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Issue 26



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Continuing decline in landfill proposals

Of all planning applications submitted during 2012 for new waste facilities, just 5% related to landfill. This confirms the steady decline in this sector, with waste increasingly treated at other facilities. This conclusion comes from BDS Marketing Research Ltd, which monitors planning applications and consents for all waste facilities, on a daily basis.

'When we first started monitoring proposals for new waste facilities, over 20 years ago, the vast majority referred to landfill', said Julian Clapp, principal consultant at BDS.

Of the consents that were granted at landfill sites, typically these related to time extensions, rather than expansion of void space. Planning permissions for additional void at landfill sites taking municipal waste are now rare.

Over a half of planning consents granted in 2012 related to MRF's and other recycling facilities, and transfer stations. These are either new facilities or extensions to existing sites.

The growth of anaerobic digestion facilities is also confirmed in the latest figures, representing over 10% of waste facilities.

Waste management companies continue to be largely successful in obtaining consent for new facilities. Out of around 800 planning applications picked up by BDS during 2012, over a half were consented. A quarter remain to be decided, whilst 15% were either refused or withdrawn.

www.bdsmarketing.co.uk



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Summer 2013

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£3 million investment by CMS Cepcor brings new opportunities into play

£3 million investment by CMS Cepcor brings new opportunities into play.

With a new Technical Centre recently opened at the Coalville based company Crusher Manganese Steels Ltd (CMS Cepcor), David Roberts from the HUB went along to see for himself, and chat to the MD - Matthew Weare and the Technical Director - Chris Sydenham.

Walking into the new Technical Centre is somewhat awe inspiring; it's quite obvious that the company has made a substantial investment in new premises, and CNC manufacturing capability.

What this investment has provided is a further enhancement of their manufacturing, inspection and repair facilities, offering a greatly improved manufacturing efficiency for the company.

David caught up with Matthew Weare first and asked him some questions...

DR: Matthew could you tell our readers a little about the business and how it all began?

MW: CMS Cepcor has always been a specialist manufacturer of crusher parts, but in the early days we were very much based around manganese and wear components and over the last 25 years we have evolved into a business that looks at the manufacturing area. This encompasses a close involvement with our customers to maximise performance and minimise downtime.

DR: Can you give our readers an outline of how you have grown over the past few years?

MW: Over the last few years export has become far more of a focus of our business, especially with the increase in the mining activities both in Russia and West Africa. As our business has grown in reputation, the range of products we supply and our customer base has expanded dramatically.

DR: Which countries are you currently supplying?

MW: West Africa is a core market for us with all the gold mining; iron ore in Russia, but now South America is becoming more of a target market as well and as our business reputation grows we are constantly finding new customers all the time.

The Queens Award

Winning an award for outstanding achievement in International Trade, CMS Cepcor exported to over 450 customers in 88 countries over the 3 year period covered by the application. Despite the worldwide economic recession and credit crisis, export turnover increased by 16% in 2010 and then a further increase of 58% in 2011. Now exporting to over 100 countries, CMS Cepcor's turnover in the financial year ending April 2012 exceeded £21 million, a further 20% growth. This success was a result of having refocused its export sales strategy on new markets, particularly in Africa, Europe and the Americas.

DR: Matthew can you tell me a little bit more about the recent Queens Award.

MW: The QA is a fantastic recognition for the business, the percentage growth over the last three years in the business recognised by the award is a great recommendation and also a platform for the business to grow further in the overseas market.

DR: In terms of your growth over the last 12 months how do your sales compare with the previous year?

MW: Our sales have continued to increase and in our financial year ending April 2013 we are at £24 million which again is building on the success and also the growth of further overseas markets.

DR: Are there any more markets you are actively trying to penetrate at the moment?

MW: Our reputation for quality components appears to be very popular within Mining Groups so South America and also more customers in West Africa seem to be in contact all the time.

DR: How do you service these overseas clients?

MW: We do have a network but we also believe in meeting customers' 'face-to-face' so we have specialist engineers who visit these territories and see the application and advise on the best way we can maximise the performance of the plant and consequently minimise any downtime.



TECHNICAL CENTRE





DR: Could you explain how the business will expand over the next few years?

MW: With the new technical centre now fully operational it allows us far more control over manufacture enabling us to focus on some of the large components we need to make for mining groups. Also work to customers' deadlines on break downs where we need a quick turnaround of components, because in all the areas of the business we demand total control in-house, so we can maximise service performance.



The new Technical Centre

As Technical Director Chris Sydenham is the guy to speak to regarding the new facility, David caught up with him on his usual busy day...

DR: Chris could you tell our readers about the new technical centre and how it became about?

CS: Our new technical centre is an expansion of our manufacturing. We previously manufactured at Burton-on-Trent where the facilities were fairly small, therefore the

subsequent purchase of this building and the relocation of all our manufacturing here meant that we could install additional machines to support the growing market we have for our parts.

DR: What size is the new facility?

CS: In total the new facility is 30,000 sq.ft. which includes our offices. Although presently some of it is used for storage, we can see in the future that all of it will be used for manufacturing.

DR: What size of investment have you made in this?

CS: We have invested over £3 million in the new technical centre which included the installation of new machines and remedial work to the building which we had to do to ensure a high quality finish to the facility. The investment doesn't stop there because in the next 3 years we will undoubtedly be installing more new CNC machines again to support our ever increasing demand for parts.

DR: Could you tell me what the facilities are for and what capability you have?

CS: Generally we are just machining here, we have a combination of CNC machine tools all very modern and most of them new. And we have some old traditional manual machines which we generally use for repairs and for bigger machining work. The new CNC machines are generally used for production of new parts and precision machining, not just limited to our industry, Quarrying and Mining, but also to do sub contract work for other industries. We are already doing some work for Oil and Gas, Petrochemical and a whole rake of other industries and equally we hope to expand that to Aerospace and other sectors in the future.

DR: Chris could you tell me about your team and the investment you make in them?

CS: Obviously a lot of our staff came over from Burton where the business was originally operating, so we have retained the majority of them who are already highly skilled engineers. Additionally, we have taken on two new fully skilled CNC machinists whilst the business has been at Coalville, and have also just started a new apprenticeship scheme.



Listen to the audio interview at -
<http://www.hub-4.com/directory/1761>

The new E-Series - where 'E' is for **EVOLUTION**



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HM Plant Hitachi invest in an exciting partnership with Coleg Menai

HM Plant are delighted to confirm they have made a significant and exciting partnership with Coleg Menai (Menai College) in Wales that will not only benefit the college's students, but help play a pivotal role in kick-starting the regeneration of the local and regional economy.

Coleg Menai's newly purpose-built, Heavy Plant Training Centre, based at the Llangefni Campus, have just taken delivery of three brand new, heavy earth moving machines from Hitachi's new, eco and fuel efficient, dash five range of excavators. Hitachi owned HM Plant have loaned the machines (including the ZX135US-5, ZX48U-5 and ZX225USR-5) as part of their ongoing commitment to working with local organisations to ensure an effective local supply chain is ready to be employed for major infrastructure projects proposed for Anglesey over the coming years, including the building of a new nuclear power station at Wylfa by Horizon Nuclear Power, which is a wholly owned subsidiary of Hitachi Ltd.

Mr Motsomu Sue, Vice President of HM Plant said: "These machines are fully equipped with Hitachi's advanced technology in both Hydraulics & Electronics, along with engines featuring the latest environmental emission requirements. Therefore they fit perfectly into Coleg Menai's commitment to providing the training in technology required for industry now, and in the years to come. Hitachi's motto is 'Inspire the Next', and through our partnership with Coleg Menai, we aim to help inspire the next generation through our technology."

The high specification machines will be used to train local people in the skills needed to commence work on major construction projects on Anglesey and beyond.

The Welsh Government's Deputy Minister for Skills and Technology, Jeff Cuthbert AM spoke of his admiration for the success of the partnership between public and private sectors: "I'm extremely pleased to see how well the partners have worked together".

"I am very grateful to Hitachi, through Hitachi Construction Machinery and HM Plant, for their readiness to deliver on commitments to support developments in the region.

"Equipping local people with these skills makes an even stronger case for investment."

Metso is launching the new ESF mechanical slurry seal for heavy duty slurry pumps

Metso's new innovation helps reduce water consumption in mining process

Metso is launching a new slurry seal to meet the increased sealing demands from its customers. Focus has been to offer a sealing solution that minimizes dilution of sealing water into product, eliminates leakage to atmosphere, increases life time of the seal by preventing slurry from entering the seal chamber and allows easy conversion from box packing solutions to mechanical seal solutions.



Metso's new ESF design seals satisfy the demand for advanced and reliable sealing solutions on even the heaviest of slurry applications typically found in mining applications. Customers are requesting to install mechanical seals into tougher and tougher applications due to environmental reasons and to satisfy the goal of reducing water consumption. To satisfy these requirements it was necessary to develop new seals to perform to their expectations.

Slurry pumps designed for long life, easy installation and maintenance.

Metso's proven slurry pump ranges are known for their long life, high operational performance with minimum power consumption and total ease of service.

Main features and benefits of the mechanical slurry seal ESF:

- The ESF seal is designed to fit into the standard Orion Series pump flushed gland housing. For the VASA HD a convenient seal adaptor is used
- Cartridge design makes it easy to install
- Retrofit installations are quick and easy when converting a packed seal pump. "Plug-and-play"
- Tungsten Carbide seal faces are standard and provides longer life for the tougher applications
- Flushed gland port along with the internal chamber creates a barrier of clean continuously replenished fluid to prevent incursion of slurry material to the seal faces which increases service life of the seal
- Centering clips are self storing and are used to keep the seal faces in position when impeller to casing clearance is adjusted
- Radial lip seal to ensure that the seal runs in a clean water environment
- O-ring mounted seal faces that can be replaced in the field without special tools reduces repair cost



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VOLVO CONSTRUCTION EQUIPMENT



Report says lack of finance is crippling the UK innovation 91% of UK SMEs failing to undertake any new product development

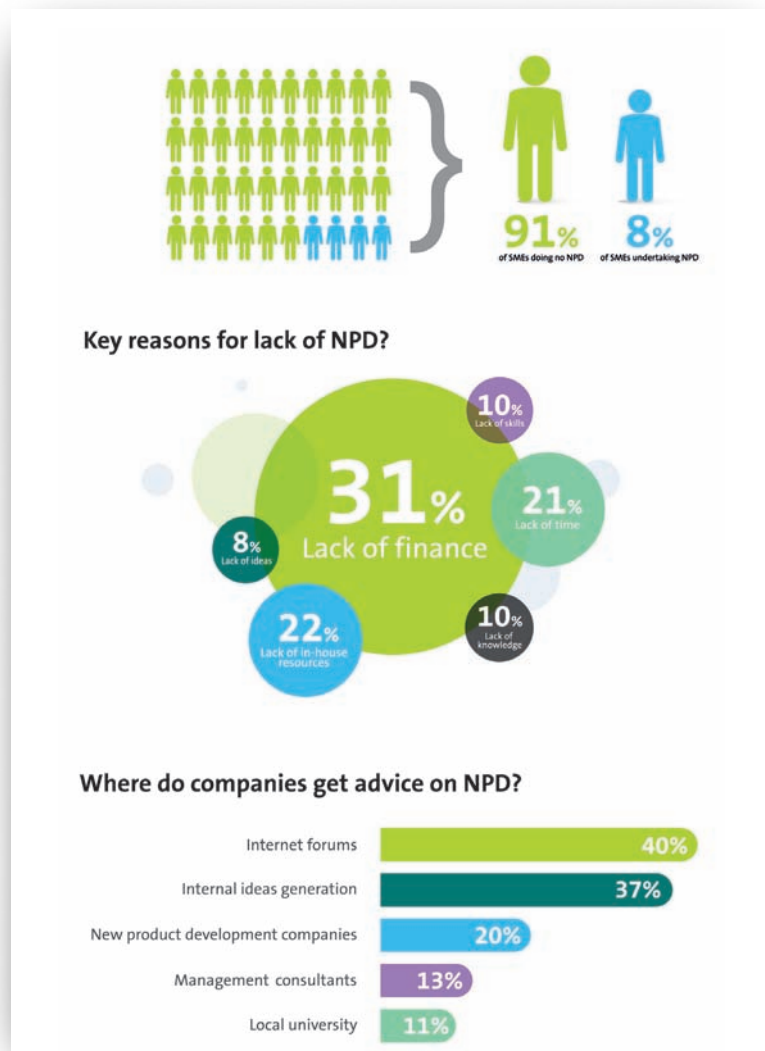
Financial constraints are crippling new product development amongst the UK's SME base with engineering and technology companies particularly badly affected.

The research, commissioned by new product development contractor, Pera Technology shows that a massive 91% of SMEs are failing to innovate via new product development (NPD) or commercial research, which potentially has severe implications for the UK's economic recovery and competitiveness.

The research reveals that only 8% of SMEs and only 2% of manufacturing and technology SMEs, are doing any product development or research, with lack of finance (31%) being cited as the main reason. Other reasons given include a lack of in-house resources (22%) and then lack of time (21%). Other reasons innovation has stalled are a lack of knowledge (10%), lack of skills (10%) and lastly, a lack of ideas (8%).

Pera Technology's commercial director, Dr Mark Wareing says: "The research paints a very worrying picture of a key sector of the economy failing to innovate because of outside pressures, such as finance. The implications for UK competitiveness are profound."

He continues: "This is bad news if we are hoping that small businesses and in particular manufacturing and engineering companies will lead the economic recovery and genuinely rebalance the economy. If businesses fail to innovate then the UK will become less competitive in the long term. It is clear that the squeeze on lending is having an effect beyond day to day operations and beginning to impact on longer term strategy. NPD can be risky and expensive and it is clear that the UK's SME base is not being given the support it needs."



"The good news is that the barriers to new product development are easy to overcome. We know that all sorts of funding for research can be come by if only SMEs know where to look. Traditional bank finance is not the only option."

"Also, harnessing external intellectual resources can wipe out many of the other barriers to research at minimal cost if available grant schemes are properly harnessed."

The survey also asked where companies would get advice on new product development and 40% of them said they would look to internet forums to get ideas, with 37% generating ideas internally. New product development companies would be the first port of call for 20% with management consultants attracting 13%. Only 11% would contact their local university.

Dr Wareing continues: "I wasn't surprised that there seemed to be a lot of confusion about where to go to get advice on NPD. But as not many are actually undertaking any research at the moment, the methods of getting advice are obviously failing. What Pera Technology will be doing is reaching out to SMEs and educating them about all the possibilities for reducing the barriers to innovation and help them secure both finance and ideas for the future."

This is the first Research Monitor from Pera Technology. The Pera Technology Research Monitor will be conducted annually to map new product develop and research intentions of SMES.



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SAMSON Materials Handling Ltd. goes ahead with ScreenMasters in Australia



In 2012 SAMSON Materials Handling's search for a state of the art dealer for its comprehensive range of mobile handling equipment for the Australian market culminated in an agreement being reached between SAMSON Materials Handling, Ely, England, and ScreenMasters Australia Pty Ltd.

The desire to appoint a Dealer representative in this highly important and also geographically vast territory stemmed from the strong local culture in surface mining and the mining customers' high expectation for unit sales from stock, significant local specialist support and robust parts and aftermarket support on a 24 hour, 7 day a week basis.

Established in 1995, ScreenMasters Australia Pty Ltd are now the dealer for some of the world's largest manufacturers of track mounted crushing and screening equipment - a business with significant synergies for the Samson™ Material Feeder, the Stormajor™ Boom

Feeder, the Link Conveyor and the Telescopic Conveyor. ScreenMasters head office is located in Bathurst, NSW, the Queensland office is located in Ormeau and the newly completed Sydney warehouse is located at Wetherill Park.

The logic applied at ScreenMasters is twofold - They represent OEM's that want to work with their customers and help them to develop a strong and profitable business and in parallel they understand that excellence in Aftersales provision is key. Fundamental to our joint success has been the desire for ScreenMasters to invest locally in a dedicated resource to sell the SAMSON brand and Laurence McCurdy joined there business in 2013 to focus on SAMSON. Since the signing of the Distributor agreement Samson MH and Screenmasters have collaborated closely on the development and specifications of market specific standard products, the first two of which are now on order. SAMSON's standard products that will be available for sale not just via ScreenMasters but through the complete SMH sales network worldwide.

Both units, a Telescopic conveyor TC1030 and a Stormajor™ Boom Feeder BF0415T are the first of their kind and now in production in the UK. The units will be delivered in Quarter III, 2013 and become the basis of the full launch of the SAMSON standard product range through ScreenMasters into Australia's demanding market.



www.hub-4.com/directory/13271



New Shredder will Revolutionise Srf Market

Shredder specialists Mach Tech Services Ltd has unveiled the latest addition to its Komet Range.

The newest addition to the already proven range of Komet and Power Komet SRF shredders is capable of producing cement kiln grade SRF at 18 tonnes per hour. It utilizes a 35mm screen and gives an output size of minus 30mm. Screen sizes can easily be increased and will enhance performance.



Developed by world-class shredder manufacturers Lindner Recycling Technology of Austria, the newest Komet has been exhaustively tested for the past two years at a German waste company.

Martin Davies, Sales Manager for Lancashire-based Mach Tech Services Ltd, said: "The launch of the new Komet will transform SRF production in the UK. This machine has to be seen to be believed. Nothing can touch it on throughput."

Mach Tech Services specialise in providing the full range of Lindner shredders, covering all recycling markets. For more information visit www.machtechservices.com or call 01706 838246.

 www.hub-4.com/directory/8716



Ruukki adds to its range of Raex wear-resistant steels for all applications requiring up to 80mm thick heavy plate.

Ruukki can now supply steels for all applications requiring wear-resistant special steels. Ruukki Raex special steel can withstand wear and surface pressure and the range has now been expanded to include the thicker wear-resistant steels needed, for example, in the mining industry. Raex special steel is made in a range of thicknesses from 2 mm to 80 mm.

The new thicker Raex wear-resistant steels up to 80 mm can be used, among other things, to manufacture parts for heavy machinery and equipment designed for excavation, loading, transporting and crushing ore in mines. Such parts include the buckets for excavators and front-end loaders, tipper bodies for heavy earthmoving machinery, mine conveyor systems, crushers, silos and hoppers. The thinner grades in the Raex wear-resistant steel product family have already been used for years in the transportation industry and other applications where a strong, wear resistant steel is needed.

The consistent quality of Raex steels significantly prolongs the lifetime of mining industry machinery and equipment. Products with a longer lifetime mean cost benefits and competitiveness for the end user. Choosing the optimum thickness of Raex wear-resistant steel in the manufacture of buckets and tipper bodies, for instance, can help to reduce the overall weight of the equipment itself and thus increase the payload, which in turn cuts fuel consumption.

Raex wear-resistant steels have been developed together with Ruukki customers and have excellent cutting, bending and welding properties. Made using a direct quenching method developed by Ruukki, Raex wear-resistant steels have a hard steel surface and strong microstructure. The method improves the properties of wear-resistant steels and makes them consistent in quality.

 www.hub-4.com/directory/12746

New dynamic website for BG Europa

BG Europa (UK) Ltd was established in 1988 from the Barber Greene England company following Barber Greene's acquisition by Astec. Technology and expertise existing within Barber Greene at that time was incorporated within BG Europa (UK) Ltd. This expertise has been utilised to develop equipment integrating new technologies whilst retaining the traditional quality and dependability of Barber Greene. In 1994 BG Europa (UK) Ltd moved to new 800m² purpose built premises in Wickhambrook, Suffolk, England. Only 10 miles from Bury St Edmunds, the home of Barber Greene England, the move allowed integration of the design office, spares department and stores whilst retaining links with local suppliers.

BG Europa (UK) Ltd is a family owned business providing customers with quality equipment offering low operational costs and long life expectancy at competitive prices. The importance placed on in-house engineering expertise allows BGE to bespoke all equipment to exactly match customers' requirements.



New corporate website

The new website takes advantage of the latest Content Management System (CMS) tools to create a dynamic new appearance that provides online visitors quick and efficient access to up-to-date industry news.

The site was designed by John Vincent Marketing Services, an industry based specialist in Marketing, PR and Website Development. John Vincent - Director, commented "We were delighted to be asked by BGE to design and develop their high-profile news presence. Use of the bespoke CMS will make content updating much easier. Its user-friendly interface will allow creation of new pages or edit existing content, easily and quickly by in-house staff."

Their new website reflects their agency agreements with Astec, Ullrich and most recently Lintec for the UK agency for their Containerised Asphalt and Concrete Plants.

The easy to navigate site menu allows the viewer to search the full portfolio of products and services that BG Europa market to the Bulk Handling Industry. The new dynamic site also showcases the success of BGE and their high profile projects within the Quarrying and Recycling sectors.

 www.hub-4.com/directory/114



Sideflex a new concept to an age old problem of sidewall damage to haul trucks

Erlau AG founded in 1828 in Aalen is a subsidiary of the RUD Group and a leading manufacturer and supplier of tyre protection chains and outdoor furniture.

RUD-Erlau have been producing and protecting tyres with their innovative chains for over 70 years. Tyre chains have worked well for wheeled loaders, bulldozers & graders but are not economically viable for haul trucks. TPC chains will not work for haul trucks due to the long distances they travel, weight considerations and increased fuel costs.

Anyone in the industry knows the continuous vulnerability truck tyres face to sidewall damage from haul road rock debris and accidental impact. Tyre protection chains are simply not compatible; slow the trucks down, raise fuel consumption, damage to tyres through blowouts and delays in production time.

A solution was needed: Sideflex was the answer the first cost effective sidewall protection for haul truck tyres.

