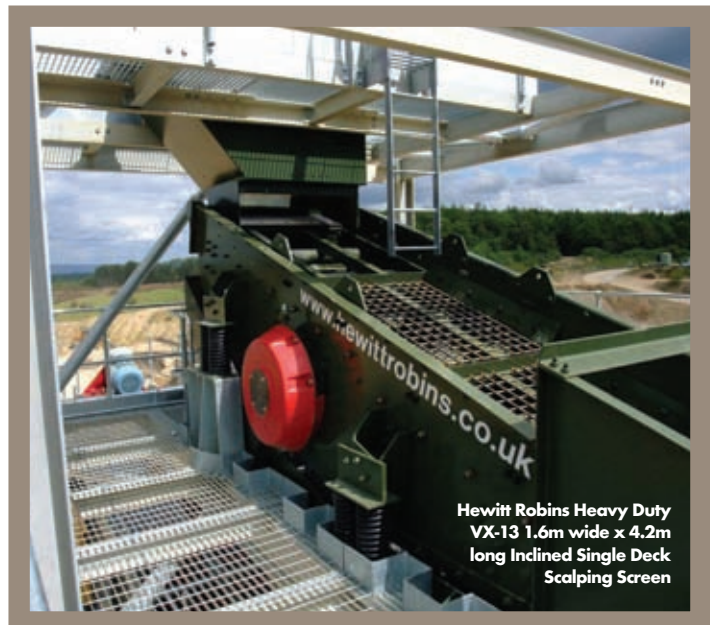


The EIW fines material washer and the Krebs Gmax20 Cyclone and SlurryMax

Material then feeds up the long inclined conveyor which gains all the height that is required for the rest of the process. This ensures that the plant is gravity fed, the only uphill section being the finished material to stockpile. Although a tall plant this design eradicates any issues of 'up or down' the only dry material being the incoming uphill feed, based on the principle that once wet you don't want it conveying again until it's a finished product, as gravity resolves any issues.

Once at the top of this inclined conveyor the material then goes over the Hewitt Robins VX-13 - 1.6m x 4.2m heavy duty, single deck scalping screen. Fitted with Tema Isenmann 'PS-Gitter' pressure welded wire mesh this screen is designed solely to protect the 35'0" long log washer. Set specifically at an 85mm aperture (as the log washer can only take 100mm), water is then added at this stage to begin the process of breaking down the clay.

Material then goes into the EIW 35' long log washer where more water is added. The log washer then munches up all the clay with the water weiring out of the back and the front, onto the first sizing screen - Hewitt Robins VC-16 - 1.8m x 6.0m triple deck washing screen (all of which are fitted with Tema Isenmann WS85 modular polyurethane screen media) which takes out the +40mm, 40-20, 20-5 and sand. The 20-5 product is then fed up onto another Hewitt Robins VC-13 - 1.6 x 4.2 triple deck



Hewitt Robins Heavy Duty
VX-13 1.6m wide x 4.2m
long Inclined Single Deck
Scalping Screen

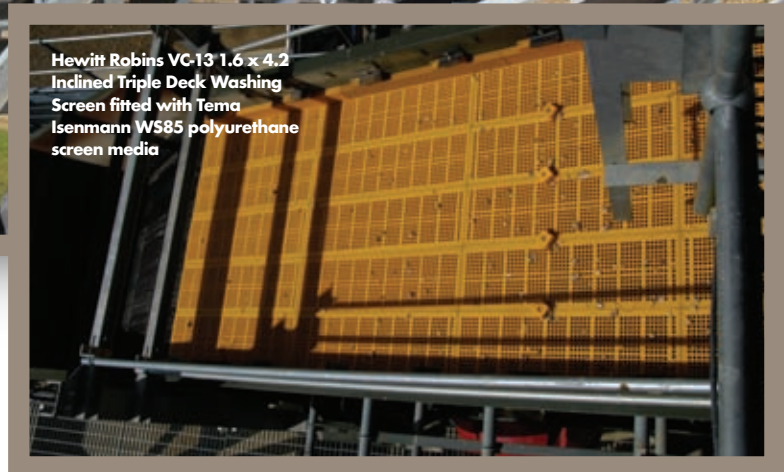
washing screen which separates it into the 5mm/10mm and 20mm clean material. This is a wet screen so the water that is washed through is then recycled back into the log washer to create a little more water.

The sand that has come out of the sand deck goes into an EIW - slow moving screw which drags the grit and + 1mm out of the sandy liquor, this material is then fed onto a Hewitt Robins LPE-6 - 1.0 x 3.0 single deck dewatering screen (fitted with 0.5mm aperture - Tema Isenmann WS85 screen modules) forming a bed on the screen. The water and the bottom end of the sand then weirs off and goes into a sump, and is then pumped up into the Krebs Gmax20 cyclone. This makes an accurate cut of 70 micron and adds the sand onto the top of the bed of the coarse sand that is coming out of the screw. This results in a mixture of two sands, which effectively meets the specification for medium grit sand. This material is then conveyed up off the dewatering screen in a reasonably dry condition onto the stockpile.

**Hewitt Robins VC-13 1.6 x 4.2
Inclined Triple Deck Washing
Screen**



**Hewitt Robins VC-13 1.6 x 4.2
Inclined Triple Deck Washing
Screen fitted with Tema
Isenmann WS85 polyurethane
screen media**



The power system

With the new power supply in place a new transformer was installed to provide the 800kva required to drive the new wash plant. A purpose built control centre was built and installed including an automated start-up in sequence with soft start, and timed shutdown through a simple stop button.

This control centre also offers a sophisticated control of the log washer. As the log washer bearings run in water the system monitors the water supply and if the water supply drops to a certain level it activates an alarm. If it drops any further it actually stops the process sequentially, or stops completely. The log washer is driven by a 160Kw motor and to save electricity the angle can be altered depending on how clean the material is. This is achieved by lowering the angle down so it doesn't pull as much amperage, and equally so if the material is dirty so the material has more attrition to break down the clay.

A success

The new plant has been a total success and has enabled production to be increased from 100tph to approximately 180tph. Although it is designed for around 180tph but will do 220tph; Kevin Parker - GM at Lightwater, commented, "Syscom and Whitwick have put together a plant that meets my specification for employee safety, productivity, efficiency and product quality. They understood my requirements and were able to offer a bespoke solution. Their knowledge and experience were obvious from the outset."

The new wash plant has provided more material for the three Lightwater Quarries-Concrete4U Mobile Batching Plants that supply and mix on customers' premises. With the aggregate from Potgate being much stronger than the chalky type of limestone found in other parts of North Yorkshire the new wash plant is subsequently fulfilling the demand for the better quality material in a wider area.

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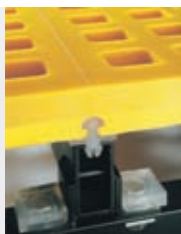
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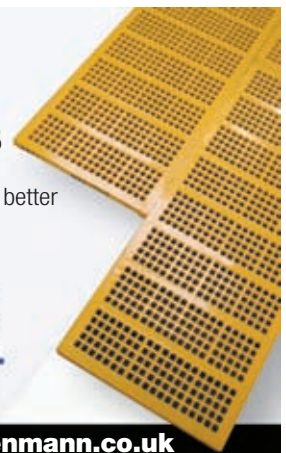
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Earthline Ramps Up Productivity With Support From Finlay Plant SW

A new Terex Finlay 684 inclined screen is helping put production on the fast track at Earthline's Hatford quarry, in Oxfordshire.

The new 684 represents the third element in a high speed processing system, working alongside an existing Terex Finlay J1175 Jaw Crusher and C1540 Cone Crusher on site.

These machines all work together to create clean, high value products from limestone quarried at Hatford quarry.

All the Terex Finlay machines have been supplied by Finlay Plant SW, part of the Finlay Group of companies.

The J1175 - fitted with an independent pre-screen to remove clay - takes limestone into the C1540, which then produces a Type 1 material off a side conveyor in one pass.

Remaining aggregate is then fed into the 684, which produces valuable, single size products of 40mm, 20mm, 10mm and dust.



The processed material is used for applications including drainage, road building, block making and pipefill.

Material is being processed at between 150 and 200 tonnes per hour.

Earthline, which has its headquarters near Marlborough in Wiltshire and specialises in contract earthmoving, landfill facilities and aggregate supplies, has worked closely

with Gareth Johnson, managing director of Finlay Plant SW, to introduce the plant on site.

Gareth said: "In one pass, the C1540 is providing valuable Type 1 product, and the machines, including the new 684, are all working together to produce single size material that meets specification requirements."

Dale May, site manager at Earthline's Hatford site, said: "The Terex Finlay machines run very well.

"Productivity has increased and the machines are engineered to run together in unison.

"We are also supported on site by Finlay Plant SW, who provide us with a fast, responsive service."



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Geography proves no problem as Bell Equipment supplies to Outer Hebrides

Leading plant machinery manufacturer Bell Equipment has announced the supply of five machines to Outer Hebrides contractor MacInnes Bros Ltd, proving the company's ability to equip companies with exceptional quality machines, accompanied by dedicated service - no matter how remote the geographical location.

MacInnes Bros, a key building and civil engineering contractor in the Western Isles, maintains a strong presence close to its roots in South Uist. A leading contractor in the Western Isles, MacInnes Bros is largely responsible for the construction and maintenance of roads, piers, coastal defences and the maintenance of airport buildings & premises. To the company also operates a builders' merchants and recently began development on a recycling facility to deal with the construction-waste generated on the islands.

More recently MacInnes Bros has been working closely with Stòras Uibhist, the organisation that manages 93,000 acres of land across the islands of Benbecula, Eriskay and South Uist as well as other smaller islands.

Currently, MacInnes Bros is purchasing plant for use on its latest contract, Stòras Uibhist's regeneration of Lochboisdale Harbour in



South Uist - an extensive and exciting contract win for the firm. Sandy Fairweather, Bell Equipment's Scottish Sales Manager explains the scale of what is to be achieved: "This is a major project for MacInnes Bros, and equally for South Uist, as it will involve the development of a new harbour, comprising two breakwaters to control wave climate and two causeways for access. Add to this a further fishing pier with concrete quay wall, a slipway, pontoons for boats to berth, as well the necessary utilities to service the harbour, and the extent of the project becomes truly apparent."

To fulfill the far reaching requirements of the contract, as well as add further to MacInnes Bros fleet, the company has turned to Bell Equipment. Initially, Bell supplied two used B40D Articulated Dump Trucks; these proved so popular that MacInnes ordered a third B40D followed by a L2106 Wheeled Loader.

Ewen MacInnes, the company's Managing Director explains the decision to choose Bell. He says: "Following successful negotiations with Sandy Fairweather we arranged a preview to see a Bell dump truck in action. We were extremely impressed with the machine's capabilities, and further influenced by Bell Equipment's keen pricing, together with their ability and readiness to supply and service the equipment - despite our company's somewhat challenging geographical location.

"The machines are now up and running, and are working at full strength. We are delighted with their performance and already consider them imperative to operations in Uist."


Mr MacInnes regards the after sales support received by Bell to second to none, with Bell Equipment's representatives travelling to the islands, offering support and technical advice, as well as arranging further training over an extended period.

He mentions too that on occasion, spare parts have been required on-site, and that the Bell team has demonstrated unsurpassed efficiency in coordinating the logistics, especially as the company's base and project are so geographically remote. "Obtaining parts quickly can be a real issue for MacInnes Bros, simply because of our location, but in our experience of Bell, that service has been exceptional."

Ensuring best use is made of the new machinery, MacInnes Bros has incorporated the dumpers within works for a new road development at Kildonan in South Uist, and as part of Rueval Landfill site project in Benbecula, confirming that the recent purchases have increased the company's on-site capabilities.

Furthermore, since the equipment was put to use, a fifth order has been placed for an additional dumper truck: this one being the Bell B50D model, the biggest size class of ADT in the world.



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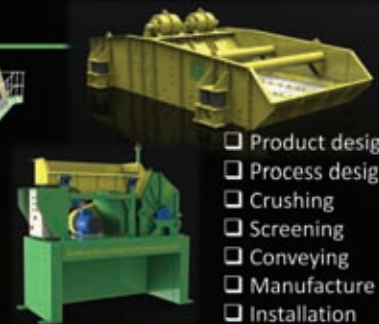
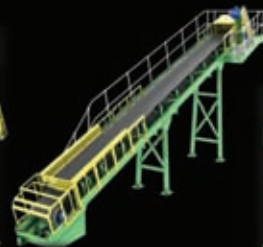
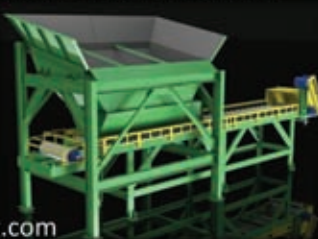
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WCL Quarries Ltd opt for used CAT D6R Dozer from Finning in fleet expansion

Expansion at regional waste and quarry management company WCL Quarries LTD has led to the purchase of a used Finning Fair Buy Cat® D6R to support the landfill operation at its Griff Quarry.

