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Issue 24



## **Innovative Vulcan Burners provide significant cost savings for asphalt operators**



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## In this issue

<b>COVER STORY</b>	<b>4</b>
<b>NEWS</b>	<b>6</b>
Mentor 25 year celebrations	
Tema Isenmann LineTECH	
BioWatt composting facility	
Miller International Director	
New industrial catalogue	
Fast Track Success	
JCB diggers help	
<b>RECYCLING</b>	<b>11</b>
Accurate & dependable weighbridges	
The Max X Tract Treatment	
<b>WASTE SHREDDERS FEATURE</b>	<b>15</b>
Strategic working relationship	
New mobile shredder	
Granulation capacity increased	
The Forrec range	
<b>QUARRYING</b>	<b>19</b>
New McCloskey triple deck	
Manufactured sands	
Reaching target zero	
Powerscreen XH320X Crusher	
Barrack Hill Quarries Ltd	
New Terex Finlay J - 1170	
Volvo package	
Economy and ecology	
Re-inventing the slurry pump	
Worsley Plant supply the solutions	
<b>EARTH MOVING FEATURE</b>	<b>35</b>
Doosan 42 Tonne Excavator	
Stokey ramps up Bell fleet	
Viby buckets bullet proof	
New excavator range	
<b>BULK MATERIALS HANDLING</b>	<b>40</b>
Canning Conveyor lend a hand	
Astec Green Pac	
A very special construction	
<b>STORAGE &amp; HANDLING FEATURE</b>	<b>45</b>
Council calls on concrete firm	
CaCO processing plant	
Silo cleaning	
TECDOS Conveyor Technology	

# Improvements in building block demand in 2011 more than wiped out in the current year

Demand for building blocks increased slightly in both 2010 and 2011. However, the market in the current year is likely to be lower by around 6%. This will more than wipe out the gains of the previous two years. This is one of the conclusions of BDS Marketing's latest report on the industry entitled 'Estimated market shares of concrete block companies in Great Britain'.

Blocks suppliers have benefitted from an increase in popularity of traditional wall construction using blocks, and a return to building more houses rather than flats, which require more units for each dwelling. However, whilst some markets in the private sector are showing a degree of improvement in the current year, output in the public sector continues to struggle. BDS has also identified an increase in stocks held by block manufacturers, particularly in the aircrete sector. This will put pressure on margins as companies attempt to reduce stock levels.

These trends are analysed in the BDS report which also estimates the output of each of the 100 block plants operated by around 50 companies in the industry.

The consultancy estimates that Tarmac continues as the largest block company in the industry, followed by Hanson and H&H. Together, these companies make up nearly 40% of industry output. Other major companies in the blocks sector are Aggregate Industries and Cemex. However, the larger companies have been losing some market share - four block plants have been closed recently. Other major block manufacturers are independent companies relying on the sector for much of their business. These include Plasmor, Stowell, S. Morris and Lignacite.

BDS continues to believe that industry fortunes will start to pick up during 2013. Recovery is expected to be slow, and will be from an historically low level. Government attempts to increase infrastructure spending will start to benefit the industry. Disposable incomes have begun to stabilise and a degree of consumer confidence will help the sector from next year.

Over the next three years, BDS is forecasting an increase of around 10% in demand. However, by 2015, demand for building blocks is still expected to be 40% lower than it was in 2007.

[www.bdsmarketing.co.uk](http://www.bdsmarketing.co.uk)



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## Innovative Vulcan Burners provide significant cost savings for asphalt operators

Highly innovative Vulcan Burners, developed by the expert team at Asphalt Burner Services (ABS) in Northern Ireland, are fast becoming the preferred equipment for major asphalt operators in Great Britain, other parts of Europe and, most recently, China.

Vulcan Burners, launched by ABS in December 2011, feature a high end range of dual fuel and natural gas systems that have attracted the attention of operators in the quarrying industry, because the innovative equipment offers significant savings in fuel and other operating costs.