Sideflex is simple in concept and installation, it does what it says it does, offers maximum sidewall protection for haul truck tyres. It comprises a robust set of wheel nuts and extensions supporting a flat ring to which is attached to a fanned array of overlapping platelets. In working action the platelets shield the entire sidewall and deflect the problematic rock debris that commonly pierces the sidewall rendering the tyre useless and immobilising the truck.

The mounting components are made of steel and the all-important and impressive Sideflex shield is manufactured from a sophisticated engineering polymer. The robust and innovative material offers a great degree of capability which enables the platelets to flex and deform upon impact and then return to their original shape time after time.

Sideflex is such an innovative product, it offers numerous advantages to the user, is easy to use and is extremely lightweight which means that for the first time there are solutions to dump truck owners that are cost effective, fully proved and patented.

Sideflex is a brand new concept providing a viable solution to an age old problem of sidewall damage to haul trucks download our brochure for more information <http://ow.ly/d/1cXD>

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The new eccentric rotor of Eriez RevX-E® eddy current separator offers the greatest “fines” recovery

Eriez, world leading authority in magnetic separation announce the release a new rotor design for its RevX-E® eddy current separator, Eriez' most recent addition to its extensive line of recycling equipment. The new design of the eccentric magnetic rotor brings the greatest recovery of valuable non ferrous metals for application in automobile shredding, glass cullet, plastics, electronic scrap, co-mingled recyclable, wood and incineration ash applications.



Resulting from extensive research and development, the Eriez eccentric rotor design offers the highest performance on the market in terms of material displacement and reliability. Eriez new eddy current rotor has been proven by independent third-party testing to throw aluminium “fines” nearly 20% farther than the leading supplier of eccentric eddy current separator. This ensures a high recovery of valuable metals that would normally go to landfill as well as allowing the end user to have a high grade metal product.

The new ECS design features a smaller diameter magnetic rotor offset at the top of a larger outer shell. The strong eddy current then repels the non-ferrous parts (aluminium, copper, brass, zinc) with the maximum efficiency whilst allowing the release of ferrous particles from the belt. This is critical to ensure that the eddy current separator remains reliable.

The change in rotor design and overall improvements in the Eriez RevX-E eddy current separator creates several advantages and benefits such as:

- Rare Earth rotor produces a powerful focused field, allowing greater recovery of non ferrous metal
- Rotor position is adjustable for optimum separation
- Eccentric design reduces long-term wear from ferrous accumulation on the belt
- Compact design requires less space and is easier to install in most plant operations
- Access panels are conveniently located for easy servicing

Eriez manufactures two styles of eccentric ECS, one for fine material typically smaller than 25mm and a second unit designed for more coarse material over 25mm up to 150mm. Although the selection of eddy current separators depends on so many factors such as product size, percentage of conductive material, product temperature, throughput of the machine, etc. that Eriez experienced engineering team work with the recycler to ensure the most efficient is specified for the application.

Eriez Europe will be presented and demonstrating the RevX-E equipped with the new rotor on its stand 19P19-N18 at the RWM show in Birmingham - September 9-12, 2013. Further information including a video can be found at <http://en-gb.eriez.com/Products/Index/Eccentriceddycurrentseparatorrevxe™>

 www.hub-4.com/directory/280

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Weir Minerals toasts £2.5m of new orders in Turkey following infrastructure investment.

Weir Minerals' operation in Turkey has announced a strong performance at the start of 2013, securing £2.5 million in new orders since the opening of its first sales and service centre in the country.

The company launched the 600 sq m facility in the south of Istanbul province in October last year to provide enhanced customer support and faster delivery of equipment, spare parts and maintenance services to its customers across the region.

Tony G. Locke, managing director of Weir Minerals Europe, said: "This is an early indication that our strategy of getting closer to our customers by providing a greater level of sales and technical support on the ground is the right one.

"It is encouraging that our growth comes from a large number of orders from customers that vary widely in terms of size, industrial sector and geographical location - a strong indication that we are building a sustainable customer base in Turkey."

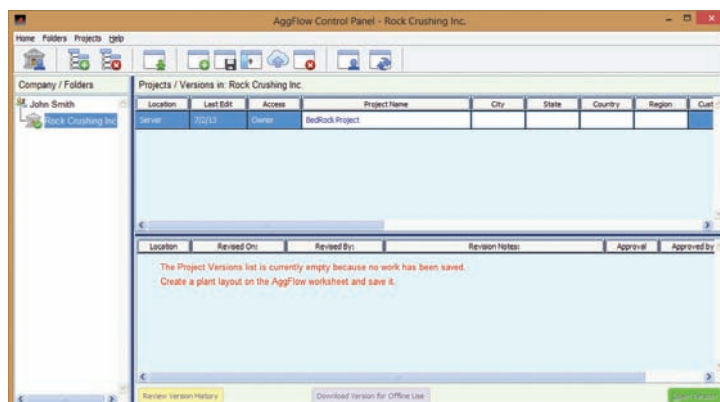
Weir Minerals supports some of the largest businesses in the Turkish mining and aggregate industries, including contractor Tekfen, which last year ordered £8.6 million of equipment from the business for deployment on a £10m (12.5m) 200km-long pipeline project in Morocco.

The company has supplied pumps and equipment to the mining and aggregates industries in Turkey for over 20 years, mostly via third-party distributors, but now provides direct sales and support to customers through both its Istanbul centre and a team of mobile sales and service operatives.

 www.hub-4.com/directory/507

Portafill

In issue 25 we inadvertently published the incorrect advertisement and consequently the print quality wasn't to our usual standard.



BedRock Software Announces New Program: AggFlowDM

After more than three years of development, BedRock Software, LLC (BedRock) has announced the latest version of its popular AggFlow program. The new program version represents a completely new generation of simulation software to manage and optimize a quarry, mine or aggregate plant operation. The new program, called AggFlow Design and Manage ("AggFlowDM") is now available. AggFlowDM is a hybrid program that allows users to work on-line or off-line and to share projects with other users at will. The sharing capabilities allow aggregate process engineers, consultants and equipment dealers to work most effectively and efficiently when developing plant optimization strategy.



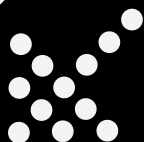
AggFlow users can use the simulation to accurately determine optimal production capacity for a particular equipment configuration; then input field sample data into the simulation to compare what the operation is actually producing to its theoretical capability. By identifying areas where actual production varies significantly from

theoretical capacities, process engineers can identify and eliminate bottlenecks and inefficiencies in the operation. AggFlow is also used to design new equipment applications to ensure the proposed equipment will meet installation requirements.

AggFlowDM takes this functionality one step further by providing users the ability to share simulations on-line and to store plant and equipment data in a private database. "The flexibility AggFlowDM provides will have an exponential impact on our customer's ability to develop and share project simulations. Both the sharing and database storage capabilities will greatly enhance their ability to optimize and maximize plant production," said Robert Teller, Managing Partner of BedRock.

Beginning in July, 2013 all new program users will be provided with AggFlowDM, and all current AggFlow users will be able to upgrade to AggFlowDM free of charge. BedRock has been providing AggFlow to the global aggregate industry since 1993 and currently has program users in more than 128 countries.

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A History of Innovation - Miller International Celebrate 35 Years of Success

It all began back in 1978 when Keith Miller started out as a sole trading mobile welding engineer. At just 21 Keith had left a steady job to try and build a bucket repair business. It wasn't long however before the reputation for the quality and service of Keith's work had spread, and the demands for his services had grown and Miller International as we know it today was born.

35 years later with several significant milestones and a recent award of an MBE to Jacqui Miller the HUB magazine decided to pay a visit and talk to the team who have been the power behind the success.

A family team

Following Keith in 1979, his brother Gary, aged just 18, joined him and together they operated out of their rented allotment which cost them a mere £5 a month. With a lot of effort the business quickly grew and they soon purchased their first factory at Tower Street on Newcastle Quayside.

As the years progressed the contracts and the work load increased and the ever ambitious Miller brothers realised to achieve more growth they needed to promote their services outside the region. Participating in their first construction exhibition at the NEC in 1981 the brothers employed the services of their 17-year-old sister Jacqueline in a sales capacity. Such was the success of both the exhibition and Jacqui's sales technique that she joined them on a permanent basis.

The business continued to grow steadily until Miller launched a brand new product in 1987 which would change the shape of its future forever. The combination of a novel idea from New Zealand and Miller's engineering and manufacturing expertise resulted in the design of the first pin pick-up quick coupler - the revolutionary **Mag 7** (so named because it reduced bucket and attachment changeover to a Magnificent 7 seconds) was launched.

Finally in 1994 the company's growth and success was publicly acknowledged with the much coveted 'Barclays Small Business of the Year Award'; a national award recognising excellence in business development in companies with fewer than 50 employees.

Following the success of the **Mag 7** in the UK and involvement with business guru Sir John Harvey Jones the Millers decided on his advice that it was time to 'think European'. The company then participated in its first overseas exhibition, Intermat - Paris, and this 'launched' the innovative quick coupler to the European market which subsequently created interest from all over the globe for this pioneering solution to attachment change-over.

As a result of the success of Intermat in 1994, Miller appointed its first independent overseas distributor in France the following year.

Miller had been looking for an established company with national sales coverage and an excellent reputation, which did not represent any one brand. Miller found this initially with its French distributor and it was only a matter of time before it had established an extensive overseas dealer network.



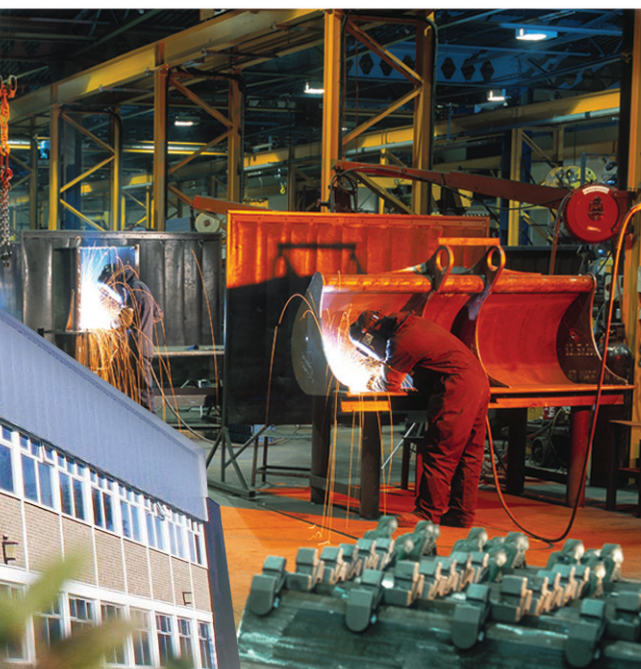


Developing the product

From its first pin pick up quick coupler design in 1989, Miller, ever the innovator, continued to redesign and further develop this product in line with market feedback. The result was the **Bug Quick Coupler** in 1998, yet another market first. This time for two truly unique features: its universal ability to pick up a range of attachments from different machine manufacturers and because the coupler did not require a safety pin, operated solely from the machine's cab it was fully automatic.

Following this new innovation Miller then formed a supply agreement to 'factory fit' quick couplers for a major OEM. This contract meant that Miller had become the supplier of choice to Caterpillar Inc. for its quick coupler requirements. Miller's unique **Bug Coupler** was exported directly to Caterpillar's North American and Japanese machine assembly plants and was branded the **Cat Pin Grabber Plus**.

Further products soon followed with Miller launching the **Scoop Bucket** in 2000. Specifically designed to work with the **Miller Quick Coupler** the **Scoop Bucket** has integrated bucket pins to minimise the loss in break-out force that occurs when a quick coupler is installed. The Scoop's unique profile cuts through the ground more effectively with minimal resistance and drag, while the self-fill action gives an increased pay load.



25th Anniversary

Celebrating its 25th anniversary in 2003 Miller relocated to its current location in Cramlington, Northumberland. This 150,000 ft² facility has allowed the company to further streamline its manufacturing processes and upgrade processes to the latest environmental standards. The building houses 50,000 ft² of indoor warehouse space to accommodate stock levels which ensure a rapid delivery time.

Following five years of research, a Joint Venture was then established in 2004 with a foundry in Northern China and the Company Miller Construction Machinery Co Ltd was formed. This company casts couplers on a large scale and also component coupler parts for the UK operation. This has allowed Miller to supply a more extensive global market and to deliver products that match the demands of the coupler user, namely 'lighter and stronger'.

After significant factory refurbishment and streamlining of production lines and processes at its UK facility, Miller then embarked upon a World Class Manufacturing programme. In recognition of this and Miller's success as both a manufacturer and an exporter, the Cramlington factory was officially opened by both HRH -The Duke of Kent and Sir Digby Jones, CEO of the CBI.

From founder to Chairman

After 28 years in charge of the operational side of the business Keith Miller then moved to the role of Chairman and subsequently appointed the first non-family Managing Director of Miller.

The twelve months between 2006/2007 Miller experienced its best trading period in the company's history and consolidated growth through increased sales to global OEM partners. The company also made significant effort into establishing independent product distribution by the Miller distributor network.

This period also saw a year of extremes with the launch of Miller's **Mini Product** which offered solutions for machines from 1 tonne, and the construction of the colossal EX1200 coupler and the massive EX5500 bucket for 120 tonne, and 550 tonne machines respectively.

Site solutions and 30 years of innovation

In 2007 Miller then launched **Miller Site Solutions**, a new division that analyses customer's individual needs and formulates a strategy to increase productivity. This was a completely different strategy and made the complete Miller product range very accessible offering alternative solutions such as bucket repair and refurbishment.

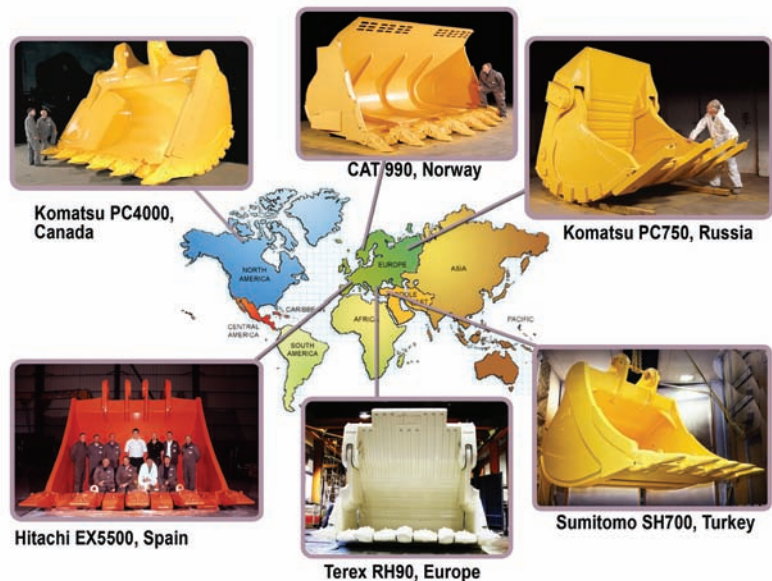
Another milestone for the company was achieved in 2008 and to celebrate 30 years in the business Miller invited customers, friends and family from across the globe to celebrate at their 'Pearl Ball'. The evening was a huge success, especially for their chosen charity the NSPCC, as during the evening funds in excess of £25k was raised by those present. The night was made extra special by the attendance of the prestigious Lord Digby Jones who entertained guests with an insightful speech on the "journey ahead", as well as conducting an interview with the Miller family and very generously giving his entire fee to the NSPCC.

With the unprecedented global financial crisis in 2008, Miller experienced a very bleak two year period. As the construction and associated industries felt the full force of the crisis, their sales plummeted to an all-time low. Survival was very much the order of the day through this exceptionally difficult trading period but due to a fierce determination to survive, in typical Miller style, everyone within the company did their bit to ensure they did just that. Miller and all their employees are now able to look back at this very dark time being immensely proud that they had the energy, courage and resolve to 'ride the storm'.

With a return to increased demand for Miller products in 2011-2012 Miller then turned their attention to emerging as a stronger and leaner business which in essence was a business determined to learn from and implement the necessary changes they had identified during the previous three years.

Appointing the Paladin Group as their master distributor for North American in 2011 to strengthen supply to North American market Miller continued to invest heavily in new product development for ground breaking innovation, which is the very essence of the Miller brand. As a result of this hard work, the first ever twin locking coupler was invented - the **Miller TwinLock**, with the initial design 'morphing' into their flagship coupler, the cast **PowerLatch**. The company also launched the audible and visual coupler operating system **CASS**.

So in 2013 Miller celebrates the 35th year of a very successful business and after attending a highly successful inaugural Plantworx, the company launched the all new product **Miller Mate**, immediately securing significant sales. The **Miller Mate** has been produced for use with a **Miller PowerLatch**, another innovative development aimed at the company's desire to ensure ground workers safety through 'Ground Breaking' innovation.



Why choose Miller Quick Couplers?

- Inventor of the first fully automatic pin pick-up quick coupler, thousands of units working in the field.
- Our customers are at the forefront of every decision we make.
- Quick, safe and clean attachment changeover.
- Compliant with global safety standards.
- The machine manufacturer's choice.
- Maximise machine efficiency.
- Durable - fit and forget design.
- **You're safe & sound with a Miller quick coupler.**

Large Quarrying and Mining Products

Miller was established in 1978 and built its reputation in the quarries and mines throughout the UK before offering its products and services internationally. Now recognised as a world leader in innovative, bespoke designs that add REAL value to the machine user, Miller can guarantee quality products that offer exceptional performance benefits.

Miller is also a recognised leader in the field of excavator buckets and quick couplers with 2 dedicated manufacturing facilities based out of the UK and China.

With over 30 years of experience servicing the quarrying, mining and construction industries, Miller are looking to China for continued growth.

Specialising in delivering versatility through their quick coupler range and productivity through their innovative bucket designs (all the inventions of Miller) they are currently seeking companies who are interested in partnering with Miller in the Shanxi and Hunan provinces of China.



Listen to the audio interview at -
<http://www.hub-4.com/directory/570>

It's a Royal Coupler: Miller Boss Receives MBE at Buckingham Palace



A North East business leader Jacqui Miller collected her MBE from the Queen at Buckingham Palace. Jacqui Miller, Sales and Marketing Director of Cramlington-based Miller International was recognised in the 2013 New Year's Honours List for services to industry and international trade.

Operationally Jacqui is the global Sales and Marketing Director responsible for all group

activities relating to sales and product distribution channels as well as setting and executing the company's marketing strategy. In addition she is a member of the Miller International Board and a shareholder alongside her two siblings.

Jacqui joined Miller in 1981 after the business was established by her big brother Keith in 1978, brother Gary also joined the business in 1979 and from humble beginnings based from an allotment in the North East of England, the business grew from a mobile welding service to an internationally renowned manufacturer of ground breaking innovative products providing significant cost savings to their worldwide customer base.

Jacqui takes her responsibilities to the business very seriously, she is a committed, determined and very inspiring businesswoman.

Jacqui's recent focus has seen her using her individual flair and natural ability to encourage and ignite thought change that are the necessary ingredients required for developing and seeding the Miller product range in the emerging markets of India and China. Such are the challenges in these new markets that only business people with these skillsets will be able to force through the change in behaviour that is required to establish a successful business model that is sustainable for the long term.

Jacqui has been the key driver in seeding the Miller product range in emerging markets of India and China. Relying on her experience in the mid 80's of turning the UK market onto the quick coupler concept, she and the Miller team were intent on revolutionising how machines are now used onsite in most established western markets.

Jacqui is a familiar face, well known throughout the international construction and quarrying industry.

Not content with this, she is pushing the boundaries of other new markets currently actively pursuing positive leads in Australia, the Middle East and Russia. She is also a keen contributor to business growth in general and is passionate about growth within the North East and Great Britain as a whole. Her interest in assisting other small to medium sized businesses see her actively partake in meetings with the UKTI, the CBI, as well as being a member of the Genesis Initiative, specifically aimed at raising current topics and challenges facing small to medium businesses through parliament.

The award is testimony to the hard work, drive, passion and dedication of Jacqui and also the entire Miller team in what is a memorable year in the Company's calendar as 2013 represents its 35th year in business.

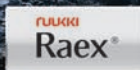


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Longer life wear parts water quenched versus Creusabro® Steels

Abraservice Introduce the Creusabro® Range of Steels at BULK 2013

Presented by: Gilles Gros, Product Manager & Evren Daldal, Sales Director, Abraservice Group.

Over 2 million tonnes of specialist steels are used globally each year for the production of wear resistant parts, and the most commonly used materials are water quenched steels produced by a wide variety of suppliers with known brand names such as Hardox® from SSAB, Dillidur from Dillinger Hütte, Raex® from Ruukki, Abrazo® from Tata, Xar® from Thyssen Krupp, Durostat® from Voestalpine and Abro from Abraservice, who are part of the distribution network of Industeel, a wholly-owned subsidiary of ArcelorMittal Group.

In the fight against wear phenomena, the hardness of a material is a key factor, so in addition to specialist steels, other potential materials are also available such as white cast iron, chromium carbide overlay, nitriding steel and ceramics with hardness's ranging from 400 - 600 HB for wear resistant steels up to 1600 - 2500 HV for ceramics.

However, to produce the wear part geometries required, the materials need to undergo processing such as flame cutting, welding, rolling, bending, drilling, machining or tapping and for this to be successful materials need to be ductile with a minimum of 10 - 12 % elongation. So ceramics can give excellent wear properties but are brittle and difficult to work with, whilst rubbers offer easy working conditions but poor wear resistance at temperatures <80°C. The optimal combination of high strength with elongation is provided by the Creusabro® range, an alternative grade of steel where hardness is intentionally limited at delivery stage for easy processing but the hardening effect occurs (+70 HB) once the parts are subjected to impact or pressure which causes spontaneous atomic rearrangement of the microstructure, known as the TRIP effect.

In addition, by comparison to water quenched steels which can only work up to 250°C before significant softening occurs, Creusabro® grades, due to the significant presence of Cr and Mo, can also maintain their wear resistant mechanical properties up to 450°C, making them suitable for higher temperature applications.