Operating at its Griff Quarry in Warwickshire, the Cat D6R is being used to fill in six million cubic metres of void space with inert materials. In addition to compaction and levelling duties, the company also plans to use the Cat D6R to support its mixed recycling operations at the site, which will be processing a full range of materials, including plasterboard, grit and wood.

Operating several Caterpillar machines across their sites in the Midlands including excavators and mobile crushers; Mark Deadman, operations manager for WCL Quarries LTD said, "We have a long standing relationship with Finning so when we needed a dozer, we looked to them for available options and costs. The Cat D6R predominately manages the pushing out of the tip and the compaction levelling and even though it is an essential piece of equipment, it is not a high hours' application on this site. So when Finning suggested a used equipment unit, we explored this further with them. As a fair buy option, the price was very good and we also knew that Finning had performed rigorous checks on the unit, so we were confident in what we were buying."



The Finning used equipment service offers customers three categories of condition - Cat Certified used, Finning Premium Buy and Finning Fair Buy. They all have their own individual criteria that they meet, giving customers a broad choice of machinery regardless of their criteria.

Phil Birch, customer account manager at Finning said, "WCL had specific requirements for the size of dozer they wanted and a price bracket for what they wanted to spend. As part of our service we look at existing stock, but also look at how we can source specific items for customers within the UK and through our European Caterpillar dealer network. Once sourced, each of our fair buy equipment is inspected and repairs carried out where necessary, before it's delivered to the customer. We sourced the Cat D6R and were able to provide a service history for WCL, complete with oil sampling reports, as the unit had been looked after by Finning at its previous site.

All Finning certified machines undergo a stringent appraisal programme by highly skilled and qualified engineers. By analysing technical information in the machine reports, the engineers are able to produce comprehensive repair plans that are bespoke for each unit. This ensures a quality solution and reliable solution for the customer.



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To watch a video of the WCL Cat D6R in action visit the waste section of <http://www.finning.tv/industry/waste>

Metso belt turner improves safety, reduces costly cleaning & maintenance

Hanson Aggregates, Needingworth, Cambridgeshire, UK, operates a sand and gravel quarry.

Well known for its progressive safety practices and its environmental work, the quarry recently installed a Metso belt turner on one of its long conveyors. The result is a cleaner, more productive facility and less manual handling hazardous cleaning work for employees.

Environmental advantages

There are three kilometres of conveyor belts at the Needingworth quarry, including a section that runs over an environmentally sensitive wetlands area. A few years ago, the quarry was required by local government to install a belt turning device to minimise the potential waste and dust that fell into the water below. This experience was so positive that they did not hesitate to consider installing a second belt turner when the need arose.

Improving efficiency

Needingworth's initial interest in installing a second belt turner was to reduce the need for cleaning under the conveyor which was recognized as a significant manual handling procedure for operators. Cleaning the sand and dust from beneath the quarry's 450 metre long conveyor (part of which runs through a tunnel) was very time consuming and formed part of the belt mans daily task. The use of a belt scraper removed some of the sand and dust from the belt, but fines that were not removed would fall from the return side as it passed over the return rollers. So in the autumn of 2012, they decided to install a Metso belt turner.

How does it work?

The Metso belt turner turns the dirty side of the belt to face upwards by the drive pulley, and then turns it back again at the tail pulley. If the dirty side is facing upwards, the material doesn't fall to the ground and accumulate underneath the conveyor. Instead of sand and dust piles building up underneath each of the return rollers, this is now isolated to two easily accessible positions, head and tail, which can be cleaned up much more safely and efficiently, reducing the manual handling risks to operators .

Simple design. Easy installation

Unlike competing products, which Quarry Foreman Frank Johnson describes as 'over-engineered', the Metso belt turner is simply designed and easy to install. In Needingworth's case, there was very little space under the conveyor, so they had to lift the conveyor structure 0.5 meter for about 4 meters in length, to make space for the belt to turn. "Even though we had challenges with limited space for installing the Metso belt turner, the whole installation still only took one day," explains Frank. The Metso belt turner has now been operating continually for over six months without any problems, and without the need for maintenance or adjustments.



Unexpected benefits

Metso's belt turner not only fulfils the quarry's objectives of creating a safer working environment by reducing manual handling operations and also the company objective of zero harm, but also delivers several other unexpected advantages.

For example, in cold weather, operators no longer need to spend time salting the drum to prevent frost build-up.

Reduced friction between the belt and the return rollers indicates that the quarry may also save energy, although this has yet to be documented. The Needingworth quarry favours the use of nylon rollers, which offer some benefits but can be problematic and expensive if they stall due to material build up. Prior to installing the belt turner, staffs were changing rollers frequently. This has now been significantly reduced, saving both time and money. In fact, the quarry is so pleased with all these positive results; they are now considering installing further Metso belt turners!



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Home of the SuperDrive™

The first line of defence against mill circuit wear

By Michael Prouse,
product manager,
Weir Minerals Europe/Linatex

At every stage of the milling process, rubber is used to protect expensive equipment from undue wear and tear. Sheet rubber, hoses, pump linings, conveyor belts and separation screens all play a key role in transporting and processing material at mines and quarries around the world.

It goes without saying that hundreds of tonnes of coal, iron ore or gravel passing through a component - whether as slurry or dry - generates a large amount of friction and causes significant wear to the surfaces with which it comes into contact.

To stop maintenance and equipment costs spiralling out of control, it is vital to ensure that the material in direct contact with the abrasive flow is resilient enough and, in applications where wear is unavoidable, that it can be easily replaced when it reaches the end of its lifespan.

Using a soft material like rubber in such heavy-duty settings may seem counterintuitive - one might expect a harder material like stainless steel to be more resistant.

Actually, life expectancy for high-grade rubber in contact with abrasive slurries has been proven to be at least three times longer than that of steel, thanks to its elastic properties. It is also much more cost effective and easier to replace.

In order to minimise the whole-life cost, specifying the appropriate rubber product for each given application is critical. Using a cheaper but less hard-wearing compound for a high-abrasion application will often be a false economy, as replacements will be required more often.

The four families of Linatex compounds manufactured by Weir Minerals are a good illustration of the wide range of different rubbers available that all offer varying balances of physical properties.

The standard Linatex product is a good multi-purpose natural rubber optimised for resistance to fine slurry abrasion. For applications where plugging, binding or build-ups of material is a concern there is a Linard 60, developed for its anti-sticking properties.

For drier applications where there is heavy impact there is Linard HD60, while the Linard HDS and HD70 compounds are optimised for the most severe dry-abrasion applications.

From a total cost of ownership perspective, it is well worth investing in rubber products that will last longer between replacements, as this will not only mean less spent on replacement parts in the long run but also - crucially - that maintenance down-time is kept to a minimum.



Crusher downtime minimised for G D Harries



Suffering an unexpected major crusher breakdown of their tertiary crusher at their Bolton Hill Quarry in South Wales, G D Harries turned to CMS Cepcor™ for a replacement. After subsequent swift negotiations CMS Cepcor™ crusher technicians delivered a new Terex® TC1000 base cone crusher to site, in less than 24 hours from the point of initial enquiry. Utilising their crane lorry, CMS Cepcor™ crusher technicians then installed, commissioned and test ran the new crusher over the weekend.

Gareth Philips - Quarry Manager, commented, "Following a major breakdown at our Bolton Hill Quarry we contacted CMS Cepcor™ who responded very quickly to our needs. I was very impressed with the negotiations, the speed and the professionalism of the whole exercise from start to finish. Their crusher technicians did a great job with the installation of the new crusher. They worked efficiently and safely throughout, and their efforts reduced our downtime significantly."

A family run business:

G D Harries is a family run business and was established by Gerald Harries in 1977 as a haulage business which subsequently became a quarry owner in 2000, acquiring their first tarmac plant in 2008 and the acquisition of F H Gilman three years later. The company are held in high regard and are respected for the high quality of products and services. Operating quarries with extensive resources of limestone and granite they have the capability to satisfy most of the region's demand for aggregates having supplied major highway works and civil engineering projects.

Rebuild facility:

Having removed the old Terex™ Pegson 1000 Automax (which was part exchanged), CMS Cepcor™ technicians then returned it to the crusher rebuild facility in Coalville over the weekend.

As Europe's largest aftermarket manufacturer and supplier of premium quality crusher, screen & asphalt plant spares CMS Cepcor™ is also widely accepted as the aftermarket specialist for the support of the Automax and Autosand cone crushers manufactured by Terex®, Pegson and Powerscreen.

With a reputation in excess of 20 years, CMS Cepcor™ as Automax and Autosand cone crusher experts have established a substantial customer base that are contracted to use our full range of spare parts, premium manganese wear parts and on-site fitting services.

Over this period CMS Cepcor™ have supplied hundreds of new, factory reconditioned, refurbished and used crushers, screens and feeders to mining and aggregate processing; establishing a worldwide reputation for the supply of quality crushing plant.

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Previews of new Powerscreen machines at international open day



Oliver Donnelly Product Manager

Customers and distributors from over 21 countries attended the 2013 Powerscreen Open Day held on 3rd and 4th October at Arden Brickworks near Birmingham, UK. The successful event saw Powerscreen unveil three new machines - the Premiertrak 300 jaw crusher, the Trakpactor 320SR impact crusher and the Warrior 2100 screen as well as showcase some well-established products.

International Sales Director, Colin Clements, said, "The Open Day was an outstanding success and feedback from distributors and customers has been fantastic. Economic conditions globally may be challenging, but Powerscreen is committed to enhancing the experience of all our customers, to reinforce our position as the world's leader in mobile crushing and screening equipment for our key sectors and to continue to innovate as we have in the past."

Four machines were working in recycling applications, processing tarmac, concrete, brick, and mixed demolition waste.

Premiertrak 300 HA Hydrostatic VGF jaw crusher

The Premiertrak 300 jaw crusher featured the new optional hydrostatic drive system allowing it to reverse and unblock or run continuously in reverse for asphalt applications. It is configured to run at low engine RPM resulting in excellent fuel efficiency and low noise emissions, ideal for urban sites. The Premiertrak 300 crusher

was configured with the Vibrating Grizzly Feeder (VGF) set with 50mm bofor bar on the top deck and 30mm mesh on the bottom. The closed side setting (CSS) was set to 40mm while running in both asphalt and recycled concrete applications.

Other benefits of the machine include: large clearances in the bypass chute to improve material flow and reduce the chance of blockages in sticky material; a large under crusher clearance and full tunnelling to reduce the chance of blockage due to re-bar build up; and a hydraulically lowering conveyor offers excellent access to reduce downtime should a blockage occur.

Rapid set-up times are possible with all folding done hydraulically and no need to work at height so the machine can be moved very quickly. Control is via an easy to use PLC screen control system. Jaw speed and CSS can be changed by a single button which allows the machine to be adjusted to suit the application very quickly with no tools required.

Premiertrak 400 Pre-Screen jaw crusher

The Powerscreen® X400S jaw crusher has been developed to incorporate a fully independent high amplitude, hydraulically driven pre-screen with increased drop angle on the bottom deck improving machine throughput and overall capacity. In order to facilitate improved pre-screened material flow, the discharge opening from the under chute has been increased from 200mm to 320mm, allowing faster movement of pre-screened material to bypass the crushing chamber.

The Premiertrak 400 was fitted with pre-screen bofor bars on 60mm top deck and 30mm on the bottom deck. Machine closed side setting was 45mm and processed recycled concrete containing a high percentage of rebar.

Trakpactor 320SR impact crusher

The Trakpactor 320SR is a mid-sized horizontal impact crusher redesigned with some key enhancements to offer operators and contractors excellent reduction and high consistency of product shape for performance in quarry and recycling applications. The plant is capable of working in the most demanding environments and features rapid set-up time, fuel efficient direct drive system and excellent output potential of up to 320 tph (352 US tph). The plant features a recirculating conveyor which raises for transport allowing more ground clearance under the machine when moving on site and loading for transport. One of the most exciting features of the Trakpactor 320SR crusher is the quick-detach post-screen section which converts it to a standard Trakpactor 320 unit. This provides operators with outstanding versatility to use the machine in a variety of different applications.