Burners purchased by major quarrying companies, including Cemex UK, Midland Quarry Products and Eurovia Infrastructure, have proven very successful, providing the savings projected by the ABS team, headed by Ian Lewis, Design Engineer. Cemex UK purchased the first Vulcan burner at the beginning of 2012 and has reported consistently low fuel figures throughout the year. Cemex also achieved a 0% breakdown rate on the burner system and subsequently placed an order for another Vulcan V16 burner to be installed at their site in Birmingham. Continuing the strength of the Vulcan range, ABS received an order for eleven dual fuel and natural gas burners for Aggregate Industries UK in December 2012 with the first installations underway!

The Vulcan burner installed April 2012 at Eurovia, Ipswich is providing fuel savings of 30%, according to site manager Colin Adams, who says: "We've been thoroughly impressed by the overall efficiency, effectiveness and reliability of the Vulcan Burner which is enabling us to reduce our energy costs and contributing to our overall competitiveness."

The company has also attracted business from other sectors including sand drying and has supplied a Vulcan V6 Burner to Kinegar Quarries, Berwickshire, which quarries high-grade aggregates for gritting and de-icing operations. It installed the Vulcan Burner to help its export activities in Scandinavia and Central Europe.

Another important customer for Vulcan Burners is the Emerson Group in Northern Ireland, which chose the Vulcan payback scheme for a V6 burner for its sand drying plant at Craigavon, according to Uel Parr, divisional manager at Emersons.

Emersons was offered a payback plan for the Vulcan Burner which enabled them to use the savings they achieve to fund the burner. This approach shows the confidence ABS has in the performance of its Vulcan Burners.

Mr Parr says: "The Vulcan Burner has enabled us to payback the purchase cost from the monthly savings made on fuel usage. After the installation, we could clearly see the efficiency of the product from the fuel figures we are achieving. We are delighted and pleased that we made the right choice in upgrading our system with a Vulcan Burner."

Vulcan Burners were also launched successfully at major international exhibitions last year including Intermat, Paris, Hillhead in Derbyshire and Bauma in Shanghai and attracted significant inquiries. The launch in China led to a series of orders there from construction contractors around Shanghai.

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The growth in Britain and abroad led ABS to extend its experienced engineering team and to recruit recently further service engineers based in the North of England to improve response time and assist with the wider national coverage.

Recent innovations developed by the company include a RAP system which can be retrofitted to an existing asphalt plant drying facility, eliminating the need to purchase a specialist RAP dryer. Trials have produced encouraging results that include a doubling of recycled asphalt.

This state-of-the-art technology, to be launched commercially soon, offers significant cost savings and environmental benefits, an especially important feature in the light of growing pressure on operators to reduce environmental impact particularly in carbon emissions. The burners, for instance, feature unique and highly effective dryer combustion to optimize asphalt recycling and to cut carbon emissions. The technology effectively doubles the amount of asphalt that can be recycled.

Ian Lewis says the range of Vulcan burners is the result of experience gained over 40 years in the asphalt industry by the ABS technical team, consultants and longstanding suppliers.

*"We are an innovation-led company with a significant commitment to continuous investment in R&D. This focus is designed to enable us to stay ahead of competitors through continuous technical development."*

*"Our new technology is a very significant development that will enable customers to reduce fuel bills by 20 per cent, a very substantial saving in this particularly challenging global business environment. Our calculations indicate that operators will find that the new system will pay for itself within a year on fuel costs alone."*

The company also has a wealth of engineering experience that underpins its manufacturing operations in Northern Ireland. The team, furthermore, backs up its engineering expertise with a superb technical network of support engineers throughout the UK for customers.



*"What sets our burners apart from competitors is that they are much more cost efficient and effective. Other innovative features include a standalone management system and variable speed controls which ensure the burner runs at its optimum performance."*

Mr Lewis adds: "We are now growing strongly in all our key markets through our commitment to innovative machinery that offers operators greater efficiency and to fast response customer support and services. Our investment in the business over the past few years and orders secured last year position the company for even faster growth in 2013."

Formed in 2005 Asphalt Burner Services provides high quality burner service packages nationwide with several engineering bases in the North and central belts of the UK. ABS also provide equipment installation, plant upgrades and suppliers of burner spare parts.