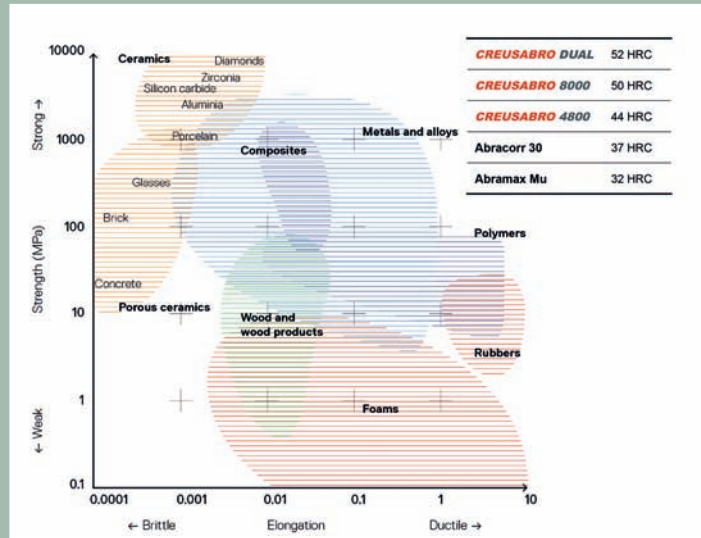


Case Study 1 - Creusabro® 8000® vs industry standard water quenched 450 HB

Location: Chromium Mine, Eti Krom City, Turkey.

A comparative test program was designed to compare the cost of investment for replacement wear edges with the wear life achieved from the components to prove the cost benefits of specialist steel Creusabro® 8000. Mining excavator buckets were fitted with identical bucket wear edges, 30mm in thickness, produced in the two different steels. They were then tested under very harsh abrasive conditions in a side by side comparison program focussing on areas of impact, dragging and sliding within crushed aggregate in two areas mining for chromite (FeCr₂O₄) and ferrochrome alloy (FeCr).

Results: A 20% investment in higher cost wear resistant bucket edges provided an increase in wear life of components of up to an outstanding +92% depending upon the size and density of the aggregate being mined, as well as reducing downtime and significantly increasing periods between maintenance.



Case Study 2 - Creusabro® 4800® vs industry standard water quenched 500 HB

Location: Coal Fire Power Station, Germany.

Wear resistant Creusabro® 4800 has been approved for the manufacture of the injection system and the pipe work which transports the coal powder to the power station furnace. The main square pipe work and the elbows positioned upstream from the burner are manufactured in the same material as the intentionally limited mechanical properties of the Creusabro® 4800 allows the processing and shaping of the geometries required as well as providing the necessary temperature resistance required for the application from 300 - 500°C.

Results: Water quenched materials cannot operate above 250°C, so the wear resistance, ease of processing and working temperature of Creusabro® 4800 all meet the application requirements. As a result of this Creusabro® 4800 has been approved and is in use with power suppliers EON (Germany), ENEL (Italy) and EDF (France).

To read the full presentation given at the BULK 2013 conference by Abraservice, go to the HUB-4 website and find it under the Abraservice UK business profile.

® Creusabro is a registered trademark of Industeel ArcelorMittal.



Watch the video at -
<http://www.hub-4.com/directory/13743>



Think all shredders are the same? Take a closer look

Fercell Weima UK understands the demands of the waste resource processing industry. The increasingly rigorous demands imposed by your clients for consistent best quality recycle, ever tightening operating margins, a business model that is constantly buffeted by local and international government policy changes and of course volatile SCM prices.

Most MRF / BIOMASS type operations rely on shredding technology as the prime mover, tirelessly working at the optimum for long periods of time between maintenance periods to deliver the tonnage for remainder of the plant to operate efficiently and to specification. In short a reliable and industry proven machine design that is robustly built of quality materials, includes the most modern technology along with innovative design features to allow maximum flexibility of input material and of increasingly importance, a high degree of investment future proofing. Top of the bill must be a machine of which can be relied upon to consistently deliver a homogenised precise fraction size output for further sensitive sorting and separation - period.

Fercell Weima UK shredder technology remains the preferred choice and with more than 25,000 global applications out there supported by an after sales customer support team second to none it is little wonder others struggle to live up to such high standards.

This industry's shredder technology requirement, in essence, falls into three main categories from evolved from more than 35 years industry experience of working with customers to develop three distinct machine categories to include within these categories the broad option variance to enable bespoke application flexibility. These categories are; Ecoline, PowerLine and FineCut.

Designed to cover all processing stages within the recycling material processing arena, these machines can be adapted during the design/manufacture process to a client's specific requirement integrating the numerous optional extras available thereby delivering the optimum performance machine to application need.

Shredding in many plants involves both a primary and secondary function. Weima offer both as well as granulation systems for plastics and the more novel materials recovery application such as rubber.

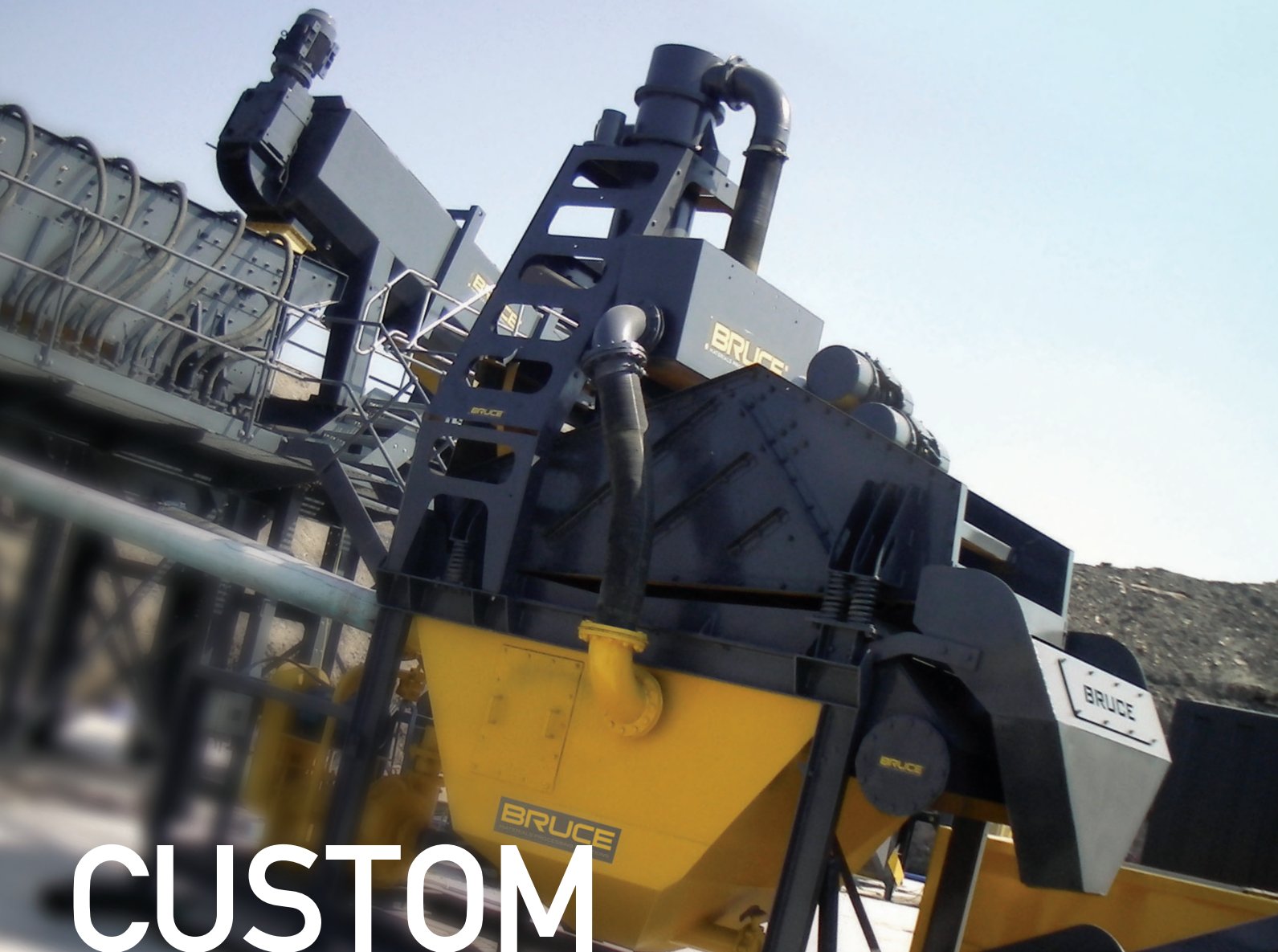
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ASM Recycling Ltd invests in Precia-Molen Weighbridges

Established in 1967 as a family business, ASM has been in the Metal Recycling Industry for over 40 years with a company philosophy of investing in new technology, plant, vehicles and qualified personnel.

As a multi-million pound business the company have worked with County Councils and Local Authorities and are respected as being one of the most modern and professional metal recycling operations in London and the surrounding areas.

Employing over 100 personnel across four sites the main metal processing site is based on a 3/4 acre site in Griffin Lane, Aylesbury

where they operate a VS200CS - 50 tonne weighbridge, platform scales, a 960 tonne hydraulic shear, four 35 tonne material handling cranes and a five bay vehicle dismantling workshop.

Weighbridges throughout the company play a huge part in the daily business at the four sites. The weighbridge system installed at Aylesbury acts as an effective site vehicle management system for both weighed and non-weighed vehicles, reducing waiting times and improving site security. With a relatively small footprint at Aylesbury, vehicles to be weighed and non-weighed service vehicles all pass across the weighbridges with vehicle access being controlled via a manually operated barrier system.

With a mixed incoming waste stream from demolition contractors, the public and companies that generate metal recycling, the on-site 18 metre long, 50 tonne, VS200CS handles a steady flow of traffic. Installed over eight years ago the VS200CS has proved robust and reliable, weighing the company's fleet of 44 tonne articulated vehicles, and 32 tonne skip lorries, who ply their way back and forth in a working day.

Part of the on-site weighing process at ASM is also covered by platform scales located within the site which have been supplied and installed by Precia-Molen. These scales are covered by CCTV which captures an image for a visual record every time an item is weighed.



A VS400S weighbridge installation at Thame

Correct weighing is essential

As in any operation of this type correct weighing is essential; here the simple I 300 digital weight indicator display records, and provides a clear and accurate visual of gross and tare weights for all traffic crossing the weighbridge.

Dedicated to the management of weighing vehicles on a weighbridge, the I 300 indicator is a weighing terminal with advanced functions. Its multi-function graphic screen and its configurable software enable the customisation of a weighing station as a function of the application:

- Management of weighing's in a single weighing (one pass). With input of the tare or a reminder about a memorized tare
- Management of weighing's in in/out weighing (two passes) and dosing - loading or unloading of vehicles in gross or net weight.
- Management of lights for traffic regulation on weighbridge (digital I/ O module as an option).

The I 300 terminal can manage up to two weighbridges (second measurement board optional). It also enables multi-channel management of weighbridges composed of two independent platforms and has an optional data saving system so that all weighing's made can be recorded, thus avoiding the need to add a check printer (alibi printer). A complete range of interfaces, peripherals and accessories, optimizes the integration into an existing installation. The I 300 terminal can also be supplied with a PC type keyboard and a bar code reader to speed up data input.

Working in arduous conditions

At the Aylesbury site the innovative low profile VS200CS in ground weighbridge provides an unparalleled flexible solution for all ASM's vehicle weighing applications. Of robust composite concrete and steel construction the VS200CS is an extremely cost-effective weighbridge to install and operate, even in the most arduous working environments of the Recycling Industry, yet enables maintenance requirements to be kept to a minimum.

The versatile modular construction of the VS200CS is designed by Precia-Molen to combine speed of installation with minimal foundations. This modular design concept is based on two sizes of interlocking module, 4.5 and 6 metres in length. These modules can be linked together in various combinations to create a range of platform sizes up to 24 metres in length. Standard module widths are 3 metres for normal road vehicles, and 3.5 metres to accommodate off road vehicles.



Platform scales



VS200CS in-ground weighbridge at Aylesbury

The site cast concrete foundation together with the weighbridge steel frames acts as an integral shutter for the casting of the entire re-inforced concrete deck. This eliminates the need for heavy lifting equipment and enables the weighbridge to be easily installed in situations where space is restricted. The integral lifting points in each module make the VS200CS suitable for easy re-location.

Special load cell mounting system

A key feature on all Precia-Molen weighbridges is the load cell mounting system which features a self-aligning rocker support assembly which is engineered to withstand years of heavy usage. Access for maintenance to the restraining system and to the load cells is from the surface via removable heavy duty cover plates enabling routine maintenance to be carried out in full accordance with the latest health and safety procedures.

A further important innovation of the VS200CS is the unique restraining system which protects the platform against transverse and longitudinal movement and eliminates all braking forces and shock loads. This enables the VS200CS weighbridge to accommodate traffic manoeuvring in any direction across its flush platform - making it ideal for installations with limited space.

The weighbridge is supported on SCL load cells manufactured by Precia-Molen in one of the world's most advanced load cell production facilities, where they are calibrated and tested to the most exacting standards. Precia-Molen SCL load cells are produced in stainless steel and hermetically sealed to IP68 and are renowned for their reliability, durability and exceptional performance and weighing accuracy.

Reliable weighing on four sites

ASM are clearly delighted with the reliability of the product as both their Kings Langley and Thame sites have seen further installations of Precia-Molen weighbridges and associated equipment in the last two years. With a VS500 installed in March of this year at their new site in Kings Langley, their 8 acre site in Thame also boasts a VS400S that deals with all the incoming end of life vehicles that are brought in by the public. Processing over 18,000 vehicles a year vehicles are brought into the Thame site for repair and resale, or stripped of parts for sale on the company's website. After stripping any residue the vehicle is then weighed and delivered to the Aylesbury site for processing.

The installation of the VS400S and the VS500 weighbridges has provided ASM with the most flexible weighbridge solution for all their weighing applications. Both weighbridges combine strength, durability and flexibility with a modular, all steel, fully welded construction that is entirely suitable for in ground or surface mounted installation.

Ideal for the recycling industry both the VS400S and the VS500 are constructed to provide an extremely rigid and reliable platform structure, having tremendous inherent strength to withstand the most arduous heavy-duty operations.

Chris Holmes - Contract Manager at the Aylesbury site, commented, "we had the weighbridge installed in 2004 at Aylesbury and have been extremely impressed with its reliability and performance."



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Road Grit & Gulley Waste - a True Waste Mountain Waiting to be Climbed

With recycling high on the Government's agenda and highways agencies spreading approximately 2 million tonnes of road grit on the UK's roads each year, much of that material, when it is finally removed by road sweepers, ends up in landfill. But does it have to be like that? A number of forward thinking Local Authorities in the UK are following the lead of many of our European cousins and are implementing recycling programmes with the help of CDEnviro, a world leader in aggregates washing and recycling.

Mark Jennings, Projects Manager with recycling experts CDEnviro explains.

Local Authorities in the UK are constantly striving to be more effective, aligning themselves with the green agenda and

exploring those advances in technology that are capable of creating that much needed step change. Leaders in the highways maintenance markets are also advocating low carbon technology, hybrid fuel systems, savings on fuel costs, as well as enabling the user to work towards being more carbon neutral.

However, there is the train of thought that all these good intentions will amount to nought, as in the case of road sweepings and gulley waste, if the resultant material is either condemned to landfill, regardless of the cost effectiveness of the technology used to gather the resultant material, or in the worst case scenario, not collected at all.

In the UK each winter over 2 million tonnes of rock salt and grit is spread onto the road networks at a cost of over £150 million per annum, with the bulk of the material being used to treat motorways, trunk roads and main roads. Uncharacteristically for this time of the year gritting of the UK's highways continued well into April, resulting in a highly visible line of material that settles at the kerb channel as a 'pink' smudge lining the highway.

The grit and salt that makes up this pink edge will then either remain on the road side where it settles undisturbed, or end up in road side gullies where it will be removed by road sweepers. Either way the end result is the same. However the majority of that waste product will eventually find its way to landfill, not a fitting end to a product collected by machinery using the latest hybrid technology. And of course the irony is that in the following year the Highways Agency will procure and spread another 2 million tonnes of material at a cost of £150 million which again will be spread on the highways and again be destined for landfill. This represents a huge waste mountain and one that is not too difficult to climb as long as one has the right mind set and the correct technology.

Many European countries currently recycle road grit to re-mix with salt for re spreading. The UK can follow this lead and the technology is available now to recoup that wasted resource, protecting stocks of virgin aggregates. Recycling is high on the Government's agenda and with Landfill Tax set to escalate to £80 per tonne by 2014 the UK's Local Authorities and Borough Councils are sitting on thousands of tonnes of a sustainable resource that can be diverted from landfill and returned to use as a high value material.



The size of this recyclable resource is unknown, with the exact volume a true mystery. The total amount of waste material that is recovered from road sweepings or the gully waste is only really known to the public sector agency that is responsible for its recovery. Local Authority agencies work independently and are not required to share data on the extent of the material that is going to landfill. In addition, it means that the potential volume of material that could be recycled and returned to the roads as gritting material is also unknown.

With 326 locally governed districts in the UK made up of Metropolitan Boroughs, London Boroughs, Non Metropolitan Districts and Unitary Authorities some joined up thinking could result in a more productive recycling initiative, ultimately protecting the countryside from landfill whilst conserving virgin aggregate reserves. Information found on the Internet from the borough and district councils in the county of Leicestershire report that the approximate tonnage of road sweepings collected each year was close to 8,050 tonnes.

If a conservative average of 4,000 tonnes of road sweepings was taken across the 92 counties of the UK that would mean a possible total of 3.6 million tonnes of material going to land fill each year and at a cost of £50 per tonne that equates to £29.4 million for disposal alone, regardless of the collection costs.

Road sweepings and gully waste is an excellent source material for recycling. Whilst the saline constituent of the rock salt is dissolved and washed out, the grit and the aggregate material that remains is reclaimable and with the appropriate technology, approximately 90% to 98% of that material could be recycled and reused as a valuable resource.

From the conservative estimates of 3.6 million tonnes of material being collected by waste agencies and with sand or grit constituting 50% of the overall material recycled 1.8 million tonnes of grit could be made available each year to remix with rock salt for road use.

In addition, gully waste typically comprises of small stones, sand, gravel, ferrous material, paper litter and hydro carbon with organic matter mixed in. However, the main constituent of gully waste is water. Water constitutes up to 60% of the total volume of this material which seems a ludicrous product to be sending to land fill!

One local authority that is leading the way in managing the recycling of road sweepings and gully waste is Warwickshire County Council who in the last 18 months initiated a recycling programme for material that previously had been sent to landfill. Now in collaboration with Coventry City Council, Staffordshire County Council, Solihull Borough Council, Worcestershire County Council and Leicestershire County Council a joint working agreement has been entered into to recycle road sweepings and gully waste into a high value material.

In January 2012, working with CDEnviro a 15 tonne-per hour road processing plant was commissioned for SITA UK Ltd at their Neatchells Road depot in Wolverhampton. The plant incorporated a full water treatment system with the addition of several new design modules, a newly designed feed hopper and a high attrition system specifically designed to handle this heavily contaminated material.

The SITA facility has capacity to treat up to 40,000 tonnes of road sweepings and gully waste per year. During the life of the current 7 year project in excess of 300,000 tonnes of material will be diverted from landfill, showing cashable savings of more than £10 million, increasing the projected increase of the overall material recycled in the county by in excess of 3%.

The resulting material being processed through the plant is now being used by Warwickshire Council in civil engineering projects as well as being remixed with rock salt for use on the highways in the winter months. The key objective of the programme was to see cost reductions in landfill tax across the region, whilst diverting waste from landfill and increasing the overall recycling rates within the region.

Cllr Alan Cockburn, Warwickshire County Council's Portfolio Holder for Sustainable Communities comments, "This contract represents an excellent example of neighbouring councils working together to improve performance and save money. It will help boost our recycling performance by two or three percent and supports a more sustainable approach to waste management which benefits all residents."



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Warwick Ward - a family owned success story is now the sole UK distributor for Tana Shark slow speed shredders

Warwick Ward (machinery) Ltd. was founded in 1970 by Mr Warwick Ward and has grown into the largest stockist and supplier of new and used wheel loaders, earthmoving equipment and spare parts in Europe. Over 200 good working loading shovels of all makes and models always available and over 6,000 machines dismantled for spare parts.

The family connection is still very much in evidence today. Warwick's sons Ashley and Matthew, both now with over 25 years service themselves at Warwick Ward, have since the year 2000 been running the company and the growth since that time has been considerable with turnover increasing to five times the volume it was when they took over the reins from their father. The goal over this period has been to maintain and further improve the company's position as market leader in its field and this has undoubtedly been achieved with yet still more potential for further growth over the years to come. The company has grown from strength to strength and continues to expand.



Ashley Ward, Managing Director of Warwick Ward hands over the 440DT to Kevin Burgess, Managing Director of Nottinghamshire Recycling

In parallel to the existing used equipment business the company became a fully authorised CASE construction equipment agent in 2006. As such, they are now one of the main CASE construction equipment dealers in the UK and offer the full range of new CASE equipment, products and machinery. CASE has a long association in the Construction, Earthmoving and Material Handling sectors and is well renowned within the industry for manufacturing machines with excellent reliability, build quality and strong resale values.



In 2012 another exciting development at Warwick Ward took place with the acquisition of the national UK Tana franchise. They are now the sole UK distributor for Tana Shark slow speed shredders and for the full range of Tana landfill compactors. The partnership with Tana was in many ways a natural progression for them as they already through their connections with both Case and their longstanding used equipment division had very close relations with many companies large and small operating in the waste recycling sector - indeed this sector of industry has for some years now been their strongest market.