Warrior 2100 screen

The Warrior 2100 screen has been engineered to include the proven Triple Shaft technology first developed for the successful Warrior 2400, a model which is now well established in markets worldwide. This Triple Shaft technology, unique to Powerscreen in heavy duty screens, is designed so the 16' x 5' screen box is highly effective and efficient while maintaining exceptional throughput productivity. The extreme screening acceleration offers the Warrior 2100 improved capabilities over its class rivals, especially in sticky scalping applications. During the event, the machine processed mixed demolition waste which included grass, soil, concrete, wood and asphalt, and was configured with a combined top deck of 60mm fingers with 60mm punch plate and a bottom deck of 40mm mesh.

Four machines were on static display: Trakpactor 250 impact crusher

Designed especially for the recycling and demolition markets, the Trakpactor 250 impact crusher has special features designed to prevent chamber overload and damage. Capable of processing a wide range of material at a high output, the plant is versatile, easy to operate and fuel efficient due to its direct drive system.

1000 Maxtrak cone crusher

The high performance Powerscreen® 1000 Maxtrak is a small to medium sized cone crusher which has been designed for direct feed applications without pre-screening on clean rock. At its heart is the Automax® cone crusher which provides excellent reduction and product cubicity for the production of high quality aggregate and sub-base material. Hydraulic release capabilities are designed so that any uncrushable material entering the chamber is safely discharged.

Chieftain 1700 screen

The Powerscreen® Chieftain 1700 is a mid-sized track mobile screen aimed at end users requiring high volumes of finished products in applications including topsoil, coal, crushed stone, recycling, iron ore, sand and gravel.

Warrior 1400X screen

The 1400X has been designed with economy in mind, with reduced engine running speed and enhanced hydraulics, the 1400X offers a reduction in fuel consumption of up to 15% in comparison to its predecessor. This can translate into a substantial financial saving for customers over the lifetime of the machine.

Visit us at ConExpo 2014, Terex booth 1047 on the Gold Lot, to see the Premiertrak 300, Trakpactor 320SR and Warrior 2100 units on display.

For more information on Powerscreen® crushing and screening products or Customer Support, please contact your local dealer. Details can be found at www.powerscreen.com.



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Lafarge Tarmac choose the Rapidmix for CBGM application in Wales

Lafarge Tarmac's Construction Solutions Contracting Business, recently purchased a Rapidmix 400CW mobile continuous mixing plant, for use on nationwide pavement construction applications.

The Rapidmix was used initially to produce circa 39,000 tonnes of CBGM (Cement Bound Granular Material) between April and July 2013, working as a subcontractor to Lafarge Tarmac Contracting South Wales for Sisk Roadbridge on the A477 St Clears to Red Roses Improvement. The contract is a Welsh Government funded 9.3 km long new build road project to improve the road network from St Clears roundabout to Pont Newydd.

Northern Ireland based Rapid International's Rapidmix 400 and 600CW continuous mixing plant, can be successfully used to produce high quality hydraulic bound materials using hydraulic binders from Cement to Fly Ash and Slag. Kevin Marshall - Contract Production Manager in Construction Solutions, commented, "The use of hydraulic bound materials in new build road construction is increasing, and the Rapidmix Plant is a very useful addition to increase Lafarge Tarmac's capability and flexibility to produce high quality site mixed materials. The support from Rapid International has been excellent including set up and operator training.

Recently updated to incorporate full weighing options for all materials - aggregates, cement and water, the new generation Rapidmix 400



and 600CW offers record keeping that is fully automated, precise and detailed.

Fully mobile and self contained, the Rapidmix offers a complete plant powered by its own power source, with on-board compressor and generator. Fitted with a self erecting system, using hydraulics, the plant can change from travel mode to fully operational within a few hours. The Rapidmix 400/600 CW mixes up to 400 or 600 Tonnes per hour depending on application and provides feed rates that are fully adjustable for the aggregate, cement and water systems.



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The benefits of the Astec Warm Mix Green Pac System

With the benefits of warm mix asphalt such as reduced energy consumption, lowered emissions, and elimination of visible smoke well-known in the asphalt paving industry, warm mix technology allows mix to be prepared and placed at lower temperatures, typically 30°C to 50°C lower than conventional hot mix. To achieve this, the viscosity of the bitumen must remain low at the reduced temperatures. Maintaining a low viscosity at lower temperatures allows mix to flow freely through storage, transfer and placement equipment and is more easily worked by hand.

Unfortunately, many technologies for warm mix production rely on additives, special bitumen's, special procedures and/or special bitumen delivery systems to achieve low viscosities at low temperatures. These additives are expensive and add significant cost per ton of mix.

With the introduction of the new Warm Mix Green Pac System the need for expensive additives and special bitumen's is eliminated by mixing a small amount of water into the bitumen to create microscopic bubbles. These small bubbles then act to reduce the viscosity of the bitumen coating on the rock allowing the mix to be handled and worked at lower temperatures.

Compact with easy maintenance

Promoted in the UK by BG Europa (UK) Ltd, the Green Pac System for batch plants comprises a bitumen foam manifold assembly and a skid mounted water delivery system. With the system foam bar mounted remotely from the pugmill, common problems, such as nozzle blockage experienced with other foaming systems are eliminated. A further benefit also allows the system to be fitted to batch plants which have limited access around the pugmill mixer.

Although the system is compact, it has been designed with the plant maintenance in mind. The self-cleaning water injectors require only periodic inspection and may be removed and replaced from the top of the unit without removing the front cover. The foaming chambers have no moving parts.

How the system works

Bitumen is pumped to the Green Pac System either from the main bitumen supply, via a metering system, or alternatively a positive displacement conversion kit allows bitumen to be drawn from an existing bitumen weigh kettle.

Water is delivered to the Green Pac System from the skid mounted corrosion free reservoir which is fitted with an automatic filling valve that keeps the reservoir full from



the water supply. A positive displacement piston pump accurately meters water into the system, with the water pump speed modulated by feedback control to maintain the appropriate flow of water to the manifold in relation to bitumen flow. Water is injected into the bitumen through a series of all stainless steel injectors located above corresponding foaming chambers within the Green Pac System foam manifold. Bitumen flows through the foaming chambers where water and bitumen are thoroughly mixed to produce mechanically foamed bitumen. The foamed bitumen then flows from the Green Pac manifold down a delivery pipe to the pugmill mixer.

Expanding the benefits

With the introduction of the new Warm Mix Green Pac System, Astec has expanded the benefits of its exclusive Double Barrel Green Warm Mix System to any asphalt plant owner or operator.

Astec says that the Double Barrel Green System saves energy, eliminating smoke and emissions without compromising mix quality, using water to produce foamed warm mix asphalt that is odourless, smokeless and longer lasting.

Andrew Pettingale - MD of BG Europa, commented. "The Double Barrel Green System does not require the addition of expensive commercial additives. Instead, the injection of water along with the bitumen causes the bitumen to foam and expand in volume. The foaming action helps the liquid asphalt coat the aggregate at a temperature that normally is in the range of 110-130°C versus traditional temperatures of 150-170°C. With the Green Pac System, an operator can decrease fuel consumption 14% by decreasing the mix temperature just 30°. Other benefits include the elimination of smoke and smell, an increase in production, and the ability to run higher percentages of recycled asphalt pavement (RAP)."

Bury St Edmunds based company, BG Europa (UK) Ltd who promote and are stockists of genuine Astec parts in the UK can retrofit warm mix systems to continuous mix and batch plants from any manufacturer, bringing the benefits of the Astec warm mix system to all asphalt pavement plant configurations.

Benninghoven - A world leader in combustion technology

Benninghoven is recognized worldwide as one of the leading plant manufacturers for the asphalt industry, a company well known for its industrial burner technology and products. With a 100-year-old engineering history and over 50 years of pioneering burner technology, the name represents products which deliver the very best in design, quality and performance.



Their state of the art multi-fuel burners cover a wide range of combustion materials that are available on the market - liquid, gaseous or solid. The company is the only plant supplier in this field that develops and manufactures its own burners.

Founded in 1909 in Hilder, Germany, the company manufactured gear wheels and engineering parts for locomotives and machine tools. The company prospered and by the 1950s had built up a reputation in the field of industrial combustion technology, diversifying into the asphalt industry, producing burners, dryers, bitumen systems, mastic asphalt equipment and complete asphalt production plants, and expanding the company's global presence into markets throughout Europe, the Middle and Far East, China, Africa, etc.

Benninghoven has been one of the foremost companies to embrace 'green technology', which is a leading driver in asphalt plant operation. These ECO burners not only need to meet government and local

legislation but must be able to satisfy pressures from planning authorities relating to plant emissions and noise.

All burners are hand built to specification at Benninghoven's main manufacturing centre in Mülheim/Mosel, Germany, where a fully integrated burner test facility replicates site working conditions, so an ongoing research and development programme enables engineers to improve designs for maximum performance linked to economical fuel usage. Burners leaving the factory are subjected to stringent quality control testing.

Designed with the needs of energy-conscious operators in mind, the burners incorporate many fuel-efficient and energy saving features, which benefit the end user and lead to lower operating costs per tonne.

Built up in modular segments, all burners are designed for easy access and maintenance. Located onto a track, the unit can easily be separated from the dryer and moved back to gain access to the dryer drum. A special silencer design minimises noise emission levels and re-uses the reflecting heat of the drying process, which aids lower fuel consumption.

Benninghoven's latest 'EVO-JET' design embodies the very latest technical innovations to give high efficiency and reliability. Using inverter control provides perfect combustion through all capacity ranges. This 'clean burner' technology has resulted in low emissions, together with low energy usage and, therefore, cost savings on fuel used.

All burners are designed to run on a wide range of available fuels, giving the operator the flexibility to choose the most cost-efficient fuel for plant operation. Changeover to different fuels can be achieved by a simple click of the computer mouse on the plant control system.

On site, the operation of each burner is closely linked to the plant drying system. The dryer lifter pattern internals can be 'fine tuned' in order to maximise fuel savings, so by working together these units achieve the best combination in terms of fuel efficiency and cost savings.

All sales and service backup for the UK is conducted from Benninghoven's Leicester headquarters, where a team of skilled burner engineers is on hand to deal with the growing burner population in the field.

Thousands of units have been sold worldwide, which bears testament to the build quality, performance and value these burners offer customers.

Today, Benninghoven is still a family business, proud of its products, with over 800 employees carrying the good name of Benninghoven worldwide.



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216290

Bardon Greenwich keeps its asphalt plant clean, thanks to their DISAB SkipVac

One of the busiest asphalt plants in the South East, Bardon Aggregates Greenwich has been using its DISAB SkipVac since 2008 to keep its 'stack up' plant clean and dust-free, much to the satisfaction of manager Jason Haisman.

The SkipVac is used for a combination of tasks, chiefly dust removal and recycling, but also general housekeeping and maintaining high H&S standards. Located in an urban situation, the plant has to meet the local PPC (Particulate Pollution Control) permit requirements, and as that can mean a visit at anytime by the local EHOs, Bardon Greenwich maintains a high standard of housekeeping and dust removal. The fact that it's running 24/7 makes it even more important to keep things clean.

Dealing with dust the Gotland way

Over the last few years, much has been done to insulate the asphalt plant, with the result that all the airborne dust now tends to stay within the plant and gather around the machinery and floors. In turn, that means the job of dust removal is that much more onerous, and so the regular housekeeping tasks are carried out on an almost daily basis.

Jason Haisman explains how things used to be done: "Before we got the SkipVac, all the dust removal would be done manually using brooms, brushes, buckets and barrows. It was a pretty unpopular job that tended to be put off for as long as possible."

"Since we've been using the SkipVac, the operatives are much happier doing the housekeeping and it's a task that only takes about 15 minutes each time, more or less every other day. It's also a lot safer as they are not exposed to anything like the same degree to all that airborne dust. Doing it manually meant risking lungfuls of dust."

The DISAB SkipVac has a fully enclosed system from the cleaning nozzle to its internal skip, so all the dust is vacuumed directly into the built-in skip, all of which is then tipped back into the coating process achieving 100% recycling of the waste product.

Easy to use, centralised pipework

The SkipVac's ease of operation has been improved significantly by the addition of a centralised vacuum pipe to the four level asphalt plant, as Jason explains: "It means that each floor now has its own inlet valve



and flexible suction hose, so the operatives no longer have to carry heavy hoses up and down the stack-up plant. With the SkipVac providing the suction power to ground floor level to the central pipework, they just attach the hose to the valve at whichever floor and start cleaning up."

"The pulling power of the SkipVac is impressive - each floor is 10 metres high, so it is vacuuming the dust and waste through a hose and pipe from as much as 40 metres or 150 feet away."

Used all around the plant

Being a versatile piece of cleaning equipment, the SkipVac is used throughout the plant for all sorts of dust removal duties, and thanks to the installation of 415 volt sockets in various places, that now includes vacuuming the dust from under the cold feeders, a major source of dust generation.