**For more information, please contact**  
**jodie.lewis@burnerservices.net or**  
**telephone 028 79469501.**

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## Mentor to launch 25 year celebrations at IMHX

**To celebrate 25 years as a training provider, Mentor are inviting visitors to IMHX to join them for drinks, giveaways and a touch screen safety challenge to mark the occasion.**

The exhibition will see the launch of a year's worth of events and promotions to celebrate 25 years in the business, including the introduction of 'Mission 25,' as part of which Mentor staff will take part in a wide variety of sponsored events to raise £25,000 for their chosen charities in just 12 months.

### Take the touch screen challenge

Whilst on the stand, visitors are challenged to complete a touch screen risk assessment, to see if their safety awareness is up to scratch. Mentor are showcasing this interactive service, available to businesses wishing to gauge operator skill levels, testing attitude, knowledge, awareness and hazard perception in a matter of minutes. The management of fork lift operations is vital to maintaining a safe working environment, and often overlooked with the focus kept solely on operator training, especially in the current economic climate. This method of assessment not only works as a tool to monitor operator skill levels and highlight any areas for improvement, it also has the potential to minimise training costs by determining the appropriate type of training required by each individual.

To find out more about the importance of manager and supervisor training click [here](http://www.hub-4.com/directory/6755) or call 01246 555222, and be sure to visit the team on stand 19J117 to hear how Mentor will be celebrating 25 years in the business!

 [www.hub-4.com/directory/6755](http://www.hub-4.com/directory/6755)



## New Tema Isenmann Line-TECH polyurethane wear plate offers all round wear protection

**Exhibited by Tema Isenmann on their stand at the recent Hillhead 2012 exhibition held at Buxton, Derbyshire in June, the new Isenmann Line-TECH polyurethane wear plates attracted considerable interest throughout the three day show.**

Line-TECH polyurethane wear plates offer all round wear protection, which can be utilised for almost any type of dry or wet process application, of mild to moderate requirements.

Line Tech wear plates are easily fitted through a central bolt and are supplied either in 25, 30, 40mm thickness x 300 mm square.

### Advantages of PUR wear plates compared to steel plates:

- Significant reduction of noise.
- Lightweight, allowing easier fitting.
- Fixing bolt is protected with a PU cap.
- Reduces the injury risk.
- Corrosion resistant.
- Long wear life and increased maintenance intervals.
- Economic benefits.

Typical applications include chute linings, silos, hoppers and impact areas.

Isenmann are based in Woodford Halse, Northamptonshire and supply a full range of screen systems including woven wire, harp sieves, rubber and polyurethane in tensioned and modular formats.

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## BioWatt to design and build enclosed composting facility for Wakefield Council, supporting the Shanks Group in a £750 million PFI contract

**BioWatt Engineering, specialists in the design and build of organic treatment facilities, has secured a significant contract with the Shanks Waste Management Limited to create an enclosed composting facility which will process green waste as part of a £750 million PFI contract awarded by Wakefield Council.**

The facility, due to be completed during 2015 will have the capacity to handle 25,000 tonnes a year of green waste from the council's collections and household waste recycling sites, to produce a range of composted products for beneficial use.

BioWatt CEO, James Lloyd said: "We are immensely proud to be working alongside Shanks Group and their selected contractors to deliver this landmark project. This gives BioWatt the opportunity to demonstrate our environmental engineering capabilities with what is a uniquely designed plant and process.

"The contract represents an important milestone for BioWatt Engineering as our first design and build contract, just four months after the company's formal incorporation. This will cement our position as a leading supplier of complex integrated engineering projects in the AD and composting sector. We are confident that the next few months will be equally rewarding as a number of projects are nearing the latter stages of development."

This contract follows swiftly from a framework agreement BioWatt announced in December to provide agri.capital S.a.r.l., Europe's largest biogas developer, with an immediate presence in the UK, investment and acquisition opportunities, and to represent the companies' interests in the important and rapidly growing anaerobic digestion and biogas fields. The deal is projected to bring £500m of inward investment to the UK biogas/ renewables sector over the next five years.

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## Miller International Director Honoured with MBE

**The achievements of Jacqui Miller, Sales and Marketing Director of North East-based Miller International, have been recognised with an MBE for services to industry and international trade in the 2013 New Year's Honours List.**

Jacqui is responsible for all group activities relating to sales and product distribution channels at the engineering firm, 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.