The addition of Tana to their portfolio has further strengthened their position within the waste sector and they have now established very strong working relationships with some of the UK's largest waste recycling companies such as Augean plc, Dalkia, WSR, Plevins, Impetus Waste and Nottinghamshire Recycling to name just a few.

The HUB team recently went on-site with Ashley Ward at Nottinghamshire Recycling in Worksop to see the installation of a brand new Tana 440DT Shredder. This machine is working on general municipal and C&D skip waste at this very busy recycling centre, and was chosen by Nottinghamshire Recycling because of its capability, versatility and quality. The 440DT has quite a few unique features, one of which is a side opening door, meaning that any non-crushables can be easily and quickly removed from the machine without causing lengthy downtime. It also features interchangeable screens capable of producing a particle size as small as 40mm in one pass and bolt-on reversible counter knife tools. A full review with audio of the 440DT Shredder can be heard online at www.hub-4.com

With 6 Tana Shark shredders sold in the last few months alone in addition to the hundreds of new Case machines they have supplied in the last 6 years they are tremendously excited and positive about the next phase of development of the company and are confident that Warwick Ward will continue to grow from strength to strength.

In addition the service team are on hand to service with expertise all existing customers, many of whom are now on full R&M service contracts. They are also happy to take on outside work when required. The parts side of the organisation has also grown phenomenally both on the supply of new and used parts. For more information visit www.warwick-ward.com



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Middletons announce smaller, stronger, more affordable channel balers with significant throughputs.

With four motor sizes, three models and two tying systems to give operators more choice...

Middleton Engineering, the UK's leading baler manufacturer and recycling equipment engineers, announces new additions to its HB60 range of horizontal channel balers to match waste recycling organisations and distribution companies' changing demands.

These more affordable, smaller machines give the same throughput as more expensive, larger balers with a choice of wire or string tying, depending on the application. With four motor sizes: 22kW, 30kW, 37kW and 45kW and a 60 tonne press force, the fully automatic HB60 HM4 averages 5 minutes to produce a compact, mill size, bale of paper, cardboard, PET and other plastics, which are more cost efficient to store and transport. As the balers are fully automatic, they only need

2 people to run it in continuous operation and exceed a throughput of 20,000 tonnes per hour, ideal for most medium to large operations.

The HB60 range comprises a shear press model with a cutting blade as part of the ram chassis; a pre-press model designed for greater compaction and speed; a mobile 'hook-lift' model to be quickly and cost effectively transported between sites. Due to its low headroom and small footprint, the 6.8 metres long HB60 balers can easily fit into a corner of a warehouse.

Mike Smith, Technical Director for Middletons says: "Although these machines can last over 20 years, they are future proofed because they adhere to all UK, EU and additional Middleton safety standards to anticipate all industry requirements and EU legislation." Smith continued: "Because we manufacture in Somerset, have a next day repair service, keep over 20,000 spare parts and can manufacture any that are missing, our after sales service for HB60's and our other machines is the best in the business.

A basic HB60 shear press retails at just under £100,000, with a pre-press model with a throughput of 20 tonnes an hour ranges from £155,000 - £255,000; more affordable than a 80 tonne or 100 tonne machine.

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The machine provides operators high material reduction ratios and produces a consistent product grading.

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Four MRF's supplied by ECO Baughan 2000 Limited



A family owned company, Eco Baughan 2000 Limited was established in 1990 by the Managing Director, Andrew Baughan. The company specializes in the manufacture and supply of quality recycling equipment and re-handling attachments. A proud British manufacturer they have extensive facilities in rural Northamptonshire.

An in-depth knowledge of the industry provides the basis and the ability to design a simple and cost effective range of recycling equipment, that includes screens, picking stations (complete with blowers and magnets), and crushing equipment .

With continual design development driven by feedback from their customers and new challenges thrown up by the industry, they utilize Computer Aided Design software (CAD) to help develop their products to the highest standards and achieve accurate, high quality, manufacturing results. Using the highest quality materials, such as Hardox 400 steel, ensures their machines are robust and reliable.

Recent projects:

Three recent complete 'Majorette' systems have been supplied to Watsons Skips , First Choice and Excel Skips. All three projects have a capacity of up to 60 skips/day and included a standard 'Majorette' 3 metre long barrel screen, with punch plates manufactured to be suitable for the materials to be screened. A fourth 'Mammoth system was supplied to Smiths Construction which has the capacity of up to 120 skips/day. This installation involved a 4 metre barrel screen, an air conditioned cabin over the picking line and oversized steel bays.

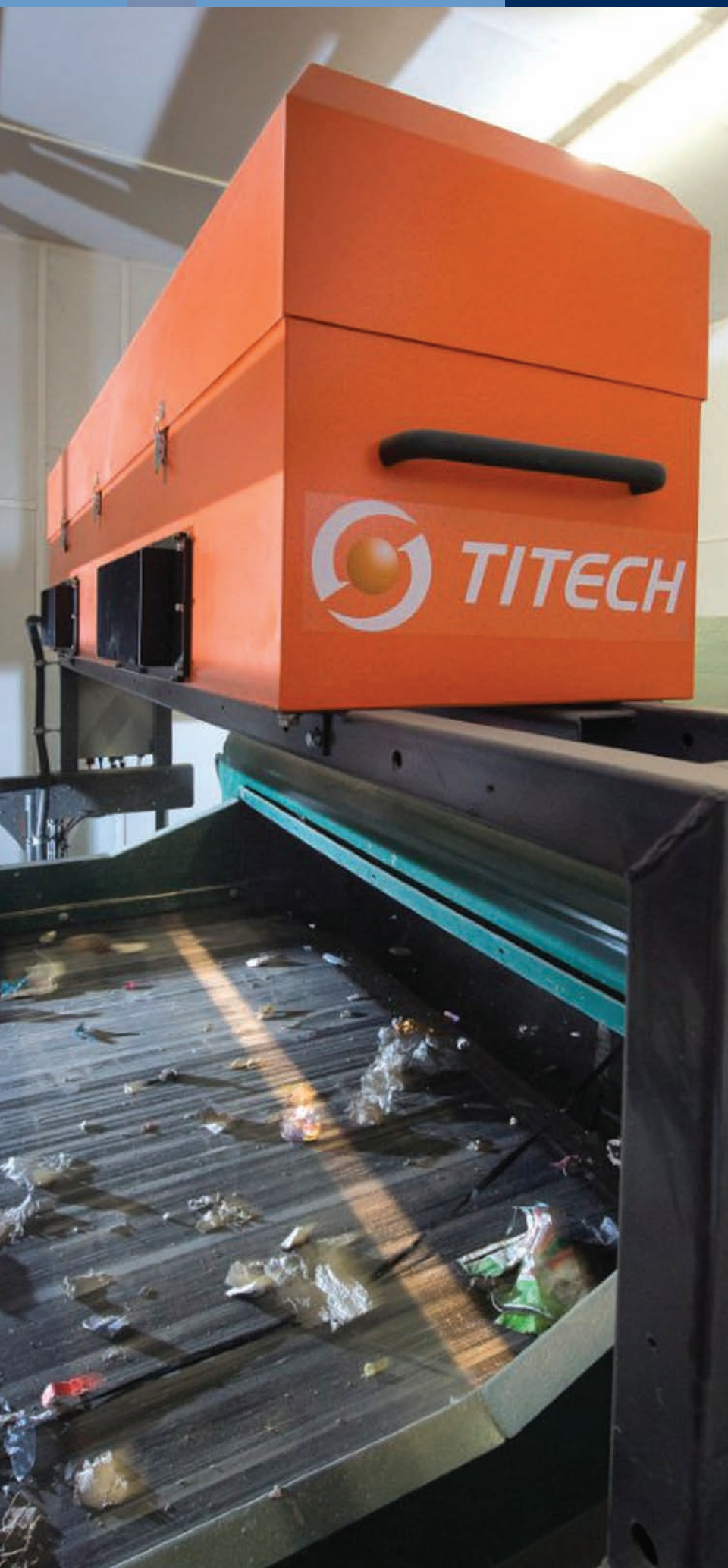


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Managing C&I waste: the 'finer' details

In May 2012, HMRC declared that trommel and screen fines would be classified as non-inert waste, dramatically increasing their landfill disposal costs. Stephen Almond, Sales Engineer at TOMRA Sorting UK, examines the industry impact of the HMRC's decision.

Over a year has now passed since HM Revenue & Customs (HMRC) controversially issued guidance stating that most fines from trommels and screens - which had previously been classed as inert material and charged at the lower landfill tax rate of £2.50 per tonne - would be re-classed as 'active' material and charged at the standard rate of £64 per tonne. This rate increased again to £72 per tonne on 1st April 2013.

Widespread confusion and uncertainty around the reclassification is continuing to impact on the treatment, recovery and disposal of C&I fines. The guidance means that trommel and screen fines of less than 50mm - which contain fibre, films, rigid plastics, organics, wood, metal and textiles - have to be separated and removed from inert material prior to landfill disposal. As non-inert material, the cost to dispose of the fines to landfill now stands at £72 per tonne. Non-inert fines make up approximately 25 per cent of C&I input material and 40 - 45 per cent of MSW.

There are now more C&I MRFs in operation in the UK, increasing the volume of trommel and screen fines and probably prompting HMRC's decision to crack down on their treatment and disposal.

Widespread malpractice

HMRC's decision to reclassify trommel and screen fines has massive cost implications for those companies that are responsible for its disposal. Unfortunately this has, in many cases, resulted in malpractice, with companies failing to properly separate the inert from non-inert material. Some companies are purposely hiding non-inert material within inert material to avoid paying the higher tax rate. Others are trying to create products by sizing using

screens and density separation, effectively mixing together or blending different types of fines and fractions, such as C&D waste mixed with C&I waste or lights mixed with heavies.

Perhaps the most widespread example of malpractice is where trommel and screen fines are mixed with refuse derived fuel (RDF), with companies trying to pass off their mixed fines as RDF in a bid to benefit from the approximate £30 per tonne saving.

Threat of action

HMRC's guidance has forced C&I waste processors to reassess their treatment of fines, but it is the landfill site permit holders who have been given the responsibility for inspecting loads and ensuring that the incoming waste matches the description on the transfer note. Inspections will be undertaken to ensure the appropriate rate of Landfill Tax has been applied and where it hasn't, enforced assessments will be made to bring the under-declared tax into charge. Penalties may also be applied and in some cases, landfill site operators who deliberately fail to correct an under-declaration of Landfill Tax may be liable to a civil penalty or criminal prosecution.

These are serious threats, but even the threat of being back charged for any waste that is disposed of at the incorrect tax rate does not appear to have put some companies off trying to get away with what they can. But this can't continue and those responsible for the treatment and disposal of trommel and screen fines must act now to ensure they comply with the regulations and keep their landfill disposal costs to a minimum.



A sensor-based solution

Fines are generally treated using screening and density separation, which are pretty basic methods and can result in a cross contamination in fines of varying degree, depending on the level of organic waste in the input stream. Using screening and density separation alone, it is not possible to recover all of the non-inert materials within fines i.e. fibre, films, rigid plastics, organics, wood, metal and textiles. However, by combining screening and density separation with sensor-based sorting technology, it is possible to identify and separate the inert material from other materials, delivering an end product that reduces final landfill costs and meets the lower tax bracket. Although it is impossible to achieve a 100 per cent inert product, a much higher level of product separation can be achieved by using sensor-based sorting.

TOMRA Sorting has developed and tested a unique process at our R&D customer test centre in Germany. X-ray transmission (XRT) can be used to create an inert product by separating out the inert material - such as glass, stone, ceramic and bones - from all other fines. Any material left is then suitable for anaerobic digestion. However, using different combinations of screening, density separation, X-ray, air, drying and near infrared (NIR) technology, it is possible to also recover plastic, refuse derived fuel (RDF) or a solid recovered fuel product (SRF).

Commercial opportunities

The commercial incentive for companies dealing with fines is strong - to recover as much inert material as possible and then create a fuel using the remaining material, which can then be sold on to a waste-to-energy or cement company.

The growth in commercial opportunities for C&I waste looks set to continue, with more C&I MRFs likely to be developed in the coming years. Upfront investment will be necessary to introduce sensor-based sorting as a means of treating fines, but the alternative is the risk of prosecution, penalties and even businesses collapsing. Sensor-based sorting technology offers commercial, legislative and environmental benefits to those companies treating fines and should be explored further as a long-term sustainable solution.



Impact Air Systems' flying with Big Brother

Impact Air Systems are flying since the launch of their HCDA unit (High Capacity Drum Airknife). Following the last few years of success with their Zig-Zag separation systems providing some of the most effective and economical density separation around, the launch of its big brother has proven to be a resounding success.

Nick Ball, Impact's MD said "The ZigZag has led the way for us to provide another robust density separation system for the recycling industry. Some of our best customers have relished the chance to get a HCDA system in for their heavier waste streams and they are already seeing the benefits."

Impact's HCDA uses a combination of a high velocity channel of air and a rotating drum to provide a highly efficient density separation solution for a range of high throughput applications with outstanding results.

Available in 3 standard sizes, the system has been carefully engineered to be adjustable, reliable and low maintenance. Aside from the obvious benefit of an improvement in the quality and subsequent value of the separated material, the HCDA also eliminates the need for pneumatic conveying as it simply links to the in-feed and heavies and lights belts.

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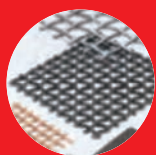


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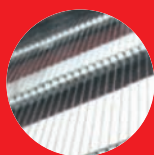
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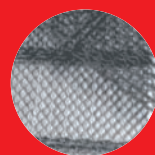
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Dangers for plant operators working at the quarry face

The extractives industry is undoubtedly one of the most dangerous in which to work but operating at the quarry face presents a unique set of hazards. Operators must take into account the structure and potential movement of the excavation, alongside the usual factors to consider when working with and around mobile plant equipment.

Thankfully, in recent years, statistics have shown a vast improvement with regards to quarry workers' injury figures. That being said, in 2010/11 quarry workers and related operatives still reported 98 injuries, illustrating that there is still work to be done to make this type of environment a place of Zero Harm. Always keen to work with industry to increase safety awareness, Mentor outline common hazards encountered at the quarry face and suggest ways to limit the potential danger.

1 Rock fall

The instability of the quarry face presents a major hazard to mobile plant operators. Large sized material can hang up in the rock face and its unpredictable nature, combined with the slow manoeuvrability of mobile plant, provides a real danger should it fall onto the machines or the quarry floor below.

Limit risk by:

"Dressing the face" is a technique by which any loosened or over hanging material in the rock face is removed, and is usually carried out using an excavator. Ensure work is conducted from a high enough platform to reach the top of the face and extract any potentially unstable material. Rock traps can be used to allow rock to fall into an area of little danger but take care to ensure they have the capacity to hold all material pulled down.

2 Overhang

Overhang is the commonly used term for material that is held in position only by surrounding materials/rocks. Overhanging material may appear secure during the excavation process but it is held in place only by a 'keystone' which, once removed, will cause the overhanging material to fall and may also bring other material down with it.

Limit risk by:

Avoid creating overhangs or vertical faces, wherever possible. If such excavations are unavoidable, a geotechnical specialist should be consulted for guidance. Again, correctly dress the face to limit the risk. If using a wheeled loader, work across the rock face - not solely in one area - preventing walls being produced and enabling material to hold up. If using an excavator, manoeuvre onto the top of the blast and excavate from top to bottom rather than from the bottom up. This method prevents overhang from being created and the face can be dressed as the level of excavation lowers.

3 The quarry floor

Large stones and debris on the quarry floor can cause damage to equipment being used around the face area. Travelling over uneven ground or potholes can be very dangerous, especially if travelling with a load as violent movements may cause this to become unstable or even displaced.

Limit risk by:

Keep the quarry floor around excavation level free from large stones and debris. Sweep loose material into the face whilst extracting and take extra care when loading vehicles/hoppers to limit overflow. To avoid trailing debris across the quarry floor during machine transit, flick the bucket into the quarry face to remove any loose material before moving the equipment.



4 Other vehicles/pedestrians

When operating the kind of large mobile plant equipment used at the quarry face, good observation can be hard to maintain. Smaller vehicles such as Land Rovers, used for getting around the quarry, can be difficult to spot from high in a machine cab. Pedestrians - particularly maintenance operatives and contractors who aren't used to working at the quarry face - can also present major risks.

Limit risk by:

Make everyone on site, including contractors and maintenance personnel, familiar with the areas in which they are permitted to operate and which are restricted. They should also be briefed on the dangers of working in close proximity to mobile plant. MPQC/SPA have designed a quarry safety passport course specifically for contractors working in extractives and mineral processing, covering industry specific hazards and safety awareness. For plant operators, all round vision is key; ensure the vehicle has adequate cameras / mirrors / radar / detection equipment and that they are in good working condition. Be careful not to restrict your view by positioning cameras, weigh load indicators etc in front of cab windows.

5 Untrained operators

Untrained operators, however experienced, may not be aware of the best way to work with their machine, material or environment, putting themselves and their colleagues in danger.

Limit risk by:

Providing comprehensive training is the best way to ensure that plant operators know how to work safely. Not only will trained operators know how to use their machine safely and efficiently, they will know how to carry out a thorough pre-use inspection, preventing the use of unsafe and potentially dangerous equipment. Additional training is necessary should the operator be required to take on more complex tasks such as vehicle loading. Working at the quarry face is a specialist job requiring specialist training, including geotechnical factors and face inspecting, as well as operator training on the plant equipment itself.

For further guidance on training for the extractives industry or safety at the quarry face, please contact Mentor on 01246 555222.

Canning Conveyor completes the final section of the Lafarge Tarmac-Blashford Conveyor System

With what may be one of the longest conveyor systems in the UK Quarrying Industry, Worksop based Canning Conveyor have completed the final stage of an extension to a 2.5 km field conveyor system at Blashford Quarry near Ringwood, New Forest, Hampshire.

Owned and operated by Lafarge Tarmac, present extraction operations are centred on 'Nea Farm' which supplies processed material to local concrete plants, builders' merchants and local contractors in the Ringwood and Bournemouth area.

Upgrading the original conveyor system

Responsible for all the design, manufacturing and installation work Canning Conveyor have been involved with the project since 2006/7 (ahead of the more recent plant developments) when Lafarge Tarmac made the decision to upgrade the current 2.5 kilometre conveyor system to harmonise the drives on the 14 conveyors and to increase the handling capacity from 150 to 350tph, with the additional benefits of improved reliability and reduced maintenance costs. This involved extending the conveyor system at the face with a new 120m long field conveyor. Canning then made further modifications by splitting an existing conveyor and interfacing a new 20m long elevated lattice section with walkway which is powered by a ceramic lagged SuperDrive™ motorized drive drum. Further modifications of an existing horizontal conveyor entailed a new 22m long, elevated transfer conveyor complete with a tail end loading section, again powered by a SuperDrive™ motorized drive drum. This section of the plant was then completed with the supply of a new 22m long troughed belt radial stockpile conveyor.

Further improvements involved a complete retro-fit of ten ceramic lagged Canning SuperDrive™ units to the whole of the existing conveyor system along with



replacement jib discharge and high and low tension bend drums. One conveyor is driven by two double SuperDrive™ units due to the length of the conveyor and previous problems with belt slipping. New belt scrapers were supplied throughout the system as necessary, along with new heavy duty mesh guards where appropriate.

In a final stage, 34 non-drive drums were supplied to complete the upgrade, as the existing non-drive drums would not be capable of handling the upgrade to the system.

This upgraded 2.5km field conveyor system now delivers material to the new sand and gravel plant commissioned in June 2011.

Plumley Wood Extension

Having successfully secured planning permission in 2008 for the extraction of a further 6 million tonnes of reserve at 'Plumley Wood', Lafarge Tarmac have ensured the continuation of operations at Blashford for a period of up to 25 years. At their furthest extent in around 10 years' time, extraction operations at 'Plumley Wood' will reach a point 2.5km beyond the current dig at 'Nea Farm' and approximately 5km (around one hour's conveyor travel) from the processing plant.

With the extension to 'Plumley Wood' approved Canning Conveyor were appointed to commence work in 2011 to design, manufacture and install the further additions and modifications to the already extensive field conveyor system.

The first phase of the installation involved the incorporation of two new conveyors designed to accept up to 350tph of -150mm of sand and gravel. Running over generally level ground (with a maximum rise of 5m) a 225m long field conveyor was installed. Driven by a single drum motorised SuperDrive™ unit and supplied on a substantial skid mounted frame with cantilevered jib discharge, this conveyor extends over the 'Plumley Wood' dig to feed a new 460m long field conveyor.

Again, running over generally level ground (maximum rise of 10m) this second conveyor is driven by a double drum, motorised SuperDrive™ unit and supplied on a substantial skid mounted frame with cantilevered jib discharge. The discharge section of this conveyor is extended and lifted to feed the radial stockpile conveyor in any of its intended positions. The jib discharge of this unit was also extended to cantilever over the rotating tail section of the radial stockpile conveyor onto to which it is designed to feed.

A second field conveyor running from 'Plumley Wood' to the 'Burnt Hill' area, runs over a 30m length of lattice frame gantry. Designed by Canning to span the boggy area of the ground prior to elevating up hill to the 'Burnt Hill' area this lattice bridge is fabricated from rolled steel sections braced and stiffened and is set on concrete foundation bases (by others). Fully galvanised it is fitted with full length spill trays and a 1m wide open mesh walkway and handrails.

Second phase

The second phase involved the installation of a new 160m long field conveyor. Driven by a single drum motorised SuperDrive™ unit this conveyor features a 12m long loading section designed to accept loads from the repositioned radial stockpile conveyor via a discharge chute delivering vertically via a series of crash boxes through a 10m high cascade chute from the future 'Burnt Hill' screen discharge conveyor and from a future reload hopper/feeder belt.