Jason really appreciates the significance of the SkipVac's dust-collecting capabilities: "Around the plant, the SkipVac collects about a skipful - approximately half a tonne - of dust every two weeks or so, sometime more depending on what level of clean we're doing. All of that is recycled back into the process, so ensuring our Greenwich plant is very eco-friendly."

DISAB SkipVac: an essential piece of kit for any asphalt plant

As a long term hirer Jason really understands the value of the DISAB SkipVac: "The SkipVac is keeping the plant nice and clean, and makes it much easier and more efficient to do that."

"Besides enabling us to pass our inspections and maintain a very high standard of general housekeeping, it's good to have a plant that impresses and that can include the employees and the contractors as well as the EHOs. It's great to have an asset that's clean and tidy, and compared to the old manual ways of doing things, I know that the lads would be very unhappy if we ever had to do without our SkipVac!"

Interlocking concrete blocks are the best option for many businesses

In recent years, the increase in demand for interlocking concrete blocks to provide storage solutions in the recycling sector has rapidly grown, and it comes as no surprise given that this solution, if the correct suppliers are selected, is the most cost-effective, robust, and flexible options for waste segregation. When made from the correct high strength (50N/mm²) concrete, interlocking block walls also provide excellent fire breaks as quality concrete is 100% fire retardant.

Owen Batham, Sales and Marketing Director at Elite Precast Concrete, the UK's leading manufacturer and supplier of interlocking precast concrete blocks, explains why interlocking blocks are the best option for many businesses, but warns how some inexperienced suppliers are cutting corners and offering substandard products that may not be fit for purpose.

There are a number of reasons the demand for interlocking concrete blocks has increased over the past few years. Not only is the product fire retardant and cost-effective - interlocking blocks are also available in standard sizes which ultimately reduces production costs and means the product should always be readily available. The blocks are also incredibly easy to install and simply slot together - all good quality concrete will have 'cast-in' lifting mechanisms, either pins or sockets, which makes it safe and easy for customers to install, reconfigure or relocate the blocks themselves, without the need for specialist grabs. In addition, the blocks can be constructed on a firm and level surface so there is no need for special foundations.



This increase in demand has predictably led to more and more firms manufacturing their own versions of interlocking blocks and as with all industries, the quality can vary across suppliers. So, it is essential for purchasers to find out some fundamental information from a potential supplier, especially if the blocks are to be used for structural purposes such as a push or retaining walls, or for supporting steel roofs etc. Initially, it is worth finding out whether a supplier is a member of an appropriate trade body (such as the British Precast Concrete Federation) - this will ensure that the concrete adheres to recognised industry standards. It is also beneficial to gauge what is actually in the concrete - does it contain recycled materials, or even hazardous waste?

With rising costs of quality raw materials, and the disposing of hazardous or unwanted waste streams exacerbated by the challenging economic climate, there have been huge pressures on the interlocking block manufactures to use recycled materials in the manufacture of blocks - recycled materials that can lead to inconsistencies in the overall standard of the product. Recent research which has been presented to the Environment Agency has shown materials as diverse as paper, plastic, copper wire, and even lead contaminated cathode ray tube glass being present in some interlocking concrete blocks. It begs the question whether some firms are using this method to dispose of hazardous waste that really should end up in landfill, and as a result severely compromising the concrete's durability - a particularly worrying concept especially when the blocks are used for structural projects.

Secondary aggregates on the other hand are a much better option. Elite is using a proportion of crushed rock fines in the concrete mix. This is a high quality, naturally occurring by-product from a local quarrying operation. This is not only sustainable in the true sense of the word but it contributes towards a consistent high quality end product with strength of 50 N/mm² and a 120-year life-span. The blocks also satisfy all current legislation with regard to end of life issues as it is 100% recyclable.



It is essential to research your supplier before buying interlocking concrete blocks; not only to ensure the blocks can withstand a lifetime of strenuous use but also to make sure you are ultimately buying an asset, not a liability.

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CASE
CONSTRUCTION



Hanson UK develops a concrete retaining walls system

Hanson UK has developed a concrete retaining walls system that is designed to save quarry operators time and money. Business development manager Paul Lees looks at the benefits of the new product and how it can also help improve safety.

Hanson UK's new QuickBuild retaining walls are precast reinforced concrete units available in seven heights from one metre to 3.75 metres.

They have been specifically engineered using the company's 50 years' experience in the precast concrete and contracting sectors and are designed to BS EN 1992-1:2004. Individual corner units are also available.

The units are manufactured from high strength concrete and offer excellent durability, even in aggressive environments. They are Ec2 compliant and designed for a minimum life of 50 years, with the option of extending this to 100 years if required, and require no maintenance.

The QuickBuild walls, unlike alternative solutions, are manufactured in narrow sections to maximise storage space on your site and are ideal for creating temporary storage bays for sand or aggregate or retaining rocks on steep slopes.

The range has been designed to save time and money. The innovative Hanson QuickLift system has been developed to minimise lifting times and eliminate working at height issues. It uses a standard lifting hook and a telehandler can complete a lift from delivery vehicle to final position with minimal secondary operations. It means that there is no need to use expensive lifting gear or attachments so installation time can be reduced by up to 20 per cent. All of the standard units also feature a unique interlocking system which allows accurate and fast alignment.

Retaining walls are the latest product to be added to Hanson's QuickBuild precast concrete range, which includes box culverts and drainage channels as well as bespoke products.

We have also developed an online estimator which calculates the number of units needed to provide the required storage capacity. This, as well as a retaining walls brochure, which includes technical information and a handling guide, is available by visiting www.hanson-precast.co.uk.

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Metso's SmartTag™ - Tracking ore from pit to port and beyond

SmartTag™ is Metso's RFID (Radio Frequency Identification) based technology designed to track ores through the mining value chain. Since commercialization in 2007, mining operations around the world have realized significant benefits in terms of increased profitability by optimizing mining and processing operations using the SmartTag™ system. An extension of the system to include tracking ore from its point of origin in mines (open pit and underground), through processing plants and ports to its final destination, allows not only optimization of the mining production process, but also of the product supply chain and transport logistics to final consumers.

Metso's Process Technology and Innovation (PTI) business unit, located in Brisbane, Australia, is a world leader in drill and blast and minerals processing consulting. PTI provides Process Integration and Optimisation (PIO) of drill and blasting and downstream processing. The ability to track specific ore from the mine and through the plant is critical to the integration and optimization of the operations, and the SmartTag™ ore tracking system was developed to fill this need.

Marking and tracking ores through mining processes using SmartTags™ enables spatially based ore characteristics in the mine, such as hardness, fragmentation, mineral content, grades, etc. to be linked with time based performance in processing plants. Using this system, operating parameters and control strategies in the mines and processing plants can be adjusted and optimized to rapidly respond to changes in ore characteristics. Thus, increasing production, efficiency, reducing operating costs, energy, water consumption and resulting in increased profitability and sustainability of the business. In addition, the SmartTag™ system is a valuable tool in ore blending and stockpile management.

The SmartTag™ system has been used in the majority of Metso PTI's consulting projects. These have delivered significant increases in

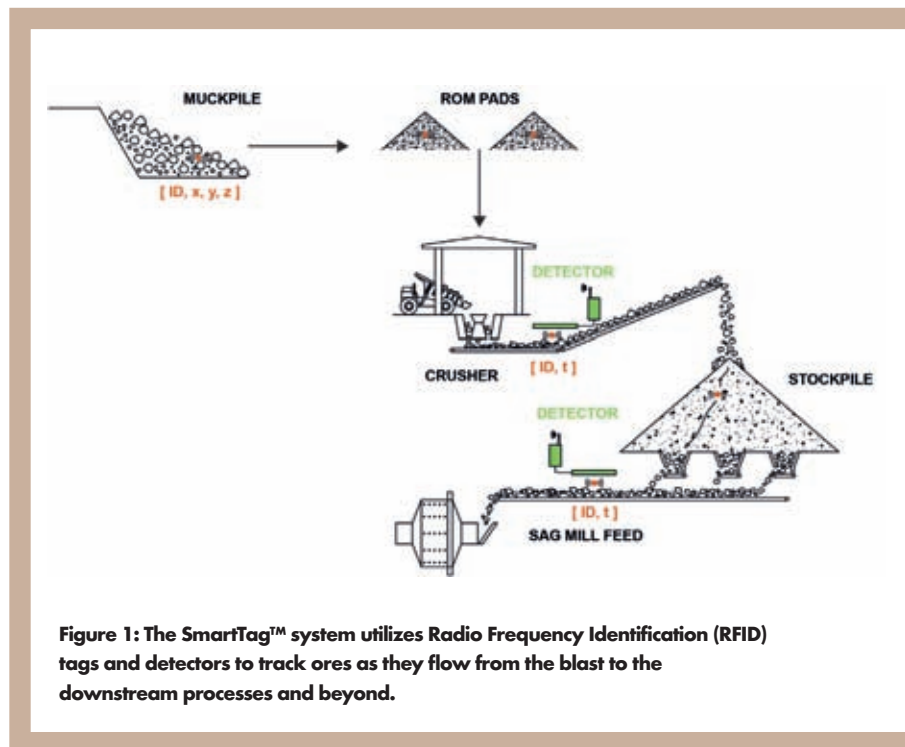


Figure 1: The SmartTag™ system utilizes Radio Frequency Identification (RFID) tags and detectors to track ores as they flow from the blast to the downstream processes and beyond.

throughput (from 5 to 30%), metal recovery, cost and energy reduction, as well as overall process efficiency increases from the mine to the plant at a number of operations worldwide. There are applications of SmartTag™ in Australia, Chile, Peru, Brazil, South Africa, Finland, Sweden, Portugal, Ireland and USA. In 2010, the SmartTag™ system was awarded the innovation iAward in the Industrial Application category in Australia.

Since 2007, there have been significant advancements with RFID technology that have allowed PTI to extend the application of SmartTag™ from drill and blast and primary crushing to secondary, tertiary crushing and beyond. This was achieved by mainly reducing the size of the SmartTags™ and improving the detection point designs. Metso PTI are also extending application of the SmartTag™ system to track ore from mines (open pit and underground), through plants and ports to its final destination offshore; allowing monitoring and optimization of product supply and transport logistics.

Get to know the SmartTag™ system

The SmartTag™ system allows the tracking of ore, and its characteristics, through the mining value chain.

The system utilizes tags equipped with RFID technology, encased for protection in a highly-resistant polymer capable of withstanding blasting and subsequent transportation, storage and size reduction processes, such as crushing and screening. Each SmartTag™ has a unique identification number which is recorded along with the coordinates of its starting location (ore block, blast hole, muckpile, product stockpile) using a ruggedized hand-held computer (PDA).

The SmartTags™ survive blasting and travel with the fragmented ore. The tags are detected by antennas placed above or below conveyor belts at critical points in the process, when the Tag ID and time are recorded by the RFID reader and stored by a data logger. The information about the detection points, detected RFID tags and original locations of the tags are stored in the SmartTag™ database, and the data can then be viewed, manipulated and exported using the intelligent SmartTag™ Control System software.

SmartTags™ can be detected a number of times and provide valuable information on material movements. They do not require batteries and can

remain dormant for months or years with the ore in stockpiles or storage bins, without losing their functionality. The SmartTag™ identification numbers are globally unique, so can be traced anywhere in the world. Using cellular networks, data from detection points located across the globe can be linked back to a centralized server. Thus, allowing tracking of material all the way through the mining operations and supply chain to final destinations, including offshore.

Proven application of SmartTag™

Metso PTI has been using the SmartTag™ system in Process Integration and Optimisation (PIO) projects for over five years. These consulting projects involve the development of integrated operating and control strategies from the mine to the plant that maximize throughput, minimize the overall cost per tonne and maximize profitability.

The SmartTag™ system is an essential tool in this process, as it allows tracking and correlation of the ore characteristics and quality, with important operating parameters in the mine and processing plant, such as ore dilution, fragmentation, stockpile residence times, segregation, energy consumption, metal recovery, etc. These data allows optimization of the system as a whole, and operating parameters can be optimized for different ore types, maximizing throughput and/or reducing operating costs.

Benefits have been demonstrated in over 400 projects delivered worldwide. In some cases production has been increased by as much as 30% with reduced energy consumption and operating costs. A project conducted with Compañía Minera Antamina (a copper and zinc operation situated in the central Peruvian Andes) increased throughput from 2,600 tph to 4,500 tph when treating difficult ores, while at the same time decreasing the energy of grinding by 25%. This represents a significant increase in resource efficiency by reducing the total environmental impact of metal concentrate production. The Antamina and Metso PTI project team was awarded the 2012 CEEC (the Coalition for Eco-Efficient Comminution) Medal for their paper published at the SAG Conference 2011 in Vancouver, which describes their work and results.

Mini SmartTags™ allow tracking further down through the process

Mini SmartTags™ were developed to extend the application of SmartTag™ through and beyond secondary crushing.

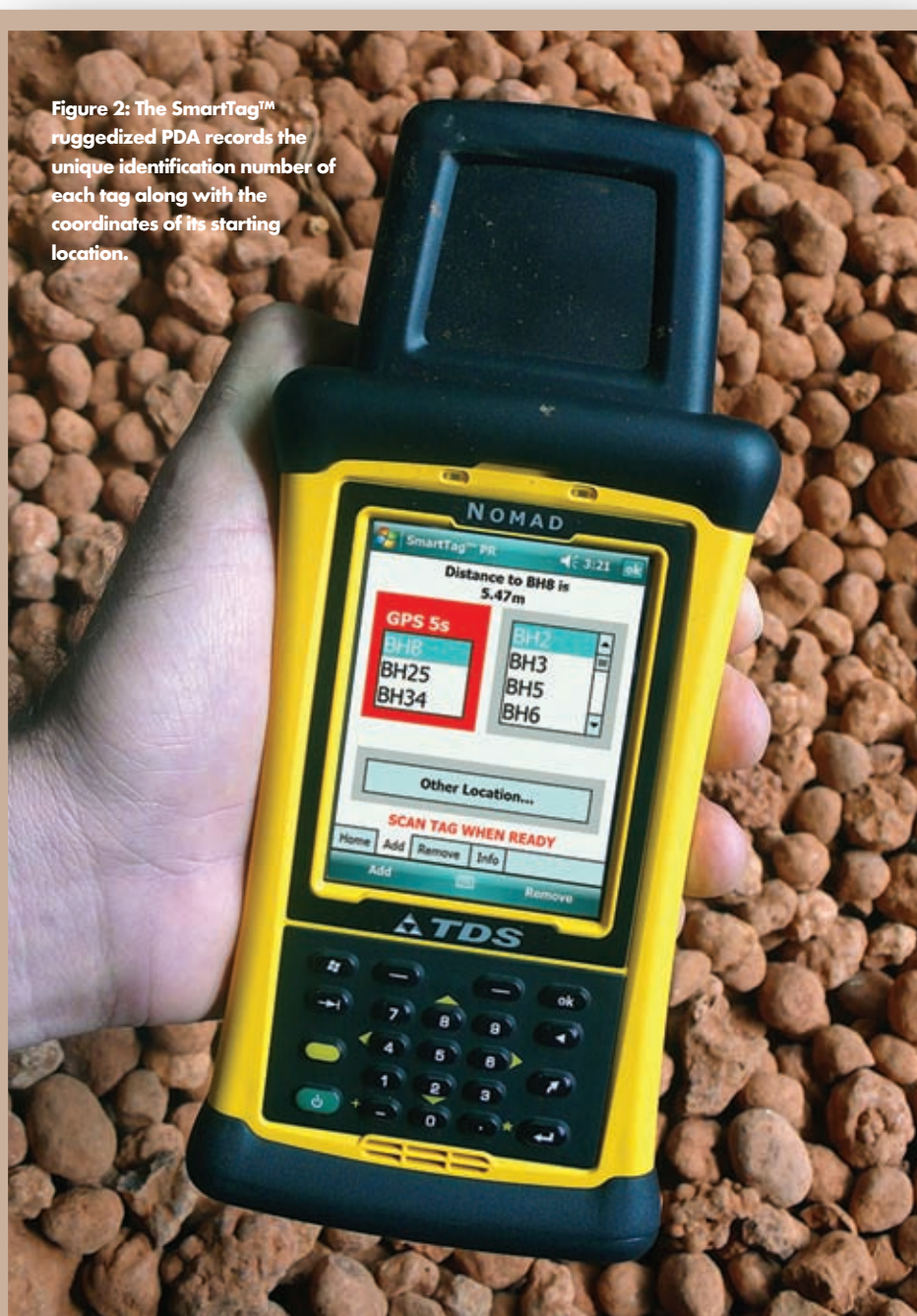


Figure 2: The SmartTag™ ruggedized PDA records the unique identification number of each tag along with the coordinates of its starting location.

The Mini SmartTags™ have dimensions of 14 x 8 x 5 mm and are shown with a standard SmartTag™ as reference in Figure 3. The size of the Mini SmartTags™ allows them to pass easily through screens with apertures down to 10 mm. Smaller tags allow the applications of the system to be expanded, and could include a wider use in the iron ore industry where size is a critical material quality.

Extending SmartTag™ application from pit to port and beyond

Iron ore and coal operations often have complicated product marketing and supply logistics, commonly with material of different quality specifications and contained value. Currently, this is typically managed with complex software that models product stockpiles, rail and port schedules. This software records and reconciles the tonnage, quality and value of bulk materials from mine to the point of export or consumption. However, the software is based on many assumptions, and cannot be validated easily. Discrepancies can arise, and problems ensue with payment from customers. ►

Using current practices, the quality of the product delivered to the customer can deviate from specifications. Typically, sampling is conducted for grade analysis and other measurements as the ore is recovered from the mine stockpiles, and/ or as the ship is being loaded. However, these practices are very re-active (decisions made post grade measurement) with little tangible feedback data. By the time the grade of the shipment is known it is too late to make adjustments to rectify grade deviations. Delivering out-of-specification product can result in lost profit due to exceeding the required quality specifications, or penalties for delivering below specification product. Thus, reducing the value recovered from the resource and/ or shortening the life of the deposit. By using SmartTags™ to monitor the flow of material from the mine pit through the final destination, unexpected changes can be detected quickly and problems rectified prior to loading onto the ship.

In the case of iron ore, texture affects performance in the blast furnace, and moisture content is important in managing the transportable moisture limit (TML) for shipping. These properties can be tagged and tracked using the SmartTag™

system as well as product grades, etc. For coal operations, the quality parameters of greatest interest include ash, moisture, sulfur, phosphorous and energy value (kCal, BTU). Tracking these parameters facilitates preparation plant optimization, sorting, blending, coal homogenization and ultimately maximizing value. Product stockpiling and blending practices can be tracked and compared against quality targets. This will provide more accurate reconciliation, and allow monitoring and optimization of product supply and transport logistics.

The SmartTag™ system can also be used to validate software and management tools.



Figure 3: Normal and Mini SmartTags.

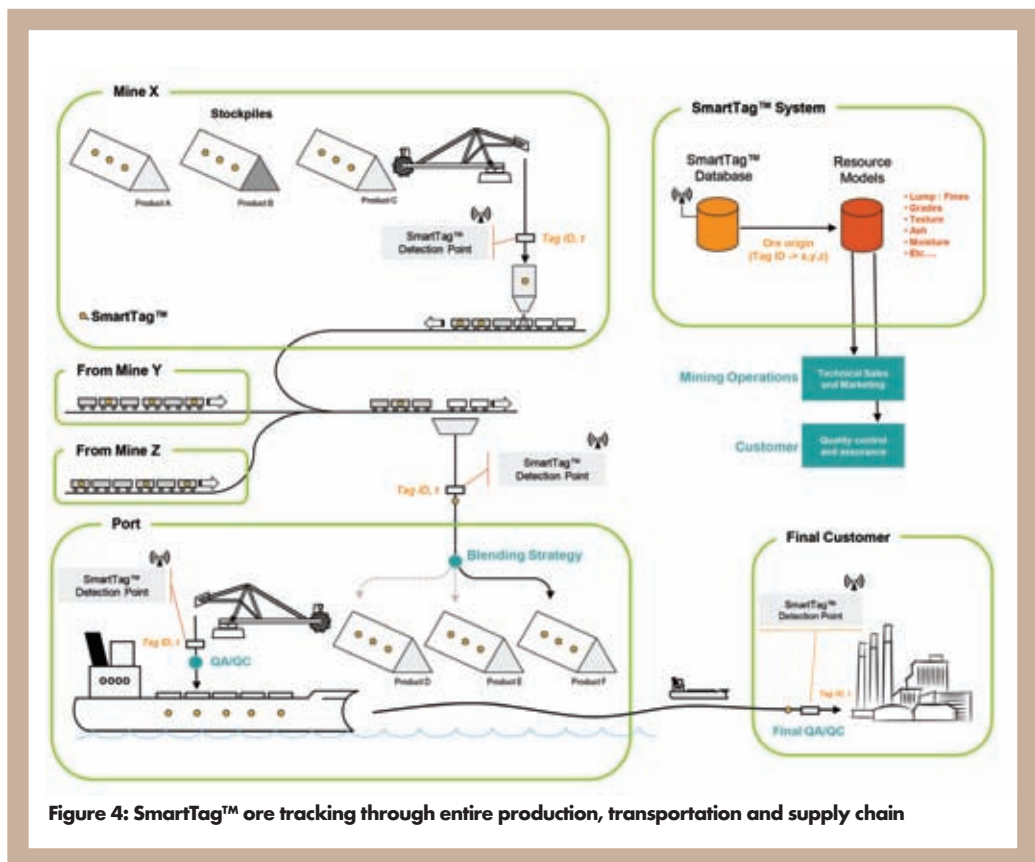


Figure 4: SmartTag™ ore tracking through entire production, transportation and supply chain

Conclusions

The SmartTag™ system, developed by Metso PTI, to track parcels of ore, has delivered substantial benefits through the optimization of mining and processing operations in over 400 projects delivered globally. With the decreasing size of the tags and the development of SmartTag™ as a truly distributed system, it can now be extended past the mine to cover the whole mineral value chain. Detection points can now be located in the mine, plant, throughout the entire production and transportation chain and even at the location of the final customer, such as a blast furnace, steel makers, power producers, smelters, etc



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From our Jaw crusher, for primary sample breakage prior to further processing, to the McCrone Mill, which will grind to analytical fineness, these machines can cope with a wide range of materials from rocks to edible grains.

Glen Creston also manufactures special machines for sample processing production needs. These machines are designed for processing anything from small samples to larger scale continuous flows for industrial applications.

The Roller Crusher Mill is one machine from our range of laboratory and pilot scale/light industrial equipment.



Glen Creston have improved the design and function of the Roller Crusher:

- It can be supplied with a new control box with PLC which allows remote monitoring and control of the crusher in process applications.
- The largest single shaft unit is now 800mm long by 500mm wide internally and designed for crushing lump coal up to 250mm. High temperature versions are available for crushing power station ash at up to 250 degrees centigrade
- This rugged, slow-running mill is equipped with either a single or double roller shafts fitted with crushing cams which rotate between crushing and stripping combs. Different shaped crushing elements are available depending on material.

This machine is particularly suitable for de-agglomeration of materials from sacks or silos, pre-crushing softer minerals and for granulating coarse lumpy, caked or compacted materials.

Features include:

- Robust construction
- Minimal maintenance
- Compact design allows retro-fitting into existing process lines.
- Parts easily removed for maintenance/repair

Suitable for:

- Pigments and Resin
- Food and Pharmaceutical
- Coal
- Waste materials and Ash

Operating Principle /Construction

The wear resistant steel crushing cams are mounted on the roller shaft in staggered positions, accurately spaced so that they pass between the crushing and stripping combs which are mounted laterally on opposite sides of the inner housing.

For further information on Glen Creston 'bespoke' equipment please contact enquiries@glencreston.com

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Wear issues during the manufacturing of titanium dioxide

For many years the chemical industry has had an in depth understanding of corrosion protection and the range of wear resistant lining systems available, due to the extreme negative effects corrosion can have on capital plant and equipment. The costs of none or incorrect action can lead to, plant degradation; Unplanned shutdowns, Costly repairs, Potential spillages leading to a breach of environmental legislation



The industry introduced best engineering practice leading to formal code of practices (ACoP) which need to be adopted for the storage and handling of chemical substances hence compliance is now mandatory.

Early intervention of ensuring the process is protected using various wear resistant lining systems and technologies is the key to

successful corrosion prevention, the abrasive powders and bulk solid material handled throughout the chemical processing of operation, be it the processing of activated carbon, silicon, soda ash or titanium dioxide to name but a few. Wear resistant lining specialist Kingfisher Industrial have successfully improved the performance and extended the service life of capital plant and equipment used to store, convey or process minerals in either a mechanical, pneumatic or hydraulic state.

A well-known global manufacturer of titanium products were experiencing high levels of production down time and unforeseen maintenance costs, Wear resistant lining specialists Kingfisher have been supplying the UK plant since the late 1980's the investment was made in the re-engineering of pneumatic conveying pipe work system used to inject recycled ore and coke into a fluidized bed chlorinator.