Running over generally level ground (maximum rise of 5m) from 'Burnt Hill', over a road bridge to the 'Nea Farm' side of 'Harbridge Drove' this conveyor feeds a second field conveyor. Driven by a double drum motorised SuperDrive™ unit this 530m long field conveyor feeds a third, 390m long field conveyor driven by a single drum motorised SuperDrive™ unit which subsequently feeds onto a new extended tail end loading section. This new loading section has replaced the existing tail unit on C11 which has been utilised on one of the new field conveyors. The new tail unit was then repositioned, with the existing C12 shortened and the head repositioned to enable the new C11 tail unit to accept the feed from both the existing C12 and the new 390m long conveyor.



Specification

Canning Conveyor supplied a standard specification throughout, consisting of the following:

- Canoflex troughed conveyor belts, 750mm wide EP300/3 ply belting with 5mm + 1.5mm covers were supplied throughout
- Ceramic lagged drive drums with internal backstop
- High tension bend pulley, Jib discharge and loop bend drum
- Primary and secondary belt scraper
- Discharge chute with integral crash box and hinged inspection hatch
- Loop take up unit
- Heavy duty tail end loading section c/w troughed impact idlers and tail drum
- Standard intermediate bays - 750mm wide x 3.048m long
- Emergency stop pull wire system
- Full length polycarbonate belt covers

Electrical installation

In addition to the design, supply and installation of the conveyor system Canning Conveyor also designed and installed a bespoke control panel positioned next to the head end of each conveyor. Each panel contains a soft starter capable of starting the conveyor under load conditions, with circuit and overload protection. Designed to start in sequence the system only allows a conveyor to start if the succeeding conveyor is running, this being indicated by a rotation sensor fitted on the tail of each conveyor. A design feature also interlocks C5 with the current conveyor feeding onto C12, so that either the new conveyor system, or the existing conveyor can run; but not together, thus preventing C12 overloading. Each conveyor is also fitted with a pre-start alarm and a halide light located at the head of each conveyor. A bespoke control panel was also supplied and installed for the radial stacker with traverse buttons to enable the material to be stacked around the head section with provision for three position sensors for positioning the stacker over the washing plant (future installation).

The next 25 years

The complete installation now fully installed and operational will provide the processing operation with immediate benefits, providing significant energy efficiency, quality and reliability for the immediate future.

Simplified
design.
Reliability
assured

Accurate
screening
action



New Metso ES guarantees profitability through enhanced screening efficiency

Metso is proud to present a unique and robustly designed high-energy elliptical motion screen. Working in partnership with our customers we have developed our new Metso ES range that “ticks all the boxes”

- ✓ Simple operation due to self synchronizing Metso MV modular vibrators
- ✓ Accurate screening action due to high G forces with elliptical motion
- ✓ Optimized uptime due to highly rated bearings and no timing gears
- ✓ Excellent access due to large clearance between the deck frames

Meeting the challenges of using mixed media fuel for the generation of heat and power in cement processing

It's a surprising figure, however cement production is reckoned to emit 5 to 6 percent of total man made greenhouse gases. Some of the greenhouse emissions from conventional cement production come from using fossil fuels to heat up limestone to the high 1500degC, temperatures required by the process, so it is unsurprising that alternative fuelling methods are now being thoroughly exploited. The use of alternative fuels in European cement kilns is now estimated to be equivalent to 2.5 million tonnes of coal per year.

The use of alternative fuels is considered to represent the Best Available Techniques (BAT) for all cement manufacturers. Many UK cement producers have signed a climate change levy agreement with the UK government. The agreement sets a target of both klin fuel and electricity, which will result in a substantial reduction in carbon dioxide emissions.

Alternative fuels used in cement manufacturing have differing characteristics such as SRM (Secondary Raw Materials), RDF (Refuse Derived Fuel), SRF (Solid recovered fuel) and PSP (Pelletised/Processed Sewage Pellets) when compared to the more conventional fuels. Switching from conventional fuels to alternative fuels presents several challenges that must be addressed in order to achieve successful application. Poor heat distribution, unstable pre-calciner operation, blockages in the pre-heater cyclones, build-ups in the kiln riser ducts, higher SO₂, NO_x and CO₂ emissions, dusty kilns and excessive wear in pipe work, valves, burners, chutes and cyclones are some of the major challenges.

The same problems arise in the increasing number of industries that are replacing fossil fuels with renewable materials or supplementing fuel streams with mixed waste and recycle in order to achieve carbon offset. But managing biomass and



mixed media can take its toll on processing equipment unless it has been designed or adapted for handling products with varying characteristics that create excessive abrasion and corrosion.

Kingfisher Industrial is a world-recognised expert in the protection of plant and equipment for handling aggressive materials, such as mixed media fuels for cement plants, power generation, chemical processing and incineration.

As such Kingfisher can help cement plant operators ensure that their fuel handling equipment is able to withstand the rigours of conveying mixed media by offering a tailored solution to each situation to counter the detrimental effects of processing abrasive minerals and media. The main technique used is to line handling equipment with an appropriate hardwearing lining system, matched to the materials being conveyed. For any given project, Kingfisher will assess the situation, recommend solutions based on the type of media mix design and manufacture plant for conveying, storing and processing the fuel, install and commission it. This will ensure that fuel handling equipment is reliable, wear and damage resistant over an extended working life (which is often measured in many years of service).

By implementing best engineering practise, Kingfisher says that key plant and equipment can operate on a continual basis and lead to increased efficiencies and profitability. The company has considerable expertise in combating wear and corrosion within cement and other heavy industrial plants and has frequently extended the service life of key processing equipment by utilising its range of protection systems. ►

Kingfisher works with a number of preferred materials suppliers to offer an unbiased approach to solving the problems experienced when handling bulk solid materials and allow it to offer the best solution or solutions for any given situation.

Despite manufacturers' many claims to offer the ultimate material in the 'fight against wear', success levels can vary enormously, so there is a need to analyse each individual set of circumstances. Sometimes the wear-resistant properties of one material type may be in excess of requirements and conversely, those same properties may underperform in a different application, putting the material's suitability in either case under question. Careful assessment is a key requirement for success.

Technically speaking three familiar material groups are most common for wear protection duties, ceramic, metallic and polymer.

Ceramics are available in their long-established cast form and as state of the art pressed products and are used in many, many situations: they range from high alumina, fused cast basalt, silicon carbide to fused corundum.

Metallic solutions are usually based on hardened versions of common metals and are suitable for a wide range of applications. They have been in use for many years and are much favoured by many users. Specialist metal alternatives are also available and can provide the optimum outcome to unusual situations, such as high chrome, ni - hard, manganese castings and chrome carbide overlay plate.

Polymers like rubber often work in a counter intuitive way, having the ability to absorb the shock of impact and dispel the damaging forces. Other polymers such as polyethylene, with its very low coefficient of friction, encourage the material to glide over it as opposed to scouring the surface thus, reducing the effects of friction or sliding induced abrasion. Polymers tend to be lightweight, flexible and relatively easy to apply.

The use of polymers to protect equipment where extreme impact prior to crushing is evident benefit from being lined with hard rubber liners and likewise the difficulties associated with the storage of coal and cement are eliminated due to the low coefficient of friction that polyethylene liners offer in assisting discharge. In all of these cases and in many more, the cement industry can achieve significant benefits when employing wear resistant linings and wear protection systems. New or existing equipment can be retrofitted with a protection system to add to its current asset value.

Kingfisher has wide expertise with all three material groups and carefully tailors solutions to each specific situation. Before making recommendations Kingfisher undertakes a full in-depth analysis of a plant's operational criteria and identifies a system that is fit-for-purpose to meet the many requirements of the end user. Criteria that are reviewed in the decision making process include the type of material being conveyed, size and shape, volume & velocity, operating temperature and of course the budget constraints versus the operating life cycle required.



Kingfisher has installed their wear resistant lining solutions within a number of plants that use the different types of alternative fuels. Referring to a project carried out at a cement plant situated in Derbyshire, the manufacturing plant have been working with the SRF since 2009. During the installation of the SRF system, Kingfisher were approached by a process engineering company to supply pipes lined with K-BAS Cast Basalt wear resistant lining systems. After a couple of months of operation the plant was advised to upgrade their conveying bends to K-ALOX Ceramic wear systems instead "due to the erosive nature of the material,

the K-BAS lining system did not meet the life expectancy of the system" commented MD John Connolly, "as part of our after sales service our engineers identified the problem and advised the customer to upgrade the lining system to an alternative material type"

Adding to the process Kingfisher has engineered bends with a removable wear back that is fitted with their very own Abralarm wear detection system. The system comprises of a low voltage electrical indicator that is integrated between the lining system and steel casing, when the lining system is breached it will sever the induction loop and send a signal through to the SCADA/PLC system located in the customers central room which enables the operation team to plan for replacements.

Kingfisher were also approached by the plant engineers to provide a suitable lining option for a Silo used within the SRF process, the problems encountered by the plant included 50-80mm bed of excessive material which was recovered at the bottom of the silo after every shutdown, usually the silo would be reasonably full hence the lining solution provided must be able to endure high impact without causing any issues. During the site visit carried out by Kingfisher's Sales Manager he commented "the largest piece of material entering the silo was measured at 150 x 20 x 3mm thick. As material degrades in the silo, the moisture increases and the inside of the structure becomes saturated which in turn creates a dew point and excessive corrosion becomes a major problem if left untreated.

The solution suggested was Kingfishers polymer based epoxy resin spray application. The characteristics offer a tough, impermeable barrier suitable for steel and concrete surfaces. Providing outstanding resistance to most chemical agents, particularly strong acids (including 98% sulphuric acid) alkaline, and many solvents. The low odour system forms a very hard and excellent gloss finish being evident on the surface of the plant & equipment.

The materials that make up typical mixed media and biomass fuels can create many problems due to the size, shape, density and tonnages that are handled. Demonstrated by another international manufacturer within the cement industry, they have used alternative fuels since 1992 by successfully implementing the use, of recycled tyres, meat and bone meal (MBM) and Solid recovered Fuels (SRF), Kingfisher have supplied pipe work for the existing pilot plant, the pipe work supplied was lined with the K-BAS Cast basalt lining systems.

Kingfisher have also supplied similar wear resistant pipe work systems used at one of largest sludge drying centres in Europe, The plant processes sludge from hundreds of wastewater treatment plants into processed sludge pellets (PSP).

A Kingfisher solution will allow for this and will also optimise plant layout for clear flow lines without bottlenecks or other points of weakness. Applications such as the installation of low friction linings systems within the fuel reception hoppers can also eliminate the need for mechanical aids or personnel having to gain access in order to clear blockages. A Kingfisher built or adapted system will generally need far less maintenance, as the protective systems reduce the need to continually undertake repair work.

As well as handling the fuel, the Kingfisher technologies can also be applied to the actual process of cement manufacture, all the way from the quarried limestone to the bagged despatch point. This involves a multitude of activities with each operation depending on the success of the previous stage. Kingfisher can solve the problems experienced with mineral excavation, blending of clay and chalk, firing, cooling and storage of clinker and finally milling and conveying of cement. Equipment such as front loading buckets, crushing equipment and reception hoppers have seen extended service life through the use of protection systems such as chromium carbide clad plate or manganese steel castings.

Plant and equipment that can achieve continual operation when handling aggressive bulk solids in the harsh environmental conditions of cement production is of the utmost importance if efficient, lean production is to be achieved. Correct application of protection systems within process critical plant and equipment can deliver substantial savings in downtime and maintenance costs when engineered correctly, however investment in the wrong system being used in the wrong application can lead to increased costs all round!

Alternative fuels explained

Bio fuels are based on organic materials (plant or animal) and include organic waste, residues from agriculture and energy crops, meat and bone meal, methane from animal excrement or produced by bacterial action, ethanol and biodiesel.

Solid bio fuels (usually referred to as biomass) include plant tissues, such as wood, charcoal and yarns; agricultural by-products such as coffee husks, straw, sugar cane and its leaves, rapeseed stems, palm nut shells, rice husks, etc, etc. There are other non-agricultural biomass elements, such as animal fat, sewage, waste meats and bones, food scraps and domestic or industrial biodegradable wastes. In all cases, these materials are primarily composed of carbon based organic matter, which releases energy through combustion.

Refuse Derived Fuel (RDF) is a product of municipal waste/recycling programmes

It is available in increasingly vast quantities from local councils and authorities and from processors and is likely to be used more and more in the future.

Secondary Raw Materials (SRM) is a by-product of municipal recycling. SRM consists of materials such as paper, glass, metals and some plastics that have been manufactured, used then discarded and are to be used again.

Solid Recovered Fuel (SRF) is produced by sorting, shredding and drying mixtures of municipal solid waste (MSW) and other low grade materials. Strict specifications are specified so that a consistent quality of fuel is maintained.

Processed Sewage Pellets (PSP) are made by heat treating the sludge remaining after sewage processing. The technique was originally used to produce agricultural fertiliser or to ensure the sludge was acceptable for landfill. Its use as fuel is increasingly common and expected to continue growing.



Mission Possible For Bruce Washing

Soil washing success for Bruce at Kealshore, England

The HUB magazine recently went on-site with Paul Thorne to Kealshore Ltd on Merseyside, to take a good look at a versatile washing plant installed one year ago by Bruce Engineering. Paul is director of SCG Supplies Ltd, the UK dealer for Bruce Engineering and he gave us a full tour. You can listen to the complete audio interview with Paul at www.hub-4.com

Kealshore Ltd approached Bruce engineering last year to see if they could offer a solution for recycling the companies thousands of tonnes site clearance and construction and demolition material. The answer has turned out to be an emphatic yes.

The Remit at Kealshore was to give the customer an urban sand and gravel facility that is simple to run and maintain, but what about the feed material?

This sort of feed material might have been impossible to deal with in the past. It was a mixture of soil, sand and rubble with an accompaniment of wood, plastic and organic materials. The recoverable aggregate content appeared low and the silt/clay content exceptionally high.

After in-depth consultation with the customer and representative sampling and analysis of feed materials, Bruce put forward a very detailed proposal including foundation, layout and service drawings to give Kealshore a complete picture of the proposed plant.

The plant is fed by a free standing, twenty five tonne hopper with a two deck live grizzly. First sizing of the material happens here with 80mm plus sized rejects being taken to a primary jaw crusher before being re-fed to the plant. 80mm-0mm is then conveyed, via a magnet system to the Bruce BWR 300. The BWR 300 is the heart and soul of the process and consists of trash screen, three deck rinsing screen and coarse aggregate washer on one modular chassis frame.



Profitable clean end material

Because the internal parts of the system are made from genuine Hardox (Bruce is the registered HardoxWear Partner for Ireland) it is possible to put all grades of material into the BWR. 10mm and 20mm washed gravel is stockpiled directly from the BWR 300 as finished product. Plus 40mm is taken to a closed circuit crusher and re-fed to the rinsing screen to maximise sand and small gravel production.

All 6mm-0mm is carried away through a simple sump and pipe work system with the silty water.

The arising slurry is pumped to the Bruce BWS 60 cyclone sand dewatering system. In this case a single 0-6mm sand for local concrete producers is being made although Bruce offer a comprehensive range of single and multiple sand manufacturing products. Sand is then stockpiled for immediate uplift.

Dirty water containing only silt is then further processed by a thickener and ancillary equipment. Thickened silt is pressed and water is recycled directly back to the plant.

Extremely difficult feed material



Result - To quote Ian Pickavance, director of Kealshore Ltd "the plant works well and it makes money. We produce hundreds of tonnes a day of sand and gravel here but we never have a chance to build up any stock. We very quickly built a local demand for all our products which exceeded all expectations"



To hear the HUB's audio interview with Paul Thorne, on-site, please visit www.hub-4.com

To find out more about our bespoke washing systems or to arrange to visit the site, please email caroline@bruce-eng.co.uk or visit www.bruce-eng.co.uk

Profitable clean end material



Listen to the audio interview at -
<http://www.hub-4.com/directory/7470>

Impressive Equipment Demonstration Impresses Customers at Terex Finlay Open Event in Scotland



Nigel Irvine,
Sales &
Marketing
Director for
Terex
Finlay with
Jim
Jamieson,
owner of
Ardlethen
Quarry

Over a 3 day period in June, Aberdeen's Northern Lights were forced to play second fiddle to an awesome demonstration of crushing and screening equipment. Terex Finlay held its largest ever Customer Open Event, at Jim Jamieson's Quarry, Ellon near Aberdeen in Scotland, highlighting all of their new models for both Quarrying and Recycling applications.

With more than 300 End users and Dealers present from China, Australasia, Russia and CIS states, Africa, the Middle East, Europe and the Americas, this truly was an international affair. In total 13 different models were demonstrated and previewed in both quarry and recycling applications at Jim Jamieson's, Ardlethen facility. The highlight of the demonstration was a single plant configuration consisting of 8 different models, featuring new Terex Finlay products introduced to date in 2013 and a number of new models that will be launched later in the year. Guests had the opportunity to view all the machines working and then inspect them close up with, with Terex Finlay staff on hand to explain the new product developments features and benefits.

A host of new recently launched models and upcoming product launches were previewed. In the main quarry demonstration the new models presented included the; NEW J-1480 jaw crusher with direct drive jaw crusher, NEW 893 heavy duty screener, NEW 684 2-deck inclined screener and NEW 694+ Optidrive inclined screener, a diesel / electric dual power alternative to the ever popular 3 way split screen. Other models that featured as part of the train included the C-1550 cone crusher, J-1175 jaw crusher and the I-130RS impact crusher. The line-up was completed with the incorporation of the Terex Finlay C-1540 cone crusher. The particular model on display featured the NEW on board side conveyor configuration that affords operators the opportunity to remove pre-screened fine material from the plant.

In the recycling demonstration area there were three models; J-1170 jaw crusher, NEW I-100RS impact crusher and the NEW Terex Finlay 883 with Spaleck screen. The J-1170 jaw crusher featured at the event was fitted with the hydraulic release chamber.



The prototype of the I-100RS featured at the event is one of the prototypes that are currently testing in a range of applications in Europe before its launch in Q4, 2013. Both these machines were demonstrated working in recycling demolition and concrete waste. Accompanying the crushers in the recycling area was the 883 heavy duty screener with Spaleck screen box that was launched at Bauma 2013. The 883 Spaleck screener was demonstrated working in a demanding top soil application with a high moisture content.

About Jim Jamieson

Jim Jamieson has been a leading figure in the quarrying, construction, civil engineering, waste handling and recycling industries across the Grampian and Aberdeenshire regions for 40 years. The family orientated and operated business head-quartered at Ellon, Aberdeenshire has grown and diversified under the guidance of Jim Jamieson. From humble beginnings as an apprentice brick layer Jim's entrepreneurial spirit, vision and direct workmanlike approach naturally progressed to developing his own business and today he leads a group of companies that continue to grow steadily employing over 60 people. In 2000 Jim bought a land fill site outside Aberdeen and under his control it became the first double-lined land fill site in the Aberdeenshire area. He sold this business in 2004 to focus on his construction and civil engineering businesses. This led to the acquisition of Ardlethen quarry in 2005 to service the Grampian and Aberdeenshire regions and support his construction focused businesses. Jim decided to sell the quarry in 2008 to concentrate his efforts in further developing his commercial construction business. The Ardlethen Quarry was then repurchased during 2010 and he immediately set about the process of developing the quarry and taking it to the next level. This was followed with the acquisition and development of additional local quarry locations in Whitecarns and more recently Newmacher, Aberdeenshire, to produce crusher run, quarry dust, sand, gravel and various sized aggregates ranging from 0mm to 150mm, Type 1, and railway ballast as well as tight specification aggregate products to meet client requests. Today the company's client base boasts some of the most prominent regional players and includes local councils.

To produce such a range of products the Jim Jamieson company exclusively operates tracked mobile crushing and screening equipment across the company's three quarries. Jim's first experience of mobile quarrying equipment was over 25 years ago when he rented a Finlay mobile screen from Tom McNeill at Finlay Scotland. This led to a long lasting partnership between the two companies. Today Jim operates a range of Terex Finlay jaw and cone crushers as well as heavy duty and inclined screens. To work alongside the crushing and screening equipment is a range of excavators and shovels from Liebherr, Caterpillar and Volvo. The latest editions to the fleet include a J-1480 jaw crusher, a C-1550 cone crusher and a 694+ inclined screen. These powerful high tonnage machines are key to the efficient and profitable production of the company's three quarries and also the contract crushing and screening services that the company operates throughout Scotland. The versatility of his fleet means that Jim can also employ his crushing and screening equipment on site to support his and son James's civil engineering activities when required.

Jim's business motto is 'Service Set In Stone'. This rings true with the meticulous approach that Jim adopts in every aspect in each of his businesses and with the support of his wife Moira, and son and daughters the name Jamieson will be synonymous in the construction industry for the next 40 years+.

MACHINE LINE UP PROFILE

Main working demonstration

The robust and aggressive Terex® Finlay J-1480 jaw crusher incorporates the proven Terex® Jaques single toggle jaw crusher which boasts a throughput capacity up to 750mtph depending on application and material.

The Terex® Finlay J-1480 is available with hydrostatic drive which offers reversible operation for clearing blockages and demolition applications or direct drive to offer improved fuel efficiency and greater power utilization.

Availability: Both direct drive and hydrostatic drive variants of this machine are now available. The hydrostatic version was launched in Q4, 2011.

The NEW Terex® Finlay 893 heavy duty screen is a robust high capacity machine engineered and built for working in quarrying, mining, construction and demolition debris, topsoil, recycling, sand, gravel, coal and aggregate applications. This aggressive forward facing inclined modular configuration screenbox has a 6.1m x 1.8m (20' x 6') top deck and a 5.5m x 1.8m (18' x 6') bottom deck.