The process itself uses chloride to convert rutile or ilmenite into titanium tetrachloride which when purified, scrubbed and then oxidized creates pure titanium dioxide (TiO_2). The process depends on the correct balance of mineral and chemical additives and as such the pneumatic injection lines must be active throughout the chlorinator's operational campaign. Thus protecting the pipe work from the rigours of conveying ore and coke is of utmost importance. Over the years various grades of wear resistant steel tubes and refractory grade ceramic liners were used to combat the amount of degradation that occurred within the pipelines. These systems albeit achieving improved longevity were not achieving the life expectancy the engineers and operators desired and the requirement to replace pipework

mid campaign was becoming common practice. This replacement activity was having a detrimental effect on the operation of the chlorinator alongside the risks associated to undertaking mechanical activities within a hazardous area therefore engineers turned to Kingfisher in an attempt to improve the life expectancy of the process.

From many years of experience gained through combating the cyclical effects of abrasive minerals conveyed in pneumatic pipe systems, Kingfisher sought to rectify the problem by using their range of ceramic resistant liners. These systems vary from cast basalt, high alumina oxide, silicon carbide and zirconium and all have wear resistant properties that counter a range of abrasive minerals of certain shapes and sizes. Likewise they each perform differently dependent on the operational characteristics of the system, therefore the temperature, velocity; volume per hour needs to be factored into the review to ensure the right system solution is offered.

From the outset Kingfisher worked in conjunction with the plant reliability engineers to ensure the system matched the customer expectations with regard to quality, cost and delivery. Within 2/3 years of trials and inspections, Kingfisher supplied various grades of ceramic liners for testing and upon review of the data associated to the results it was clearly evident what systems suited what parts of the application. It was decided and supported by factual real time evidence that the optimum system consisted of the straight pipes and bends up stream of the safety shut valves, positioned to prevent blow backs from the chlorinator, being protected using our 6 mm thick 92P K-ALOX high alumina ceramic liners and downstream of the valves being protected with our 6mm thick K-SIL RB silicon carbide liners. With the pipes being fabricated in accordance with the pressure equipment directive (PED) they are subject to stringent compliances of NDT on all welded parts & hydro static - pressure testing up to 15 bar being held at 220 PSIG. This endorses the integrity of the system and meets the customer's safety and compliance features associated with chemical plants. In all, this system gave the best performance v investment ratio taking all factors of product, process and safety into consideration.

The resulting situation is now that this system has been adopted by the company as best engineering practice, the plant have benefited from the wear resisting lining systems. The pipe work after the shut-off valve is changed routinely regardless of the condition and is replaced to guarantee the plant's 18 month life expectancy between campaigns, it is imperative they achieve this due to the operation of the chlorinator and forms part of their standard operating procedures when replacing the pneumatic pipe work system. Likewise, this technology has evolved to protecting other areas of the process that suffer from material degradation such as cyclones, driers, mills and micronizers.



www.hub-4.com/directory/12641

Precia-Molen system improves weighing and traffic management at Drax

ANPR Weighbridge System



A new Precia-Molen weighing and unloading management system at Drax Power Station is helping to move materials used and produced in the electricity generation process. Every day materials are delivered and collected from the site by road; the new system has greatly improved the efficiency of the operation.

The largest, cleanest and most efficient coal-fired power station in the UK, Drax is owned and operated by Drax Power Limited, an operating subsidiary of Drax Group plc. The company is currently executing plans to transform the business into a predominantly biomass-fuelled generator through burning sustainable biomass in place of coal. Drax currently provides enough power to meet 7-8% of the UK's electricity needs.

Replacing the existing system

Following a vendor assessment programme, Precia-Molen were awarded the contract to install a system based on the highly regarded GeneSYS™ and GSM software.

The new on-site weighing and load-management system had to seamlessly integrate with several existing systems and provide a number of fixed criteria:

- Interfaces with several existing key systems
- Print tickets at the driver consoles (eliminating driver dismount)
- Automatic process
- Secure process
- Full in-house technical support

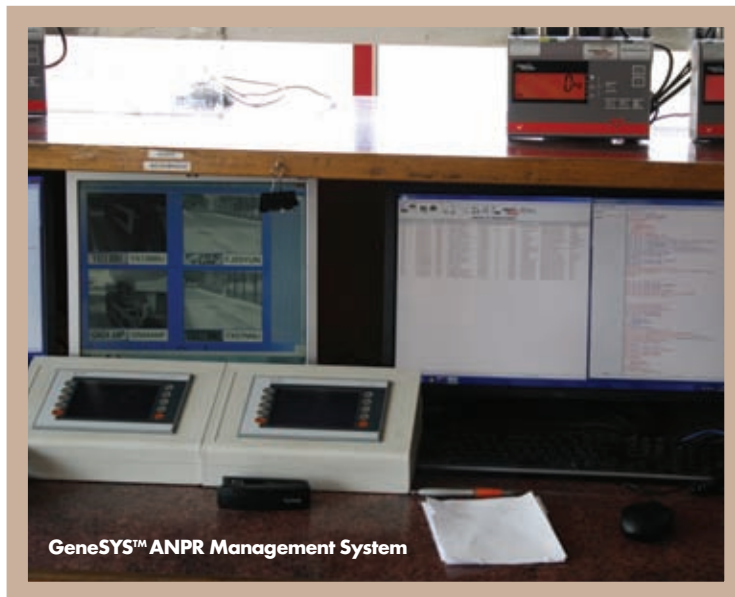
Removing the old manual system and replacing it with a new system has delivered many benefits for the Drax operation over and above the original project expectations



Inbound multi-weighbridge system



BI400 Driver Console



Commissioning

Adhering to Drax's industry-leading safety policies, a dedicated on-site Precia-Molen project manager and team, ensured that the weighbridge installation was completed over two weekends, with minimal downtime. The need to remain operational throughout the installation was achieved by building a contingency into the design and by splitting the installation.

The software installation was fully supported by Precia-Molen technicians with on-site assistance when required, ensuring a quick turnaround on changes and configurations.

Overall, Precia-Molen have provided a powerful and flexible on-site weighing and load-management system that has met the needs of this busy and diverse power plant operation.

Graham Backhouse, Head of Supply Chain and Logistics at Drax, commented, "We now have a sophisticated system that is fully integrated with our existing systems. The GeneSYS™ based solution, has created a stable and expandable platform supporting our objective to improve the weighing interface between our systems and traffic management of the site. Precia-Molen completed the work, and managed additional works identified, in a timely and professional manner."

The new system

With the main materials handling gatehouse processing vehicles across four weighbridges the new system has increased the speed of vehicle throughput.

GeneSYS™ has enabled Drax to optimise the existing process, ensuring secure entry of all vehicles to the site, track deliveries on site and interface weighbridge operations with existing logistics processes.

Precia-Molen technicians worked with Drax and their third party providers to deliver a solution that enables GeneSYS™ to communicate with Drax's control systems. This has improved the efficiency of the lorry loading process at Drax, helping them meet a key strategic target.



 www.hub-4.com/directory/683

New Volvo compact excavators for new Ayrshire groundworks and utilities contractor - Glen Maree Contracts Ltd

A new Volvo EC18C mini excavator has been delivered to Glen Maree Contracts Ltd of Ayr which follows hard on the heels of a Volvo EC17C supplied earlier in the year - both machines joining this new family run venture which started up back in January.

Drawing on years of experience working for other utility contractors in Scotland's Central Belt, father and son team, Joe and Kevin Kominski decided to strike out on their own and set up their own groundworks and

utilities contracting business at the start of 2013. Specialising in the complete installation of traffic light and street lighting systems along with general groundworks projects the newly formed Glen Maree Contracts Ltd was in need of a mini excavator and turned to Volvo Construction Equipment for the solution. Initially Messrs Kominski opted for a 1.7 tonne Volvo EC17C for their business complete with cab and a selection of buckets. "We wanted a machine we knew we could depend on for maximum uptime and total reliability and the range of Volvo compact excavators have a good reputation in the market," says Kevin Kominski. "As the business has grown significantly, with contracts awarded in Ayrshire and West Lothian in the last eight months we needed a second machine for the work we are undertaking and this time opted for the slightly larger EC18C with the added advantage of its hydraulically adjustable undercarriage," he continues. "So far we can't fault the product but it's re-assuring to know we can rely on Volvo for service and back up with a support centre based down the road at Stirling."

The Volvo EC17C and EC18C are two of four machines ranging between 1.5 and 2.0 tonnes and are powered by a 12.3 Kw (16.8hp) engine. The machines feature automatic two speed travel with the EC18C benefitting from extendable undercarriage as standard. The hydraulic hoses for the digging equipment are now routed through the boom and cylinders are top mounted to minimize on site damage. The machines supplied to Glen Maree Contracts feature a full cabs - a canopy version is also available. The 1.8 tonne compact excavator also benefits from load-sensing hydraulic system for fast cycle times, even when carrying out multiple functions. Maximum dig depth is a generous 2.3 metres.

A single piece engine hood provides unobstructed access to all the engine components whilst the instrument panel provides at-a-glance monitoring of all key functions. The cab's easy to clean flat floor panel lifts for access to hydraulics and main control valve.



Glen Maree Contracts latest edition busy on a traffic light installation on an Ayrshire road junction



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Conveyor Technology for Conveying Bulk Materials

BULKOS provides conveyors and systems for a wide range of bulk material applications. The transportation of bulk materials is a major challenge, to ensure the availability of building materials when they are needed. System availability and reliability are often overlooked and quick solutions are used which only secures limited success.

RUD are a leading manufacturer and supplier of chain systems and components to the bulk materials industry supplying; complete bucket elevators and spare parts, complete conveyor systems and drive systems for bulk materials handling.

RUD are a valued supplier and experienced manufacturer supplying a selection of conveyor and conveying systems for the bulk materials industry which include: scraper conveyors, drag chain conveyors, screw conveyors and apron feeders.

BULKOS Apron Conveyor

The Apron conveyor uses round steel link chain as a pulling element which is driven by pocket wheels. The apron conveyor possesses many advantages, its robust simple construction to its lower construction height due to smaller diameter wheels. The round link chain system used is self-cleaning and works well in wet, corrosive and dirty environments. RUD Apron feeders are ideal for the transport of bulk and unit bulk loads in applications such as power stations, recycling and construction.

BULKOS Drag Chain Conveyor

The RUD drag conveyors offers maximum durability in feeding and ash removal for coal fired power plants and biomass plants. The strength and versatility of the drag conveyors are remarkable especially when used in harsh conditions. BULKOS drag chain conveyors are suitable for dust free, horizontal and slightly inclined conveying and metering of even the coarsest types of bulk materials. Available as single strand or double strand conveyors, they offer high wear and heat resistance. On demand a specialist model is available with a cleaning scraper.

BULKOS Screw Conveyor

RUD'S product portfolio offers conveying solutions for conveying projects in any direction, horizontal, inclined or vertical. Screw conveyors are an example of conveyors that can be used in any direction and are suited for conveying abrasive high temperature materials. BULKOS screw conveyors are long lasting and extremely low in maintenance. They are typically used for horizontal, inclined and vertical transport of: fine grained, floury materials, coarse grained, high temperature, abrasive or slow flowing materials. They are available as single, double or triple conveyors.

BULKOS Scraper Conveyor

BULKOS scraper conveyors are designed to handle the addition and removal of fuel and waste during the production process.

Thanks to RUD's wealth of experience in the fertiliser, potash, salt and cement sectors, as well as with various bulk materials, all system components are always perfectly coordinated to provide reliable system solutions. Whether you need a complete bucket elevator, a chain conveyor or a chain drive, RUD meet every conveying challenge using round steel chains, forked chains or belts as traction mechanisms.



www.hub-4.com/directory/743



High Speed Roller Cradle for High-Volume Conveying

A new high speed impact cradle is designed to reduce roller and frame damage from heavy conveyor loading conditions in mining, coal handling, aggregates and other applications involving dense materials and / or high volumes. The rugged EVO® High Speed Impact Cradle is engineered to withstand brutal operating conditions, reducing roller failures and service requirements. One customer estimates that the new cradles from Martin Engineering paid for themselves in just the first week of service at the company's copper handling facility, due to the savings in maintenance and downtime.

"Under high-volume conditions, standard OEM impact idlers in the load zone simply can't withstand heavy loads and lengthy drops, costing downtime for repairs as well as the expense of replacement components," observed Martin Engineering Service Technician Doug Brown.

The new cradles use Martin Engineering's Trac-mount™ technology to slide in and out easily for maintenance. The modular components are light enough to be removed by hand, without using a crane or other equipment to handle them.

"The new cradle design only requires one person to change the rollers when the time comes," said Brown. "The biggest problem solved is the downtime. In the past, when customers have needed to change rollers or frames, they had to shut down the conveyor for an extended amount of time," he explained. "Old style frames can be difficult to remove, requiring that maintenance personnel pull the arms down, then jack up the assembly to pull it out."



EVO High Speed Roller Cradle: The rugged EVO® High Speed Roller Cradle is engineered to withstand brutal operating conditions, reducing roller failures and service requirements.



FMC Safford 812-0556: The innovative cradle design absorbs and distributes the material load, reducing stress on components and support structures.

FMC Safford hi-speed cradle close 812-0236: The new cradles use Martin Engineering's Trac-mount™ technology to slide in and out easily for maintenance.

"We wanted something that was slide-in / slide-out," added Martin Engineering Global Product Manager Chris Schmelzer. "These new cradles were designed using Finite Element Analysis, so we could confirm that they'd be strong enough, without having to overbuild them," he explained. "We can make it as strong as it needs to be, without adding excess weight, so workers can remove and replace components without using heavy lifting equipment."

The innovative load zone design uses an elastomer bar suspension system that absorbs and distributes the material load being transferred, greatly reducing the stress on the idlers' rolling components and support structure. One patent-pending design innovation is the use of connecting brackets near the top of the idler frame to hold the three rollers together. These special brackets are designed to allow multiple modular cradles to be tied together, so that the idlers throughout the entire load zone work together as a system.

"This cradle is simple to install, and the easy access to the center roller makes the maintenance a one-person job," Brown added. "In addition to greater durability, it's intentionally designed to facilitate service, making the task of changing rollers safer and easier."



www.hub-4.com/directory/534

Canning Conveyor step up to the challenge and deliver a twin conveying system for one of Scotland's largest biomass energy plants

Awarded a prestigious contract to supply a twin conveying system complete with towers and all steelwork as part of one of the largest biomass energy plants in Scotland, Canning Conveyor has stepped up to the challenge and delivered a robust, efficient and reliable system for the bulk conveying of materials for the Fuel Handling System.

With an overall project cost in excess of £200 million Scotland's mega 50MWve renewable plant biomass combined heat and power plant (CHP) at Markinch in Fife, commenced build in 2010 and when fully operational in 2013 will be the largest of its kind in Scotland.

The new Biomass CHP lies in the grounds of Tullis Russell Paper Makers and will, when on-line replace their existing coal fired power plant, reinforcing the company's position as one of the world's leading environmentally focused papermakers.

Working alongside project manager Saxlund, Canning Conveyor separately negotiated their contract for the Tullis Russell site, for the design, detail, manufacture, construction and supply of biomass reception conveyors to screens; the elevating belt conveyor system to feed three separate storage silos and the reclaim belt conveyors from the silos to the boiler feed system as part of a biomass fuel handling system for the power station.

The function of the conveyor system

The function of the Conveyor System is to receive solid fuel from the Bulk Material Handling Units and deliver it to the day storage silos, from where it conveys a measured amount of material to the boiler plant located on the same site.

The system has been designed to have two streams of conveyors that operate independently of, and run parallel to, each other and is designed to be suitable for operation with a blend of recycled and virgin wood.

The conveyor system from reception to storage has a design capacity of 920m³/hr. with an operating capacity of 765m³/hr. The conveyor design rating from storage to boiler plant has a design capacity of 345m³/hr. with an operating capacity of 285m³/hr. There are four defined areas:

Reception and Screening Area Conveyors - area 1

With incoming trucks depositing their load of pre-shredded recycled and virgin wood into the reception hoppers, material is deposited by mobile belt feeders (by others) onto the twin reception conveyors.

Running horizontally at ground level the 1200mm wide x 67 metres long troughed belt conveyors are designed to accept up to 975cu.m/hr of incoming material with a bulk density of up to 500kg/cu.m, (based on the calculation of 125% of the desired 780cu.m/hr maximum) which the feed points will allow to flow. These conveyors then elevate up via catenaries to discharge via fixed chutes which are an integral part directing material into the disc screens which remove oversize materials.

Positioned above each reception conveyor are cross belt permanent magnetic separators, which have been designed for continuous removal of magnetic ferrous metal from the material being passed beneath them. Magnetic ferrous metal is attracted to the magnetic face leaving the cleaned product on the conveyor below. The ferrous material is then carried by the continuously moving belts on the magnetic separators and discharged to the front of the machines, via fixed integral non-magnetic chutes, into a ferrous metal collection skip. ▶







Inclined Transfer Belt Conveyors - area 2

From the disc screens material is conveyed by the twin inclined transfer belt conveyors. These are troughed belt conveyors which utilise a totally enclosed air supported belt system with disc type return rollers. These conveyors run horizontally at ground level accepting material from the undersize chutes of the disc screens (by others) before elevating via heavy duty lattice gantries to a height of approximately 30 metres, before discharging at the top of transfer tower A.

This tower designed and manufactured by Canning features two floors; complete with access doors from walkways on all conveyors it incorporates a lifting beam complete with electric hoist.

This tower supports the head/discharge ends of the twin transfer conveyors and the tail end of the main silo feed conveyors which are integrally fitted with fixed chutes directing the discharge onto the silo feed conveyors.

Silo Feed Transfer Conveyors - area 3

From the transfer tower the twin conveyors elevate slightly and discharge via two-way diverter chutes onto the 'Silo 2' feed conveyors, or directly into 'Silo 1', which is achieved by the means of electrically actuated operated flap doors. The 'Silo 2' feed conveyors, also elevate slightly and discharge by a two-way diverter chutes directly onto the 'Silo 3' feed conveyors, or directly into 'Silo 2', again by the means of electrically actuated operated flap doors. The final twin conveyor feed runs horizontally, and discharges directly into 'Silo 3'. The entire twin feed conveyors are enclosed in heavy structure lattice gantries.

Outbye Reclaim Conveyors - area 4

Situated at ground level next to the three storage silos, these twin 41m long troughed belt conveyors are designed to convey up to 345cu.m/hr of pre-shredded recycled and virgin wood with a bulk density of up to 500kg/cu.m, (based on the calculation of 1.25% of the desired 280cu.m/hr) which is the maximum the feed points will allow. Running horizontally these conveyors accept material from any one of the three reclaim chain conveyors (by others) and then elevate slightly to feed onto the outbye weigh belt transfer conveyors.

Outbye Weigh Belt Transfer Conveyors

These twin trough belt conveyors receive feed from the outbye reclaim conveyors at a rate of 345m₃/hr with a bulk density of up to 280m₃/hr.; which again is the maximum the feed points will allow. Elevating over the full length of 44 metres they then discharge via diverter chute onto the chain conveyors (by others) which feed the boiler house. Each of these conveyors is fitted with a Board of Trade certified belt weigher, and moisture monitoring equipment.

A successful installation

As well as the design, detail, manufacture and supply of the twin conveying system Canning Conveyor completed and managed the site build up, installation, belt fitting, vulcanising and commissioning for the system. The support gantries and platforms, all steelwork, access platforms and gantries were all manufactured in the Canning workshops, delivered and erected on-site by the Canning engineers.

Working above current health and safety standards the Canning team spent considerable time working alongside sub-contractors; constantly maintaining a high and efficient standard within all areas of the build including ATEX areas and installation of equipment.

Andrew Canning - MD, commented, "The project has allowed Canning Conveyor to demonstrate the quality of their engineering and project management competence coupled with the ability to be cost effective in a competitive market."



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Some sprockets require a special solution according to chain manufacturers FB

Like many products the manufacturing of sprockets has migrated to Asia and in real terms they now cost less than they did 10 years ago with standard sprockets becoming a commodity product mainly purchased on price.

This means the real cost of replacing any sprocket is in the engineering time taken, as removing chain drives will often involve dismantling a large part of the equipment. When it comes to replacing conveyor chain and sprockets, they can be large and heavy and this may require the use of a crane to get the products into place. This often results in the decision to install a new chain on existing sprockets which might well be worn and therefore reduce the life of the new chain being fitted.



There are a number of options which add relatively small amounts to the upfront cost of a sprocket but can have a large impact on the working life, for example:

- Special grade alloy steels - using materials that match the operating conditions resulting in extended life
- Localised hardening of the tooth profile - particularly useful in harsh environments such as quarry applications
- Exchangeable sprocket rims - changing only the sections that have worn or become damaged without removing the whole sprocket hub
- Debris clearance groove in sprockets - which reduces damage to sprocket teeth and chain rollers, again an advantage in applications where product contamination or debris is an issue

Understanding common as well as complex application problems and then translating resulting ideas into workable solutions is a major factor to increasing chain and sprocket life whilst reducing maintenance time and therefore total cost of ownership according to engineers at FB Chain.

 www.hub-4.com/directory/15130

ConveyorTek launch NEW CORE800XE Overband Magnet

ConveyorTek's exports plans have been steadily growing with recent success in supplying their products across new markets within an expanding range of countries.



New partners and distributors have recently been identified in America, Ukraine and Poland and as the new dealer support packages begin to be put in place it is hoped that a further two partners will be in place by early 2014.

As well as designing traditional conveyors for a range of industries, the company manufactures an expanding range of metal separation equipment including their conveyor magnets for the recycling industry and mobile crushing and screening OEM's. Their new CORE 810 OVERBAND Magnet offers improved magnetic performance for higher operating gaps and a new look support frame.

Conveyor Belt sales have also seen steady growth over the last year, supported by the company's experienced site service teams which operate throughout Ireland.

The Electrical Automation Division which designs and manufactures conveyor control panels and fully automated conveyor systems has also recently installed eight new systems into the South Midlands Logistics Centre, England. The company's website is also undergoing extensive upgrading and will re-launch later this year to coincide with another new product launch for 2014.

 www.hub-4.com/directory/11979

Pipe Conveyors and Environmental Control

The troughed belt conveyor has been the main product for the efficient transport of bulk materials over short, medium and long distances for many years.

The inherent problems of conventional belt conveyors i.e. loss of material by wind scatter or velocity disturbance, spillage due to poor alignment and dust creation and spillage at transfer points has led to the development of totally enclosed methods of transport.

One of these is the pipe or tube conveyor system, being developed in the 1970's, it is a variation of the existing belt conveyor technology with the first installation in 1979. Since this time, the system has become the most proven and reliable enclosed belt type conveyor with the Bridgestone version alone having over 700 installations world-wide.

DESIGN CRITERIA

Belt Speed Capacity

It is not unusual for Pipe Conveyors to run faster than troughed conveyors on dusty materials. This is possible because the material is enclosed and the fact that the tubular belt is inherently stiffer, resulting in less belt sag between idlers, preventing disturbance of the material at support idlers.

Carrying Capacity

Generally, a Pipe Conveyor will carry an equivalent load to a conventional troughed belt conveyor, when the conventional belt has a width in the order of three times the diameter of the Pipe Conveyor.

However, the capacity of a conventional conveyor will depend on the troughing angle of the idler sets and the surcharge angle of the material being conveyed.

Lump Sizes

Because the material is completely enclosed by the belt and is surrounded by six idlers, there is a limit to the amount of lumpy material which can be handled.

Too many, or too large a lump size will cause crushing of material at the idler stations so for the recommended maximum loading ratio of 75%, it has been found that a maximum lump size of one-third of the pipe diameter can be handled. For larger lumps, the loading ratio should be reduced i.e. for lumps of half pipe diameter, use 58% loading ratio and for lumps two-thirds pipe diameter, use 44% loading ratio.

Curves

Information relating to curves is equally applicable to horizontal and vertical curves. At the standard panel spacing, curves up to 45° including angle require a curve radius of 300 times pipe diameter with increasing curve radius for up to a 90° turn. Should tighter radii be required, it is possible to reduce the factor to 200 times the pipe diameter by giving additional support to the belt by reducing the panel spacing.

Standard Dimensions

The forming of the belt into a pipe shape results in a comparatively narrow rectangular structure for the Pipe Conveyor with a height/width ratio of 2:1. Table 1 shows the standard panel dimensions together with the spacing between idler panels.

It will be noted that the panel spacing increases with increasing pipe diameter from 1.5m at 150mm diameter to 2.7m at 850mm diameter. For a conventional troughed belt conveyor, carrying idler spacing tends to decrease with increasing belt width and load so that for larger pipe diameters, the number of idlers required can be comparable with a conventional belt conveyor.