Availability: This new model will be launched in Q1, 2014.

The Terex® Finlay J-1175 is a high performance and aggressive tracked mobile jaw crusher that incorporates the proven Terex® JW42 jaw crusher. The chamber is hydrostatically driven which offers operators reversible operation for clearing blockages or bridged material. The hydrostatic chamber system also provides variable chamber speed and capability to operate in reverse to suit given applications.

Availability: This model is currently available.

The Terex® Finlay I-130RS tracked impact crushers provides the versatility of a crushing and screening plant on one machine. Based on the Terex® Finlay I-130 the machine features a 4270mm x 1520mm (14' x 5') single deck screen for sizing and recirculating oversize material back to the crushing chamber. The sizing screen can be quickly detached for applications that do not require resizing or recirculation of materials for further processing.

Availability: This model is currently available.

The NEW Terex® Finlay 694+ Optidrive is the latest variant in this class leading inclined screen. This new plant offers operators the flexibility to use either the onboard diesel/hydraulic power plant or electrical motors connected to mains electricity or an on-site generator to power the large 6.1m x 1.52m (20' x 5') triple deck inclined screen. This is a new product offering based upon the class leading 694+ inclined screener.

Availability: This model is currently available and was launched at the open event.

The Terex® Finlay C-1550 incorporates the Terex® 1300 cone crusher driven by direct

drive. The machine features an innovative and patented pre-screen module with a single deck 2.45m x 1.52m (8' x 5') screen for removal of fines from the feed material. The hopper/feeder has an automatic metal detection and purge system to protect the cone and reduce downtime by removing metal contaminants from feed belt at the touch of a button.

Availability: This model is currently available.

The Terex Finlay C-1540 cone crusher features the proven and well established Terex® 1000 cone crusher with direct variable hydrostatic drive, automatic tramp relief and hydraulic closed side setting (CSS) adjustment. The model on demonstration featured the NEW on board side conveyor configuration that affords operators the opportunity to remove pre-screened fine material from the plant.

Availability: The C-1540 base model is currently available and features the patented pre-screen module. The side conveyor configuration model will be released in Q4, 2013.

The NEW Terex® Finlay 684 2-deck inclined screen is a highly versatile and adaptable machine with a compact transport envelope. The new screenbox on the Finlay 684 2-deck features two full size 4.3m x 1.7m (14'x5'7") inclined decks providing efficient screening and high capacity production.

Availability: This model is currently available and was launched in Q2, 2013.

The Terex Finlay 684 3-deck inclined screen features three full size 4.3m x 1.7m (14'x5'7") inclined decks providing efficient screening and high capacity. The screenbox features quick wedge tensioning and access holes on the top and middle decks and the bottom deck features hydraulic tensioning system to reduce time required for mesh changes. All three discharge conveyors hydraulically fold for transport providing the operator with rapid set up and tear down times.

Availability: This model is currently available and was launched in Q2, 2012.

Recycling Area

The Terex® Finlay J-1170 jaw crusher features the renowned and aggressive Terex® 1100mm x 700mm (44" x 28") jaw crusher, with a proven track record in recycling, aggregate production and mining applications. The jaw chamber is also available with optional hydraulic release, an excellent feature when crushing construction and demolition debris. Both the hydraulic release and hydraulic assist versions of the jaw chamber are hydrostatically driven which offers operators reversible operation for clearing blockages or bridged material.

Availability: This model is currently available and was launched in Q4, 2012.

The NEW Terex® Finlay I-100RS direct drive ø860mm x 860mm (Ø34" x 34") horizontal impact crusher with variable speed gives operators unprecedented levels of production in both recycling and quarrying applications. Based on the Terex® Finlay I-100 the machine features a 2.44m x 1.2m (8' x 4') single deck screen for sizing and recirculating oversize material back to the crushing chamber. The sizing screen can be quickly detached for applications that do not require resizing or recirculation of materials for further processing.

Availability: This plant will be launched in Q4, 2013.

The NEW Terex Finlay 883 with Spaleck screen is the ultimate in mobile screening and separation technology. At the heart of the mobile plant is the 2 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 Finlay 883 Spaleck into a class of its own.

Availability: This model is currently available and was launched at the Bauma exhibition, 2013.



Listen to the audio interview at -
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High performance and quality combined with maximum reliability are the standard of all Rockster machines.

Instant Crusher Spares appointed official UK agent for Rockster Recycler

Instant Crusher Spares Limited has been synonymous with crushing and recycling for over 20 years. During this time we have been selling wear parts and used machinery across the world as well as providing our existing customer base with reliable service and repairs for their existing plant. To date we supply and service an extensive range of crushers which includes but is not limited to: Mansfield, Pegson, TESAB, Arja, Parker and Kleeman.

Whilst our experience embraces most brands of crushing machinery we have recently secured appointment as the official UK agent for Rockster Recycler. We are looking forward to developing our relationship with Rockster and our knowledge of their machines which will allow us to offer a range of brand new mobile crushers whose benefits we think new and old customers will appreciate.

Rockster Crushers are designed for maximum performance and quality; operating and maintenance friendliness; as well as smooth transportation due to compact dimensions and low weight. The patented Duplex system allows a single unit to be modified from impact crusher to jaw crusher giving you a more flexible system.

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Powerscreen XH320X makes an impact on Crush Ltd

The new Powerscreen® XH320X impact crusher was launched in late 2012 and the first prototype of the machine was sent to Crush Ltd in the UK for extensive testing. Crush is a customer of Powerscreen Distributor, Blue Group, and is a specialist crushing and screening contractor based in South Wales. They run and own an extensive list of plants that enable them to deal with customers' crushing and screening needs quickly and effectively.

Ben Sherratt, operations director with Crush, said, "We had the XH320X on test for 9 months and were delighted with its performance. We tested the machine on a variety of applications including recycled asphalt, limestone and grit stone. The impressive performance of the XH320X test machine along with our direct input on design from a customer perspective allowed us to be involved in the final design which took on board the varying applications that a contractor has to work. This created a design which is much more flexible and suited to a crushing contractors need for versatility that ultimately lead us to purchasing one of the first production machines."

The machine initially worked on highly abrasive grit stone to test the apron, hammer and rotor strength and durability, it impressed the customer with good results including high output, minimal wear, good fuel consumption and good reduction. They also commented on the robust design, easy set-up, ease of maintenance and build quality of the machine. In this application, the XH320X impact crusher produced an average of 180 tonnes per hour and a consistent 8000 tonnes per week, however Mr Sherratt said, "once it was moved to a recycled asphalt application it really excelled. When working on mixed recycled asphalt, the XH320X machine really performed giving a very good consistent reduction."



Recent increases in the cost of asphalt paving materials, namely oils used in the bitumen cements and aggregates, has created an urgent need for new asphalt recycling technologies.

Recycling asphalt reduces:

- Operating costs
- Waste
- Carbon footprint
- Transportation costs
- Land fill tax



"We currently employ a modern fleet of 32 machines, mainly Powerscreen equipment, including jaws, cones, impactors and various screens," said Mr Sherratt. "With a strong environmental agenda, we choose new mobile products carefully to ensure the company's fleet helps reduce our customers' carbon footprint, delivering efficiency savings in both fuel consumption and operational costs while not compromising output."

Powerscreen® XH320X Impact Crusher

The XH320X crusher has been developed to incorporate a fully independent hydraulically driven pre-screen, which will improve fines removal and reduce chamber wear costs for the customer. To coincide with the independent pre-screen feature, a hydraulically folding extended side conveyor with a stockpile height of 3.7 metres has been added to the machine.

The Powerscreen impact crusher is ideally suited to medium-hard, mildly abrasive materials down to a cubical, well graded product size in a single pass. The Hydraulic Apron Adjustment / Control system allows for the production of a high quality cubically shaped finished product and with the additional optional grinding path, for further reduction, allows the XH320X to produce even smaller consistent product gradation when required.

The hopper capacity has also been increased by the addition of hopper extensions which also can be hydraulically folded for transport. The new hopper design incorporates hydraulic locking pins for rapid setup time and removes the need for manual wedges.



The XH320X crusher has a full length product conveyor which is ideal for quarry applications with optional under pan feeder for recycled applications where steel may be in the material. There is also the option of an extended hydraulically folding product conveyor which increases the stockpile height to 4 metres.

The XH320X can be powered by a Tier 3/Stage IIIA-compliant CAT C9 Acert 242kW (325hp) engine or a Tier 4i/Stage IIIB-compliant Scania DC9 83A 257kW (350hp) engine.

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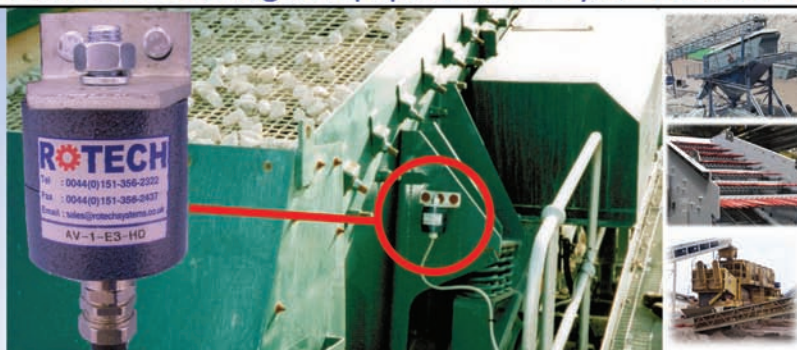
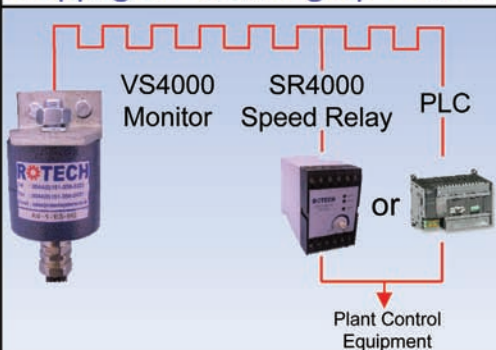


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Glen Creston - 'Leaders in Size Reduction' have improved the design and function of their Roller Crusher.

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:

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- Food and Pharmaceutical
- Coal
- Waste materials and Ash
- Minerals

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.

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

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.

For preparation of larger laboratory samples or for light industrial applications, Glen Creston offers a range of machines that can cope with higher throughputs whilst still producing reasonable particle sizes.

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.

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Rain Delay Deterred

Advanced Screening Technology Keeps Mother Nature From Ruining Profits

Byline: Gary Pederson is the Vice President of Sales for Major Wire Industries Limited in Candiac, Quebec, Canada.

Family-owned and operated since 1978, Sundre Contracting Co. understands the importance of delivering a quality product. The operation, located in Sundre, Alberta, Canada, produces more than 30 different product sizes—from 1/16-inch (1.6-mm) fine sand to 12-inch (305-mm) screened rock and everything in between. Whether its customer is an Alberta road builder, concrete plant or any of a number of golf courses in Alberta, British Columbia and Saskatchewan, its products must meet tight specifications or be rejected. Dealing with severe screen media blinding and pegging from clay material and a rainy climate, Sundre needed an advanced solution. After exploring several screen media options, the operation found one that helped eliminate the production-crippling effects of these conditions, ultimately saving them thousands while waiting for Mother Nature to cooperate.

One instance of Sundre's success with this advanced screen media is evident in a challenging road job it accepted. Using two 6-foot x 20-foot (2-m x 6-m) ELRUS screen decks equipped with conventional woven wire screen media, the operation needed to screen the 3/4-inch (20-mm) minus aggregate from the customer's own highly clay-contaminated pit. With the addition of rain every second day, the operation was quickly losing quality because screen media throughput was being compromised. In addition, production time was significantly reduced due to the need to frequently shut down and clean the screens.

"The wet, sticky nature of the material was causing severe blinding and pegging of the woven wire on our first screen deck," stated Jason Harder, Manager of Operations at Sundre Contracting. "In order to meet customer material spec, we needed to dry the material, which took time away from producing new, profitable material."



Using Flex-Mat 3, Sundre is able to screen between 250 and 300 TPH, depending on the product they are making.

Screening more than 35 different products, Sundre uses Flex-Mat 3 in at least five of six screen decks at all times.



It was impossible to effectively screen while it was raining because it only added to the stickiness of the material, so Harder knew they needed another solution. The operation tried a variety of woven wire and self-cleaning screen media options, but all were still experiencing severe blinding and pegging. At the recommendation of Matt Armstrong, dealer representative at ELRUS Aggregate Systems, Harder installed Major Wire 7/8-inch (22-mm) Flex-Mat® 3 Series D Tensioned screen media and saw dramatic results.

"The operation went from not being able to produce at all in marginally rainy weather to being able to operate through heavy downpours," commented Armstrong. "We've recommended Major Wire's Flex-Mat 3 screen media before and knew it could stand up to the challenge of screening sticky, clay-ridden material."

Good Vibrations

Major Wire's Flex-Mat 3 self-cleaning screen media allows producers to increase open area, create more screening action and eliminate blinding and pegging problems to achieve more throughput of spec material. Its distinctive lime-green polyurethane strips bond individual wires, allowing them to vibrate independently at different frequencies.

An increase in screening action was just what the Sundre operation needed. More properly sized material fell through instead of sticking to the wire, increasing production by 100 percent on rainy days since the operation no longer needed to shut down and clean the screens. Using Flex-Mat 3 Tensioned screen media, Sundre screens between 250 and 300 TPH, depending on the product it is making. That is a savings of nearly 2,000 to 2,400 tons per day that the operation would be losing to rain delays. Harder estimates that using Flex-Mat 3 during this particularly rainy month saved the operation at least 100 hours of production time previously lost due to the need to shut down and clean the screens.

A Versatile Screening Solution

Sundre uses Flex-Mat 3 screen media on at least five of its six screen decks in a variety of positions, depending on the material being screened. The operation also utilizes several Flex-Mat 3 wire configurations and opening sizes—from 3/16 inch (5 mm) to 7/8 inch (22 mm)—to properly screen the wide range of products it offers customers. For example, the operation uses 7/16-inch (11-mm) Flex-Mat 3 Series D Tensioned screen media in its McCloskey mobile vibratory screener to prescreen various sand products. The Series D configuration provides Sundre with precise sizing of passing material so it can produce the spec material needed by various customers. To screen larger aggregate material, Sundre uses 3/8-inch (10-mm) stainless steel Flex-Mat 3 Series LFM Tensioned screen media.

"We love the versatility of Flex-Mat 3," stated Harder. "We make more than 30 different products in our operation, from golf course sand, to concrete and road base aggregates and decorative stone. Flex-Mat 3 helps us screen and wash all products more efficiently and saves us thousands in lost production each year. In addition, we estimate that its increase in open area provides us with up to 30 percent more screening capacity than before."



Sundre uses Flex-Mat 3 Series D Tensioned screen media on the top deck of its wash plant deck to increase production.

Flex-Mat 3 screen media has also helped Sundre cut costs in other areas. For example, previously, when screening its coarser products, such as 3/4-inch (20-mm) minus aggregate material, the operation was using a wash plant to screen off the sand that was causing blinding and pegging issues in the dry screening process. This required a large volume of water usage. Flex-Mat 3's vibrating wire technology has virtually eliminated this blinding and pegging problem-which means most of the sand does not need to be sent through the wash plant, helping Sundre reduce its annual water usage. While the wash plant deck is still used to clean many different products, this has immensely reduced the quantity of silt heading to their settling pond. Before, it was necessary to clean and drain the settling pond many times a season. Now that Flex-Mat 3 has reduced the amount of silt in the product when it reaches the wash plant, they are able to spend more valuable time screening instead of cleaning.



Flex-Mat 3 eliminated the blinding Sundre was experiencing due to the material's high-moisture content.

"We've not seen any type of screen media work better than this," says Harder. "Major Wire seems to have this technology wrapped up and it will remain a staple in our operation."

Install It Right The First Time

Sundre Contracting solved its screening challenges using Flex-Mat 3 Tensioned screen media, but noted that no matter what brand you choose- if screen media is not installed properly, it will slow down an operation and hurt product quality, production and profit. "Matt Armstrong came out to our plant the first time we ordered Flex-Mat 3 from ELRUS," said Harder. "He helped us install the new screen media correctly so we could get the best results possible, and showed our team how to do the same, so when our next order arrived we would know what to do."

The two most common types of tensioned screen media are Flex-Mat-type and woven wire. Here are some installation tips Major Wire and Matt Armstrong recommend for each:

Flex-Mat-Type (Self-Cleaning)

Prior To Installation:

- Check for proper tensioning system and correct installation of tension bar
- Ensure that crown bar is fully engaged in "U" channel rubber and is consistent in height
- Ensure clamp rails are not worn thin, bent or deformed
- Ensure clamp rails are the same length as the screen media
- In bolt-type tensioning systems:
 - Check the rail design and height of bolt holes
 - Check for missing bolts (replace if broken or missing)
- Clean the rail and hook edge thoroughly
- Check for cracks, broken welds and loose bolts on screen box or deck (fix if necessary)



Curved tension bar decreases screen media wear life.

During Installation:

- Ensure clamp rails are not overlapping multiple panels, but fit each panel
- Side-tension systems: Ensure there is a .750 inch space between the wall and the outside of the hooks
- Align polyurethane strips perfectly on all crown bar supports, making sure they lie flat on the bars when tightened
- If equipped with overlaps, place overlaps on top of preceding screen media starting at the discharge end
- Stretch Flex-Mat-type screen media "tight as a drum"
- Do not over-tighten when using an impact wrench on wire diameters less than .148 inches
- Check tension: the heavy end of a screwdriver or hammer should bounce easily on the screen media

Woven Wire

Before You Install:

- Look for significant damage to crown bars and screen decks
- Inspect the crown bar rubber for damage and wear (replace if necessary)
- Ensure the crown bar rubber is the same type and height and covers all of the crown rails
- Make sure side clamp rails are not worn thin, bent or have curves or "dimples" where the clamp rail bolts come through
- Ensure the side clamp rails equal the length of the screen media or they will cause uneven tensioning
- Check crown bar height by doing the string test
- Remove all material build-up from the hook ledge on the pan side of the screen box and/or the crown bar rubber

For Proper Installation:

- Make sure the screen media has the correct outside and inside hook width for the deck
- Ensure that the ends of the screen media panels fit together tightly to prevent the passing of oversize material
- Make sure the lengths of all screen media "tail ends" don't exceed more than 50% of the opening size where they meet
- Side-tension screen boxes: position the screen media so clearance from the pan side to the hook is even on both sides
- Tension your screen media by tightening the bolts intermittently from both sides
- Once installed, make sure all screen media is seated properly on all crown bar tops and the side clamp rails match the length of the screen media

Conduct Frequent Inspections

Once you have properly installed your screen media, conduct daily inspections before startup and after shutdown. Make sure that your screen media and screen boxes are free of unnecessary wear, breakage or damage. Catching problems ahead of time can save thousands in costly fixes later.

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Lancashire Crushers team up with Anaconda

Over the past 20 years Peter Slater has developed into one of the largest suppliers of crushers and screeners for hire throughout the United Kingdom. The company started as 'Peter Slater Plant Hire' in 1980 with a JCB 3C. In 1994, anticipating the demand for reclaiming brown field sites and appreciating the inherit value in old masonry and hard landscaping materials, Lancashire Crushers Ltd was Created.

Earlier this year, Lancashire Crushers purchased their first TD516 trommel screen from Danny Morgan of Anaconda UK. The TD516 was taken into the hire fleet to address customer requests for a drum screen capable of producing high volumes of waste material in applications such as skip waste fines, shredded waste, soil remediation, composting and wood chip. Having tested the trommel screen in a number of these applications, Peter has been delighted with the results and now has 3 trommel screens all out on full time hire:

"Anaconda's TD516 trommel is a superb piece of machinery. For such a compact machine, the performance is very impressive and it is extremely easy to operate. The size also means it is very easy to move around the country so it is ideal for our type of business. My customers have been very complimentary about the machine and I must congratulate Anaconda on such a well designed and well built piece of kit."

Anaconda UK is the official distributor for Anaconda in England and Wales. Danny Morgan started the company last year having spent many years working for other crushing and screening distributors:

"The opportunity to become a distributor for Anaconda came in 2012 and it was something I couldn't ignore. I had been watching their growth since I first saw them at Hillhead in 2011 and was very impressed with the quality of the machines on offer. The range on offer from Anaconda was growing quickly so I felt it was too good an opportunity to miss. So far things have gone very well and the reception in the UK to date has been excellent. I have worked this market for many years and I am very grateful to the customers who have given me the chance to sell them. Those customers include Peter Slater who I would like to thank for his business this far."

Concluding on the relationship with Anaconda UK, Peter is very happy with how he has been looked after:

"There are many options from screening suppliers in the UK but Danny is someone I have known for many years and I know I can trust to provide the right equipment and the necessary after sales support. He is always on hand to help and it is good to see he has now gone out to do this for himself. I wish him every success!"

Lancashire Crushers offer a range of services, from providing Low Loaders for transportation of machines, which include Screeners, Excavators, Crushers and Loading Shovels to supplying an excellent team of highly skilled operators, each of whom carry CPCS Licences and Quarry Passports.

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New Metso ES screen guarantees profitability through enhanced screening efficiency.

Metso is proud to present a unique and robustly designed high-energy elliptical motion horizontal screen - the Metso ES. The new screen provides increased uptime and safer maintenance, while delivering up to 25% more screening capacity compared to a conventional screen of the same size.

The Metso ES is scheduled to be available in selected markets by the end of May 2013, and fits well together with our other well known and highly recognized crushers, feeders and screens as a part of our commitment to offer total crushing and screening solutions.

"Because our customers are aiming for more accurate and consistent material separation with lower operational cost, we have taken the acclaimed Metso modular MV vibrator and integrated it into a unique, new screen design", says Mats Dahlberg Global Business

Manager Vibrating Equipment The two unbalanced shaft lines in the Metso ES rotate in opposite directions, generating a high energy elliptical motion with a self-synchronization design. The Metso ES is a unique solution, which performs excellently in any application with high requirements on screening accuracy. Even in difficult screening conditions - such as wet screening or screening of sticky and dirty materials - the Metso ES provides exactly the kind of aggressive screening action you need.

Less downtime thanks to a durable design

Letting your screens stand down for maintenance too frequently and for too long makes it hard to reach maximum profitability. That is why the Metso ES features an unprecedentedly robust deck frame design, with no welding along the cross member sections to achieve lasting performance.

The weld-free side plates ensure optimal durability and a high stress tolerance. The huck-bolted design guarantees perfect and homogeneous assembling conditions. There are no mechanical timing devices, gears, belts or oil leakage, which together with the reliable grease lubrication system simply keeps downtime and maintenance to a minimum.

Safe to operate and maintain

Safe working environment is a priority for Metso. Therefore, an industry-leading safety level is a standard feature in the Metso ES. The up to 50% bigger space between the decks compared to similar flat screens means easier, safer and more comfortable access for maintenance. The Metso ES is also equipped with coil spring covers to minimize the risk of pinching accidents, rubber stabilizers, high-safety belt guards and one centralized, conveniently located greasing manifold. Furthermore, the gearless mechanism concept reduces noise.

Maintenance-friendly wear protection with Trellex™ rubber lining

The feedbox, discharge spout and car-dan shafts of the screen feature Trellex™ modular wear and impact resistance rubber linings as standard protection.

Because Trellex™ products, such as replaceable modular cross beam protection and Trellex™ LS modular screening media, are optimized for Metso screens, they are excellent and easily available upgrade options for the Metso ES. The robust standard deck frame of the screen is preconfigured to handle both modular and tension screening media with minimal interruption and can be easily converted to handle the Metso media of choice.



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Screening systems for processing construction raw materials with the greatest efficiency

By Mr Ronan Ghosh - RG Recycling Limited & Mr Christoph Baier - Binder + Co. AG

There has been an increasing demand for screening technology solutions that deal perfectly with materials that are difficult to screen. This has created numerous new task assignments for the time-tested Bivitec screening machines. The most common applications concern "filler removal" and fines screening with moist crushed stone fines, screening mixed construction waste, classifying moist pre-screening material, screening compost, screening light shredder fractions plus wet screening of fine sands in the 0.3 to 1 mm separation cut range.

1. Examples of "difficult to screen" feed materials

When it comes to classification using "conventional" screening machines such as circular vibrating screens, linear vibrating screens or resonant screens, there are three main problems:

- High feed material surface moisture content causes blinding in the screen cloth particularly in combination with silt, clay or other impurities.
- Columnar and leaved feed material encourages the formation of clogging grains.
- Fibrous, matted particles in the feed material entwine themselves around the ties in the screen cloth.

In all three cases mentioned above, the separation cut sinks within a very short time to an unacceptable level in terms of screened product quality. This can carry on until absolutely no more screening can take place due to a clogged screen cloth. The most difficult to screen feed materials, amongst others, are considered to be:

- Argillaceous sand
- Moist crushed stone fines
- Moist pre-screening material
- Coal and coal intermediates with commensurate surface moisture
- Peat
- Building rubble and mixed construction waste

"Filler removal" means using screening technology to separate the finest fines from moist crushed stone fines (granulations 0/2mm, 0/3mm or 0/5mm) without having to resort to elaborate measures like airstream separation, drying or spraying/water management. With crushed stone fines, the first quality characteristic is the particular content of oversized grains in percent, followed by another that relates to the grain size distribution of a particular crushed stone fine in the fines range. Depending on the reduction and classification technique utilised, and especially on the raw material's natural fracture characteristics, a greater or lesser content of fines is generated (e.g. content < 63µm) for each respective crushed stone fines product. It then becomes imperative to separate the finest fines out in order to attain the quality of higher class products.

Furthermore, it is worthwhile again mentioning (quartz) sand wet screening with regards to the theme of "difficult to screen feed materials". In this type of task assignment, the feed material is delivered to special screening machines in the form of a quartz sand suspension or the moist sand is flushed in with water and the particular screen deck sprayed accordingly. The separation cuts generally required are to be found in a range between 0.3mm and 1mm.

2. Mode of operation and relevant characteristics for special screening machine versions

In Bivitec screening machines, every second cross beam is rigidly connected to the screen box (oscillating mass 1) and, in this way, performs (fig. 1a) the same basic vibration (circular or linear vibration). Between these cross beams are positioned freely oscillating beams (oscillating mass 2). These are connected (fig. 1b) to the screen box via spring elements (thrust rubber). The freely oscillating beams make up one single oscillating frame together with the longitudinal beams. A relative movement is thus generated between both beam systems or the individual oscillating masses (fig. 1c). The screen mats are fastened without bolts between the rigid and moving cross beams. The relative movement between the beams causes the screen cloth to be tightened and buckle in alternation (fig. 2). When the screen cloth is tightened, great acceleration values occur of up to 500m/s² (this corresponds to about 50 times the acceleration due to gravity g). The screening box itself is only subjected to very minor acceleration values (somewhere in the range between 2 and 3g).

The material to be screened is loosened to a very great extent due to the high acceleration that is conducted to the material through the dynamic stimulation in the screen cloth. The screen mats, themselves, are stretched in the tightening stage (whiplash effect); any material clinging to them is loosened; any clogging grains are ejected in the process. The basic oscillation of the machine together with the Bivitec effect facilitates adequate material furtherance even at machine inclinations of 5° to 10° downwards. This means a corresponding reduction in the machine's height requirements in comparison with other systems.

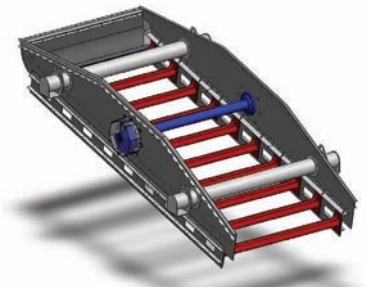


Fig. 1a Screen box from a single deck Bivitec screening machine with the first half of the cross beams (oscillating mass 1)

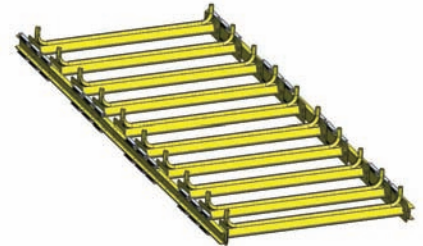


Fig. 1b Oscillating frame from a single deck Bivitec screening machine with the second half of the cross beams (oscillating mass 2, relative system) including rubber thrust blocks illustrated in black

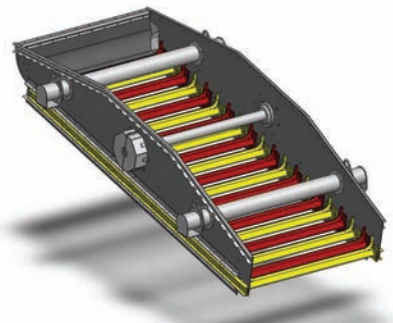


Fig. 1c Single deck Bivitec screening machine including oscillating frame and screen box

Fig. 2 Diagram representation of screen mat movement



The characteristics of Bivitec screening machines or the oscillation amplitude of the cross beams can be easily and rapidly adjusted to cope with possible changes in parameters in an optimum way by means of the following:

- Changing basic oscillation by adjusting the unbalance masses
- Changing the spring constant by changing the number of thrust rubbers
- Changing the stimulation speed

When utilising special screening machines, two relevant characteristics must be borne in mind with regards to outsize grains and wear. Firstly, the "ox horn version" - Binder+Co has developed a side seal that prevents wear between screen cloth and screen flange by stopping outsized grain discharging into the lower part of the screen. Secondly, the fastening system without bolts - a system with completely smooth screen decks, free from fastening elements like bolts, guide rails, etc., was selected for fastening the screen mats. Fastening the screen cloth without bolts ensures no wear can be made on diverse fastening elements as well as also enabling the screen cloths to be mounted or removed simply and rapidly.

With regard to different versions possibilities, a differentiation is made between 2 groups (circular or linear vibration) according to the basic oscillation. Another classification is made according to the number of screen decks: single, double, 2 triple and four decks. With double and 2 deck systems, it is only possible to utilise the lower deck in the Bivitec system. Classic composite screen cloths or wire mesh can be used in the upper deck, for example - for a coarser separation cut that is not difficult to screen (fig. 3). Effective screen widths range from 800mm to 3,000mm; effective screen lengths cover the range from 3m up to 12m giving a screening surface of 2.4m² up to 36m² per screen deck.

3. Bivitec "Banana"

These screening machines marry the well-known advantages of current commercially available "banana screens" with those of Bivitec or flip/flop screening machines. This so-called banana version generates greater area-related throughput rates on the discharge side and more convenient layer heights as well as a longer retention period for the screening material in the screen deck area again on the discharge side (fig. 4). By this means, in particular with feed material with high fine grain content (high proportion < required separation cut), smaller machines can be employed whilst maintaining an equally clear separation effect. This means that correspondingly higher plant performance is possible even with limited space availability. For new plant constructions, making use of a smaller machine naturally has a positive effect on peripheral costs like, for example, expenses for screening machine supports, underflow hopper and feed conveyor.



Fig. 3: Bivitec screening machine in a 2-deck version for screening 225 t/h moist limestone 0/32. Products: 16/32 mm, 8/16 mm, 2/8 mm and 0/2 mm. Conventional upper deck version as a combination of composite screen cloths and wire mesh, intermediate deck with wire mesh, lower deck as Bivitec System

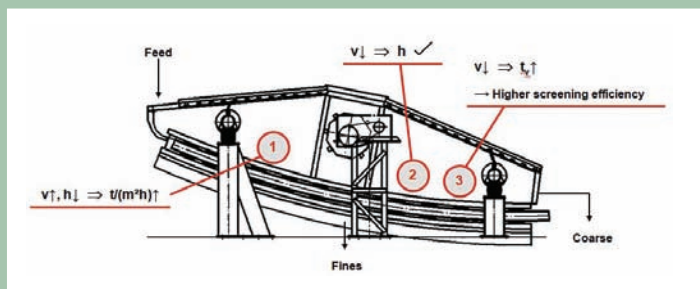


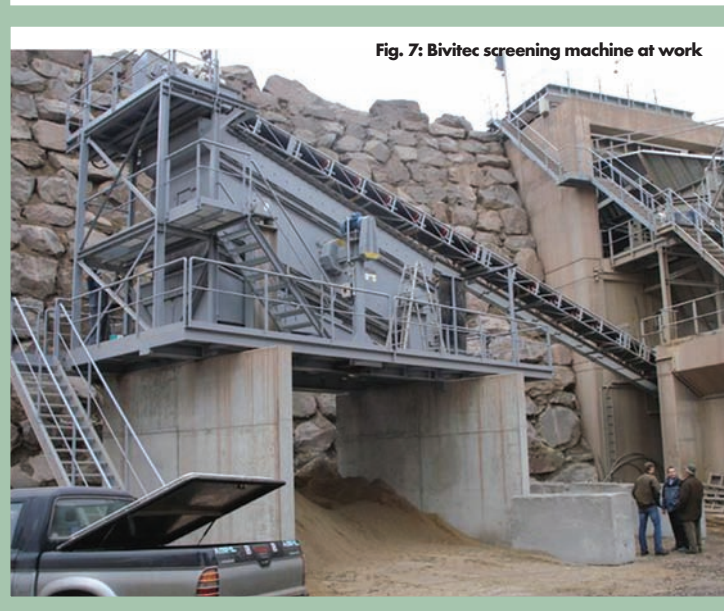
Fig. 4: Bivitec "Banana", sketch of a single-deck version

If two separation cuts are to be carried out on one screen deck (single deck with 2 separation cuts or upper deck in 2 deck machines), a banana version boasts immense benefits. On the feed side of the screen deck, there is a large amount of material to be screened - there where the screen mat has been installed with appropriately smaller hole diameters. The greater deck inclination causes better layer heights and, as a consequence, high screening performance and clear separation effect. On the discharge side, a coarser separation cut takes place by means of relatively larger hole dimensions with a reduced amount of screening material on the deck. The lesser screen deck inclination also slows down the screening material at the same time, to reach the best layer height for the coarse separation cut besides increasing screening material retention time on the deck.



Finally, some applications for Bivitec screening machines will be commented on briefly. Figure 5 shows a single-deck Bivitec banana KRL/ED 2200 x 7 m - R45 screening machine for screening crushed gravel at 150 t/h. The 0/4mm, 4/11mm and 11/20mm products are generated by means of 2 separation cuts on one screen deck. Amongst others features, this version possesses the advantage of a low construction height as well as the possibility of converting the separation cut at short notice from 4 mm to 2 mm without great effort through changing screen mats.

Another typical application is illustrated in figure 6. The two double deck Bivitec KRL/DD 3000 x 8m screening machines are employed in pre-screening 0/120mm sand/gravel at 700t/h. The separation cuts are at 63mm and 2mm. The screening machines are currently being operated without a spraying device. This is connected with extraction progress and considerations of reduced water consumption and energy saving. Although extraction is only being carried out "dry" with wheel loaders at this time, it will be complemented later on by a suction dredger as excavating machine. Two further identical Bivitec screening machines have already been delivered and will be set up for wet screening the suction dredger product. For enhancing the value of construction raw materials in a deposit,



Binder+Co recommend a Bivitec screening machine in classifying prescreening material (0-40mm). The separation cuts can vary from 8mm to 15mm depending on deposit quality. This offers the customer the possibility of controlling material flow according to each rock quality and thereby of attaining optimal exploitation of his deposit. Figure 7 shows this type of screening described above at a plant in Spain.

In the UK, RG Recycling Ltd have partnered with Binder + Co. AG to supply mobile and static screen-ing equipment to plant operators. For example banana screen design as well as the exclusive McCloskey B230 mobile tracked screening machine which both utilise Bivitec technology to produce quality product even in the most demanding conditions.

For more information visit www.rgrecycling.co.uk

Sandvik Construction develop brand new cone crusher - CH550

The new generation of compact cone crusher from Sandvik provides customers with optimum performance and good cubical shape, whilst ensuring the lowest operating cost per ton for a wide range of materials and applications. The all new patented Sandvik CH550 is based on the proven HYDROCONE™ design, with the CH550 combining the ability to produce excellent shaped products, in fewer crushing stages, thereby making it adaptable to ever-changing customer requirements.

The new CH550 crusher from Sandvik Construction has been developed in response to customer demands, building on the rock solid foundation of the HYDROCONE™ concept. This new range of crushers establishes Sandvik as market leaders in the design and development of cone crushers that have been developed to deliver exceptional rates of productivity and efficiency. The CH550 crusher has the ability to be configured for either secondary or tertiary crusher applications. It also has a wide performance range and with its unique, patented design the CH550 provides customers with unparalleled adaptability and flexibility.

Excellence in quality and performance

In order to facilitate greater reduction ratios, efficiency and productivity than have been previously obtainable, the new CH550 comes with market leading features:

- o Sophisticated design with remarkable capacity in relation to size.
- o The CH550 is versatile; one of three eccentric bushings will cover 90% of the application range.
- o The Automatic Setting System, ASRi, is included as standard to guarantee safe usage as well as optimal material reduction and shape.
- o The wear parts have been adapted ensuring a longer lifetime per ton produced.
- o Effective power transfer capability thanks to new drive arrangements that gives a precise lining of the V-belts, and more than five times prolonged life time.

A greener choice

In order to minimize negative environmental impact, and to produce safer working conditions, the CH550 comes with no plastic backing; furthermore the motor has the highest energy efficiency classification, resulting in less power consumption, thereby minimizing Co2 emissions. Compared to earlier models, these features enable the crusher to reduce

emissions by approximately 30 tons each year; equivalent to six persons annual emissions, as well as saving's on operating power, thereby reducing total power consumption during the crushers operational lifetime.



Safe Operation

In order to safely maximize operational uptime the CH550 comes with Sandvik's leading ASRi fitted as standard. This Automatic Setting System - ASRi - enables the crusher to run at maximum performance levels, the ASRi adjusts automatically to the variations in feed conditions for an ideal final product.

Technical Data	CH550
Weight (ton)	18,9 ton
Available Power(kW)	330kW.
Head diameter (mm)	~1100mm

Tema supply new screen for Brett Aggregates - Cliffe Wharf

Owned and operated by Brett Aggregates Ltd since the 60's the North Sea Terminal site is located at Cliffe, Rochester and incorporates a ready-mix plant, bagging plant, block making factory and railhead. Sea dredged sand and gravel during busy periods is delivered twice daily by self-discharging dredgers with the site receiving six cargo's over 3 days per week, averaging a total of 9,200 tonnes.

The busy site produces approximately 70-90,000 t/month which is supplied to the on-site plants, local construction sites by road, and the remainder via rail with two trains a day to the London area.

With sea dredged sand and gravel being delivered to the plant by land conveyor from the ship berth at 450tph it is imperative that the primary screen is efficient and easy to maintain. With the issue of the old screen underperforming Brett's approached Tema Machinery to quote for a replacement. Following a site survey Tema then took the Cliffe Wharf team on a site visit in Germany to enable them to view Siebtechnik screens in action.

Derek Knight - Area Production Manager, commented, "We visited a Rhinekaalk site in Germany which produces 10 million t/annum. I observed the Siebtechnik screens working in lines of four on three different floors in the screen house, giving a total of twelve screens. This was really impressive and gave a good representation of the screens performance in a very busy and harsh environment."

Having demonstrated the ability and performance of Siebtechnik screens, Brett's then had no hesitation in placing an order for a replacement screen as part of a small plant refurbishment. Tema subsequently supplied a Siebtechnik HG double-deck - 3 x 6 metre screen fitted with WS85 polyurethane panels (20 over 4) which were supplied by their associate company Tema Iseemann.

HG Screen:

Replacing the old circular motion screen, the Siebtechnik double counterweight HG screen supplied to Brett Aggregate provides a freely vibrating linear motion and features a twin gear exciter to develop the amount of necessary out of balance mass to achieve the correct





screening dynamics. Designed with sub I-beam cross members the new screen was fitted with stage 3 cross member protection in the form of foam filled cavities. These cross members accommodate the Isepen WS85 rails which are bolted directly onto these.

Screening Media:

The Siebtechnik HG screen supplied to the North Sea Terminal site is fitted with Isepen WS 85 polyurethane panels which were supplied by Tema Isenmann. Acknowledged as the proven industry standard, these are the most versatile and cost effective modular system available on the market today, achieving excellent results with all separation sizes, in many applications including sand and gravel, granite, quartzite, silica sand and limestone.

Based on a superior design concept Isepen WS85 combines guaranteed performance and service with efficient screening. Proven under the most difficult conditions Isepen WS85 reduces screening costs to a minimum, reduces noise to acceptable levels and is easily fitted to all screening machines.

Isepen WS 85 modular panels are manufactured with integral reinforcement bars parallel to the panel width and selected for each individual application to accurately transmit the dynamic forces of the screening machine and support the bed of the material.

Benefits:

As part of a small plant refurbishment the installation of the new screen was completed in six weeks alongside the replacement of the platform and associated steelwork which was completed by Whitwick Engineering. The new Siebtechnik HG screen has provided greater tonnage and substantially easier maintenance - allowing easy access to screen media with ingress and egress vastly improved in comparison to the old equipment. Additionally, a rubber curtain was also installed on the back plates to allow access between the decks.

Derek Knight - Area Production Manager, further commented, "We are delighted with the performance of the screen, and the service and support given to us by Tema and Siebtechnik; I would have no hesitation in contacting them both for future requirements and support."



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JPE Holdings Ltd adds another McCloskey R105 to their fleet of McCloskey machines!

JPE Holdings Ltd (JPE) is one of the Midlands leading suppliers of aggregates, sand and soils to the construction industry and has steadily developed its business of supplying aggregates; groundwork's and site clearance over a period in excess of 20 years. The company has been involved in many of the leading projects in the Midlands area, including the Black Country Route, Trent Valley Four Tracking Project (TV4), the M6 Toll Road and the M6 hard shoulder strengthening.

By supplying from their own strategically located sources allows them to ensure the highest levels of product quality, enabling the company to offer very competitive prices. Additionally, JPE provide the highest levels of service alongside a commitment to supporting sustainability in the construction industry and in doing so have gained a reputation for being leaders in delivering earth and aggregate solutions.

Adding to their McCloskey fleet:

JPE first took delivery of a McCloskey J50 (50' x 26' jaw crusher) to crush their oversize aggregates from their wash plant along with any demolition waste that is tipped onto their site. Supplied by McCloskey dealer - Aggregate, Processing and Recycling Ltd (AGG-PRO) of Tamworth they then had their Powerscreen chieftain 2100 - 3 deck replaced with a new McCloskey S190 - 3 to size their crushed washed aggregates. AGG-PRO demonstrated that this machine was superior to other manufacturers in the market as it had a larger screening area and was more effective in the production and quality of screening. Following that acquisition JPE then took delivery of their latest addition, the R105 High Energy Screener.

Steven Birch - Director, commented, "We have a number of McCloskey machines that we are very satisfied with and it wasn't a difficult decision to purchase a new McCloskey R105 to add to our existing fleet. It will be employed at our new site at Shire Oak Quarry to screen an incoming stream of mixed brick, concrete and soil."

R105 High Energy Screener

Following on from the highly successful R155, the R105 High Energy Screener provides the best solution for operators who require similar performance to other manufacturer's larger models but within a smaller footprint on site.