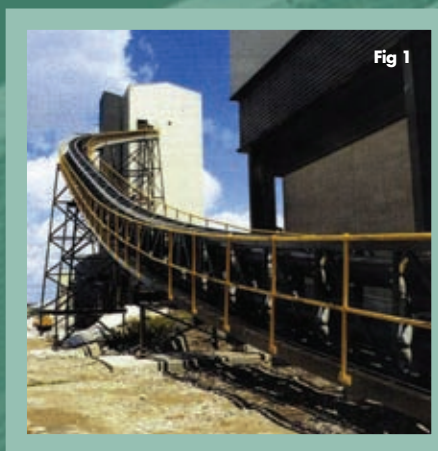




Fig 2

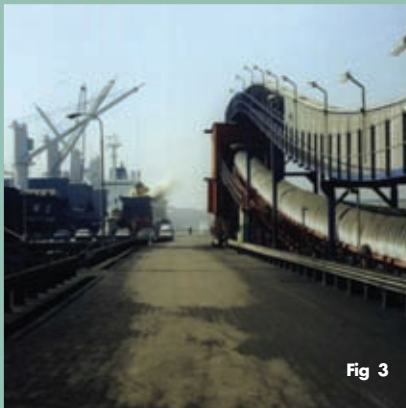


Fig 3



Fig 4

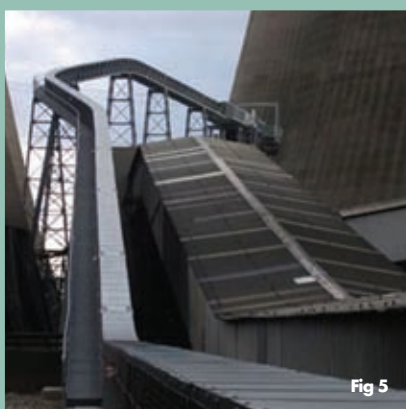


Fig 5

Standard Dimensions

Pipe Dia. (mm)	Idler Panel Dimensions		Idler Panel Spacing (m)
	Width (mm)	Height (mm)	
150	400	800	1.5
200	450	900	1.6
250	580	1160	1.7
300	620	1240	1.8
350	700	1400	1.9
400	860	1720	2.0
500	990	1980	2.2
600	1140	2280	2.4
700	1240	2480	2.5
850	1480	2960	2.7

TABLE 1

Belt

Various belts are available to satisfy the need of industry. As well as normal cover compounds these include:

- High temperature
- Oil resistant
- Fire resistant
- Food quality
- Abrasion resistant

The majority of installations use a ply type belt. Materials used in the manufacture are identical to those used on conventional conveyors, the difference being in the construction of the belt. Accurate control of the web strength is critical to ensure the belt is flexible enough to form the pipe shape whilst still maintaining sufficient strength to prevent collapsing, support of the load and resistance of fatigue from flexing. In addition, the plies are closed up at the edges of the belt to reduce edge stiffness, which allows the overlap to form an effective seal.

Limitations on the tensile strength are similar to those on conventional belts, at which point steel cord belts are available for the larger capacity systems. These are designed to give the same pipe forming characteristics as the ply belts with breaker plies being used to maintain the pipe shape.

Idler Roller Construction

The idlers usually have a steel shell construction, fitted with greased-for-life ball bearings. The bearings are protected by labyrinth seals and can be fitted with stone guards. Shell diameter, thickness and size of bearing are determined by the duty and life. To ensure good performance without increasing cost, attention is paid to the concentricity, rolling resistance and roller end float. Special idler rollers are available for the food and chemical industries.

Power

The basic power calculation is based on normal practice for troughed belt conveyors. Additional allowance has to be made for forming and maintaining the pipe shape and traversing any curves. Pipe Conveyors use approximately 10% of the power absorbed by pneumatic systems and in theory 10% to 15% more than a troughed belt conveyor. In practice and depending on the route layout it is sometimes the case where Pipe Conveyor absorbed power is less than that of conventional troughed conveyor.

We attribute this to the following factors:

- 1) The cleaner environment of the enclosed conveyor, leading to less spillage and hence friction from the idlers.
- 2) All the idlers on the hexagon of the Pipe Conveyor are not constantly turning.
- 3) Less sag between idlers, reducing the lifting/lowering and disturbance of the material.
- 4) Less rubber cover indentation.

Conveyor Length

The limitations on the maximum pipe conveyor length is the same as that of conventional conveyors (i.e.) the available belt strengths with some installations being over 5 km. The minimum length is in the order of 20 - 25m.

Maximum Incline Angle

Because of the increased contact area between belt and material, much steeper angles can be negotiated. As a general rule, the pipe conveyor will handle materials on an incline 50% greater than can be achieved with conventional troughed belt conveyors with a maximum incline of 30°.

Advantages.

The main advantages of the system are:

- Ability to negotiate curves of relatively sharp radii (eliminating transfer points).
- Steeper incline angles can be accommodated.
- Enclosure of the transported material.
- Elimination spillage and wind scatter.
- Containment and control of dust.
- Product security.
- No spillage or dust from return belt as this is enclosed.
- Reduction in noise levels.

Dust Control

In the current climate of environmental controls, the pipe conveyor is particularly suitable for the control of dust.

As the belt is formed around the product, the material dust cannot escape therefore reducing contamination of surrounding areas and plant resulting in lower maintenance and clear up costs.

Only at the delivery and receiving ends is it necessary to provide covers to eliminate dust creation when required as these areas are the same as for conventional conveyors. Additionally, when required, dust control filters can be installed at these points to further reduce dust.

Noise

Typically noise levels along the route of a pipe conveyor are lower than for conventional conveyors.

Standard Dimensions

Pipe Dia.	Idler Panel	Dimensions	Idler Panel Spacing
	Width	Height	
mm	mm	mm	m
150	400	800	1.5
200	450	900	1.6
250	580	1160	1.7
300	620	1240	1.8
350	700	1400	1.9
400	860	1720	2.0
500	990	1980	2.2
600	1140	2280	2.4
700	1240	2480	2.5
850	1480	2960	2.7

Typical Applications

A number of installations around the world carrying a variety of materials but they all have common requirements to carry the material securely or to accommodate difficult routing.

High Angle/Curved Conveying

A large glass manufacturer had the need to increase its capacity by building a new float glass line. The flexibility of the pipe system allowed them to overcome geographical problems in routing the raw materials handling system. (Fig 1)

The system employed three 250mm diameter Pipe Conveyors, the first carrying sand and dolomite at a rate of 100 tph. The conveyor has two feed points that are sealed and dust-free. Once in the pipe shape, the conveyor negotiates a tight "S" bend, inclined at 20° and enters the batch plant in line with the mixing equipment. This keeps the installation compact and eliminates spillage and transfer points.

The two other conveyors have capacities up to 200 tph and adopt the curved features of Pipe Conveyors to clear fixed obstacles along their route. Both have additional charge points, with cullet (broken glass) being added at one of these points.

Cement Industry Case.

In 1995 a system was commissioned to undertake a cement and clinker pipe conveyor by Blue Circle industries for their Port Ventanas import facility in Chile (Fig 2 and Fig 3).

The system being 1100 meters long and handling 1000 tonnes per hour of clinker or 800tph of cement was chosen to:

- a) Reduce spillage and contamination of the surrounding area
- b) To negotiate with one conveyor the required route.
- c) To reduce the required manpower for the operation.

Power Industry Case.

One of the latest projects was for the supply of 2 off 300mm diameter biomass handling pipe conveyors at Ferrybridge Power Station, UK. (Fig 4 and 5). The system comprises of 1 pipe conveyor 471 m long and 1 pipe conveyor 223m to handle. 350 cubic meters per hour of biomass (wood pellets) from a lorry reception building to the power station in-feed.

The pipe conveyor was selected for its ability to negotiate the route without additional transfer points and to maintain a dust free local environment by using the enclosed system.

The system will be commissioned during the summer of 2006 then contributing to the power production using alternative fuels.

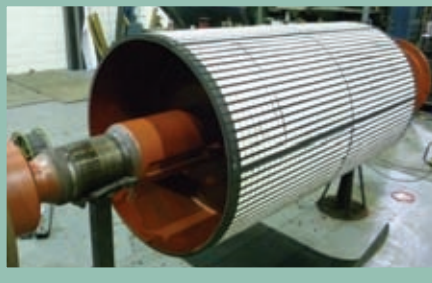
Operating in a diverse range of industries it offers alternative solutions to material handling problems. It is expected that the requirement for this mode of materials transport will continue to grow in the future with environmental planning becoming more of an issue.

MG Industries (MGI) - Market leader in spillage control

Established in 2003, MGI originally launched supplying just belt cleaners. Over the past ten years, MGI has grown to offer, supply and install full spillage control packages for conveyor systems.

Based in a central location in South Yorkshire, MGI are able to supply a wide range of industries. These include steel works, power generation companies, quarries/concrete, recycling, ports, chemical works, mining, fertilizer plants, OEM's and exports.

Over the years MGI has been able to secure various exclusive distributorships for UK and Ireland. These include the Belle Banne belt cleaner range, Rollax tracker roller, Centrax tracker systems, Spillex skirting system and Friflo impact beds. Since 2012 this has extended to have the Belle Banne Ceramic Range.



New & innovative products

Constantly looking for new and innovative products MGI have recently launched a new ceramic range which includes ceramic auto-claved conveyor drums; the only company in the UK to offer this service.

Other ceramic products include ceramic liner plates which consist of ceramic hot-bonded to rubber, then bonded to a steel plate with a fixing stud included. This

method allows customers to change the liners without the need to use cement as in the conventional way. The inclusion of the rubber element also acts as a shock absorber, ensuring that the ceramic does not shatter and fall off.

Customer Service

MGI are based upon principles of trust, quality products and excellent customer service. MGI work closely with their customers to deliver bespoke solutions for maximum results. Their fully equipped service team has extensive health and safety training which allows them to work on-site for customers all over the UK and Ireland.

MGI hold extensive stock which enables immediate delivery for the majority of products. This reduces down time and maximises efficiency for the customer.

Over the coming years, MGI are firmly committed to expanding their product range, developing their team, maintaining service levels to existing customers and developing new markets.

 www.hub-4.com/directory/15549

Market leader in spillage control



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Conveyor drive drum from a steel manufacturer

Ceramic lagging BEFORE



Ceramic lagging AFTER



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Get the conveyor right

Feed conveyors are frequently an afterthought, especially where balers are concerned, cautions Mark Smith of Middleton Engineering. There are a number of important factors to consider and careful planning is needed to ensure productivity isn't compromised

You've chosen the right baler, thought about your tying options, and negotiated a great price. Job done? Not necessarily. If you haven't considered the right feed conveyor at this stage you might be jeopardizing your productivity and wasting some of your investment.

A shiny new baler won't deliver uniform, well compacted and consistent bales of material unless the feed conveyor is up to the job. It must be robust enough for your environment, and designed to deliver a smooth and consistent flow of material to feed your production process. Reliability is also important. The last thing you want is constant shut downs as this inevitably stops everything.

So, planning for your conveyor from the outset is crucial. A proper assessment of your site should cover the type and range of materials you will be processing, the weight and volume you expect to handle, as well as the available working space and electrical supply. All of these will impact upon the design and type of conveyor used. A reputable firm should be able to provide expert advice, and an essential site visit.





Your options could include slider-bed, steel slat or rubber belt, chain driven, inclined, swan neck, fully enclosed, or in floor designs. It might need to be curved or straight, automatic, computer or operator controlled, fully integrated or stand-alone. Achieving a continuous and even flow of material will also depend on factors like belt width, motor sizes - powerful enough to handle the weight of the material to be conveyed - and control systems used.

The temptation to fit a low cost standard option might provide initial savings but it's unlikely to deliver the overall performance you expect and is more likely to result in frustration and downtime. Bespoke solutions designed and tuned for your specific environment are nearly always superior, and in the long run guarantee to be more cost effective and safer to use.

With the right design, a conveyor will feed material at the optimal rate for your process at a volume and speed that matches other machines or processes. The right conveyor ensures material is loaded efficiently each time - with the highest bale quality and an efficient production environment.

Haphazard intermittent filling by contrast, using a grab bucket or manual method, will cause jams and downtime. Filling in this way will never keep up with the capacity of a modern baler and rarely makes sense.

Generally control systems and telemetry should link each piece of machinery so that they work smoothly and harmoniously as one. It is important, therefore, that your supplier is equally competent with both the mechanical and software aspects of your chosen solution. Do check that commissioning, testing and tuning are all provided as part of the service.

Safety systems are also important and designs that include operator detection features offer the best peace of mind. That way if an operative falls into the conveyor, a detector will rapidly shut the machine down.

Safe access to clean and clear debris, and for inspection and maintenance, should also be considered. And it should be quick and easy to clear jams. Other design options might cover dust control, incline angle, loading pit requirements, chain oilers to prolong life as well as safety guards and emergency stop systems.

The humble conveyor is actually more complex than you think and there's certainly a lot more to consider when selecting the right options for your waste environment. Choosing the right partner can make all the difference.

Mark Smith is technical director at Middleton Engineering.



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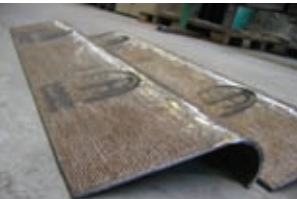
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