With all the class leading features of the R-Range, such as high quality components, durability, and reliability, the R105 offers proven performance. Offering the highest stockpile and largest screening area in its class, and meeting the European transport regulation width, this machine 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 new 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 all their own fully trained service staff within an 28,000 sq. ft. workshop facility complete with all the necessary equipment to service, or if necessary manufacture new parts at their Tamworth site, AGG-PRO maintain full control of their staff and facilities allowing the company to operate at maximum efficiency, offering a total after sales service package.

Commenting further, Steven said, "We are very confident with AGG-PRO they have always provided a first class back-up and supported us 100%; a truly professional team."



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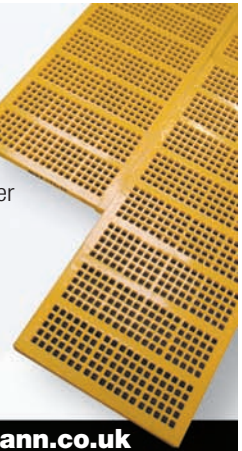
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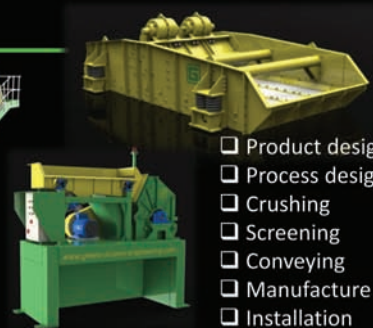
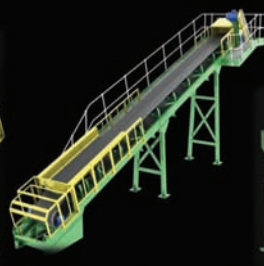
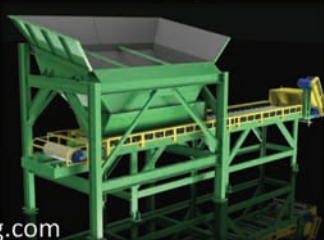
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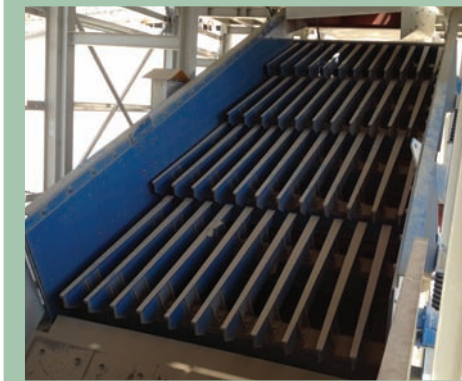


- ☐ Product design
- ☐ Process design
- ☐ Crushing
- ☐ Screening
- ☐ Conveying
- ☐ Manufacture
- ☐ Installation

Hewitt Robins supply a 3000tph Crushing and Screening Plant in the UAE

Hewitt Robins International Ltd has recently supplied vibrating screens and grizzlies to one of the leading quarry operators in the middle east.

The new 3000tph Crushing and Screening plant is situated in the U.A.E and includes 2 off QV-14, 4 Bearing 2500 x 6500 Heavy Duty Grizzly Scalpers, 2 off 2QV-14, 8 Bearing 2200 x 7800 Heavy Duty Triple Deck Screens and 2 off QV-14, 4 Bearing 2200 x 7800 Triple Deck Screens.



Operational since October 2012 the new plant has a capacity of up to 3000 tonnes per hour and is processing 0-300mm high grade limestone. The 2 off Hewitt Robins QV-14 2500 x 6500 Heavy Duty Grizzly Scalpers are each handling up to 1500tph of minus 300mm limestone. The ABRO grizzlies are set at 150mm and the oversize is fed to 4 off 1100 x 800 Jaws.

The 2500tph 0-150mm undersize is then fed onto 2 off Hewitt Robins 2QV-14 2200 x 7800 Heavy Duty Inclined Triple Deck Screens which separate at 105mm top deck, 85mm middle deck and 40mm bottom. The 85-105mm material is conveyed away to be stock piled and the 40-85 material is then fed onto the final 2 screens.

The final 2 QV-14 2200 x 7800 Triple Deck screens are handling around 950tph of minus 85mm limestone. These screens separate at 85mm top deck, 65mm middle deck and 40mm bottom deck. The 65-85mm material and the 40-65mm material is conveyed away to be stock piled and minus 40mm is returned to the surge pile.



All these Hewitt Robins machines are using grease lubricated Quad-V14 or 2 x Quad-V14 Vibrator units which consists of QV vibrator pods incorporating 2 off 140mm bearings giving the customer increased bearing life. On each side of the machine the QV Pods are coupled together using a cardan shaft through the centre of the machine, which allows there to be additional access between the decks for easier maintenance.



These machines are all designed specifically for this application so that they can handle the high capacities and temperatures.

The sites Maintenance Manager commented - "These machines were specifically designed, for our application in a short timescale which was very important for us due to some new orders from overseas. This new 3000tph plant now allows us to supply our customers quicker and more efficiently which meets their requirements and helps us secure more orders.

We now have over 15 Hewitt Robins machines running within our quarries some of which are over 25 years old. Hewitt Robins have always supplied us with custom designed machines which are designed for each of our applications and we have always been impressed with their quality and after-sales service."



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SCS the Best of British for 20 Years

Screening Consultancy and Supplies (SCS) is celebrating 20 years of being established, and has become one of the markets leaders in rubber & polyurethane synthetic screen media. With the entire screen media range supplied by SCS being manufactured in Britain, speed to market and customer service second to none has always been the goal of the company.

Due to SCS complete design and manufacturing flexibility, SCS do not dictate restrictive designs but offer tailor made solution to the customer's requirements.

SCS now run all its operations from its head office & rubber factory in Rugby, Warwickshire and along with the polyurethane factory in Hewaswater, Cornwall it can manufacture its range of rubber screen cloths, polyurethane modular systems and much more within Britain ensuring complete control of design, manufacturing, quality and deliveries.

With the onsite of hard times a few years ago operators are looking for cost savings wherever possible as an alternative to the cheaper wire option. The longer service life of a rubber tensionable screen cloth reduces maintenance requirements, giving a lower cost per tonne.



Along with the ever popular standard design of SCS polyurethane modular system, SCS can now supply direct replacements & entire systems for other styles of polyurethane modules such as the 85 system, Polystep, the 600 system and various square module designs.

SCS additionally undertakes the design, preparation and installation of a wide range of lining work with custom-made solutions tailor made to suit each customer and application with materials such as wear resistant rubber sheeting, steel backed rubber linings polyethylene (low friction liner), polyurethane sheeting and steel backed polyurethane.

SCS are an accredited company to BS 9001 and have a policy of continuous development to supply the best products to their customer.

SCS is actually having a double celebration this year along with its 20th anniversary its founder Graham Martin has announced his retirement from full time working life at the grand old age of seventy! The mantle of running SCS has now been handed down to managing director Malcolm Rowe and general manager Mark Martin.

For more information, please visit www.scsrugby.co.uk

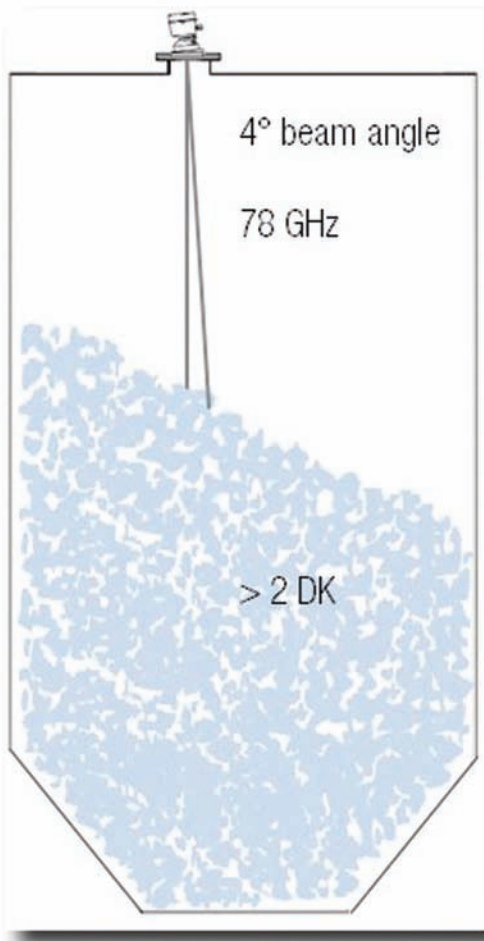
UWT - the experts in level control - is chosen as Solution Partner by Siemens:

UWT expands its product range with the Siemens Radar SITRANS LR560

From its head office in Germany, UWT has been confirmed by Siemens as the first Solution Partner for process instrumentation specifically designed for level control.

UWT has built a solid reputation as the leading expert and supplier of ingeniously simple level control systems. During its 35 year career in the bulk solids business, the company has delivered custom-specific solutions to clients around the world and built a solid reputation based on the easy handling, reliability and longevity of its products.

The UWT product portfolio includes paddle switches (Rotonivo), vibration forks (Vibranivo), capacitive sensors (Capanivo), Lot measuring systems (Nivobob), ultrasound sensors (Nivowave) as well as visualisation systems (Nivotec).



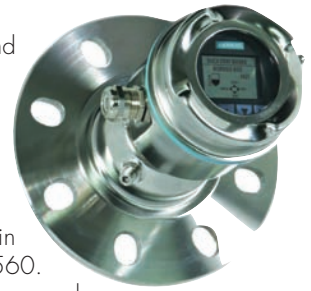
Now, in addition to these long established and reliable products, the UWT product range is expanded to include the Siemens Radar SITRANS LR560.

Siemens is the worldwide market leader when it comes to innovative products, technologies and solutions and has once again set new standards with its Radar SITRANS LR560.

The unit was specially designed for the continuous and contact free level control of bulk solids material in silos. The SITRANS LR560 2-wire, 78 GHz FMCW radar level transmitter with its small beam angle of 4° and its very short wavelength allows optimum reflection of the bulk solids material even when confronted with a large material mound and can be used for continuous monitoring of solids in silos up to 100 m.

The SITRANS LR560's "plug and play" performance is ideal for most solids applications, including those with extreme dust and high temperatures to +200°C. The unique design allows safe and simple programming using the graphic display with control keys on the unit or via an infrared handheld programmer or alternatively via Hard-, Profibus PA and Foundation Fieldbus communication.

The robust stainless steel construction makes the LR560 extremely suitable for all kinds of industrial applications. The unit operates at a high frequency of 78 GHz thus achieving a very small beam angle which eliminates any signal interference at the flange but allows optimum reflection of the bulk solids material. The flange can be adjusted to ensure a perfect positioning of the LR560, ie the angle of the beam can be set to a specific point, for example the outlet of the silo. The lens antenna is highly resistant to material deposits and offers a self-clean function for extremely sticky solids using an air flush connection. The local display interface (LDI) allows programming and diagnostics on-site making the installation and operation of the unit as easy as child's play.



Advantages of Using Radar SITRANS LR560:

- 4° beam angle
- Measuring range up to 100m
- High measurement precision
- Easy installation and setup
- Process Temperature up to 200°C
- Compact version
- Lens antenna

Technical Detail Radar SITRANS LR560:

- Housing: Stainless steel IP68
- Measuring range / tolerance: 100m / $\pm 0,25\%$
- Pressure range: 3 bar g (40 psi g) max.
- Supply voltage: 24 V DC (max. DC 30 V)
- Process connection: DN100 PN16
- Process temperature range: -40°C up to +200°C
- Signal output: 4...20mA, 2-wire
- Communication: HART, Profibus- and Foundation Fieldbus-communication
- Sensitivity (DK-value): > 2,0

Key Applications Radar SITRANS LR560:

- Cement powder
- Plastic powder/pellets
- Grain
- Coal
- Wood powder
- Fly ash



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History Repeats Itself for Rapid.

Rapid's First Ever Customer is the First to Purchase its Latest Product.

Norman Emerson & Sons Ltd, a leading Northern Irish supplier of construction materials that includes ready mixed concrete and quarry aggregates, were delighted to be the first customer to take ownership of the new Rapid Transbatch, compact mobile batching plant. The investment was in an effort to modernise their existing ready-mix production facilities at the company's site in Ardmore, County Armagh.

Rapid are pleased to have supplied Norman Emerson and Sons Ltd with their batching plant requirements for over forty years. The new Rapid Transbatch is in fact replacing the very first batching plant ever built by Rapid, which the company purchased over forty years ago. This relationship serves to highlight Rapid's long term commitment to quality engineering and absolute customer satisfaction.

Commenting on their purchase, Group Managing Director George Emerson stated "Rapid's Transbatch has provided us with an excellent solution for our concrete batching requirements. Its high quality compact design, ease of mobility and fast set up has made it a superb choice. We are pleased to have yet again worked with Rapid and can attest to their professionalism and customer focused, can-do approach".

Transbatch is the culmination of Rapid's forty years of experience, and expands its celebrated existing portfolio of mobile batching solutions. Rapid's Transbatch compact mobile batching plant offers outputs of 40m³, 60m³ and 100m³ per hour. Fully mobile, the Transbatch features stairs and access walkways which fold and dismantle for transport in a single load road towable unit. Fast set up in as little as five days with no foundation requirements helps to ensure that project timescales are met.

As standard, Transbatch features four 10m³ aggregate bins with pneumatic discharge doors, a 1000mm weighing belt and a 1750kg cement weigh hopper with aeration and pneumatic vibrator. Transbatch includes a built in control room positioned at the truck loading area and an automatic control system with load cells, starter panel and pneumatics panel. Twin additive meters with two pumps are also included with the plant, with the option to add extras if required.



The heart of the plant, Rapid's powerful in built Twin Shaft Mixer, which includes extra thick long wearing chill cast tiles and paddles ensures a thoroughly homogenized mix. The Twin Shaft includes an easy to operate discharge door with two independent hydraulic rams.

Rapid's dedicated and experienced in house spares department has the ability to provide Norman Emerson & Sons Ltd with all its wearing and replacement parts for the Transbatch, via a fast track service. High inventory levels and same day dispatch from stock on goods ordered before 11am (UK only) will ensure that the company's spare parts requirements are consistently met in a cost effective, timely and efficient manner.

As a result of its ease of mobility Transbatch is ideal for remote location projects and general construction projects such as, but not limited to, road building, wind farm bases and warehouse flooring.



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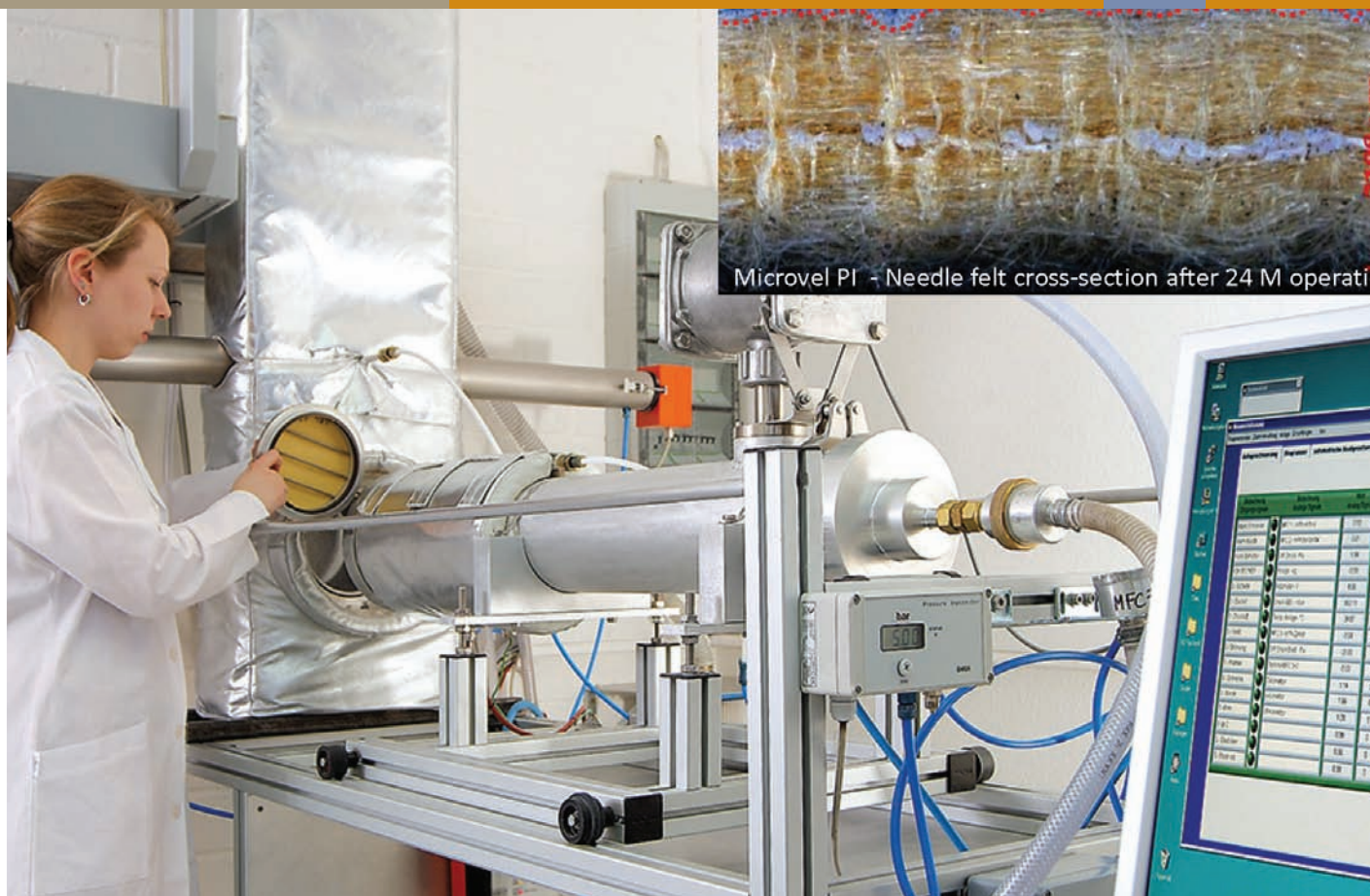
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Fine Particle Dust Control - with Gutsche microvel® Filter Media for Filter Bags

MGF Gutsche GmbH & Co is a global market leader in the field of textile filter media and can look back on over 50 years of experience. Filter media from the GUTSCHE porotex®, brand such as optivel®, microvel® and advantex® are recognised in a wide field of applications in many countries. Such as Cement, Asphalt, Power Generation, Waste to Energy, Biomass, Metal, Chemical, Pharmaceutical & Food industries. GUTSCHE is known within the industry for its innovative and practical solutions. For decades, the company has been producing needle felts for dry filtration, which play an important role in air pollution control and the reduction of hazardous substances.

The offered product range covers all demands for technical dry dust filtration. Tailor made solutions with innovative products like microvel® are the specialities of Gutsche Textile Engineering. The microvel® products

are based on microfiber technology needle felts which have been engineered for a very high fine dust particle separation efficiency. Low residual pressure losses and separation efficiencies of over 99.998% for PM 2.5 were confirmed via VDI/DIN 3926 filtration test.

Development and optimisation of filter media

With the assistance of our customers, continuous monitoring of the condition of used filter media as well as performing ongoing material and construction tests with in-house equipment, it is possible to develop in addition to basic needle felt products, customised high-performance felt constructions for delicate application areas. Both material optimization as well as completely new developments from needle felt constructions are usually achieved with the help of the internal filter test rig according to VDI/DIN 3926 (ASTM D6830-02) type 1, which involves polymer specific tests at temperatures of up to 240 °C, allowing us to simulate process conditions as part of our development programme.

Additionally, a further improvement of the filtration characteristic is possible through application-optimized surface treatments for better cleaning effects like membratex® and antafin®.

Energy efficiency of filter equipment is already an important point. In this respect microvel® filter media work at distinctly lower pressure losses beside high separation efficiency which highlights also ecological and economical advantages. Through reduced cleaning cycles, we see effective potential energy savings, extended filter bag life and other related operational cost savings.

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Heavy Duty Modular Vacuum System offers reduced cost and increased flexibility.

JEC Vac Solutions Ltd announces the launch of the Ecogam Modular Vacuum System now available in the UK & Ireland

The Modular Vacuum System (MVS) by Ecogam is a Heavy Duty Vacuum Unit offering greater flexibility of use and reduced capital cost over traditional lorry mounted Vacuums.

Utilising a well proven, high power vacuum system installed on a support frame with a 57 Kw vacuum pump driven by a PERKINS diesel engine, the MVS unit is totally self-contained, requiring no additional electrical, hydraulic or compressed air connections.

The unit can be quickly anchored on a flatbed lorry, lifted with a porta-container system lorry (hook-armed) or fixed on a trailer.

The large 5 m³ usable capacity container includes a level detector, hydraulic tailgate and automatic door for quick discharge of collected materials and the large area filters and reverse jet cleaning allows for continuous cleaning operations over long periods of time even when collecting fine dusts such as cement, plaster and lime.

The unit offers high capacity vacuum solutions for rapid bulk collection or vacuum cleaning operations to reduce time and manpower and increase profitability.

Main Features include

- Superior vacuum power for quick clean-up operations at up to 20 tons/hour
- Ultra compact and versatile offering a range of mobility options
- Maximum flexibility to remove any dry product from fine powders to ballast
- Totally independent of auxiliary supplies (mechanical, electrical, hydraulic)
- High capacity container (5m³ usable capacity) for increased productivity
- Very simple maintenance reducing running costs
- Reliable, simple design, state of the art parts and components for reliability
- Minimum investment, maximum return, increased profitability

In addition to the Heavy Duty Ecogam Range of Vacuum Cleaning and Bulk recovery Systems, JEC Vac Solutions Ltd. also design and supply Fixed Central Vacuum Cleaning Systems and other Bespoke Solutions for a Dust Free Environment.



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