Miller was established in 1978 by Jacqui's elder brother Keith, their brother Gary also joined in 1979 and she completed the sibling team in 1981. From humble beginnings as a mobile welding service based in an allotment shed, the business has grown to become an

internationally renowned manufacturer of innovative ground breaking products, providing significant cost savings to its worldwide customer base.

As a committed, determined and inspiring businesswoman, Jacqui takes her responsibilities to the business and its brand very seriously. Her recent focus has seen her using her individual flair and natural ability to encourage and ignite thought change 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, sustainable for the long term.

Jacqui is a familiar face, well known throughout the international construction and quarrying industry. Relying on her previous experience in the mid-1980s 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.

Not content with this alone, she is pushing the boundaries of other new markets, such as Australia, the Middle East and Russia. She is also a keen contributor to business growth in general and is passionate about prosperity within the North East and the UK. Her interest in assisting other SME businesses sees her actively partake in meetings with the UKTI and the CBI, as well as being a member of the Genesis Initiative, a forum established to advise the government on current topics and challenges facing SME businesses.

The award is testimony to the hard work, drive, passion and dedication of Jacqui and the entire Miller team. It signifies a fantastic start to what is a landmark year as the company celebrate 35th anniversary.



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## Fast Track Success for Blue Group

In the recent Sunday Times Fast Track 100 awards, Blue Group, one of the UK's leading providers of processing and handling equipment to the waste recycling, scrap processing and quarrying industries, were awarded 70th place.

The Sunday Times Fast Track 100 league table ranks Britain's top 100 private companies with the fastest-growing sales over their latest three years. The top 100 is compiled by Fast Track and published in The Sunday Times each December. Blue Group will receive their award at the ceremony which is held at Richard Branson's Oxfordshire home in May.

Blue Group compliment their nationwide distribution of capital machinery with a specialized focus on spare parts and service to ensure minimum downtime and optimum profitability for their customers. The after sales area of the business has proved to be extremely successful during the recent economic downturn as some companies choose to repair rather than replace their existing machinery. With exclusive distribution rights for Terex Powerscreen, Terex Fuchs, Doppstadt and other leading brands, Blue Group pride themselves with being at the forefront of the industry with cutting edge technologies.

Chairman Pat McGeary, joined up with Brian Maxwell, Eugene Donnelly and Austin Carey in 2004 to form Blue Group and together plan further acquisitions along with additional OEM distribution partnerships in growing markets which will ensure continued success for the Blue Group. On winning this prestigious award, Mr McGeary said, *"This award is a huge recognition of the hard work put in by everyone within the Group and also the continuing loyalty of our customers. Through these challenging times we have strived to become more efficient whilst improving our service and product offering to our clients."* Mr McGeary added *"We are delighted to have received such a prestigious award and look forward to driving the business forward in the coming years"*

For more detail on Blue Group's recent achievement, log onto <http://www.fasttrack.co.uk/fasttrack/leagues/dbfastDetails.asp?siteID=1&compID=3539&yr=2012>

 [www.hub-4.com/directory/2260](http://www.hub-4.com/directory/2260)





## JCB Diggers to help unearth buried wartime spitfires

**DIGGERS made by Staffordshire-based JCB are about to embark on a mission to help recover Spitfire warplanes designed by one of the county's most famous sons and believed to be buried in Burma.**

The unassembled planes are thought to have been hidden in the ground by American engineers across three sites as World War II drew to a close.

Now a bid to excavate for crates thought to contain more than 30 of the Spitfires is about to get underway at Rangoon International Airport and JCB is providing a 20 tonne JS200 tracked excavator, a 22 tonne JS220 tracked excavator and a 3CX Eco backhoe loader to complete the job.

The company is also despatching the Team Leader of the world famous JCB Dancing Digger display team, JCB Demonstrator Oliver Keates, 31, of Cheadle, Staffs, to operate the machines and offer expert advice on the digging operation.

JCB was founded by renowned engineer Joseph Cyril Bamford in a lock-up garage in Uttoxeter, Staffordshire in October 1945 and

under the leadership of his son, Chairman Sir Anthony Bamford, it has grown into the world's third largest manufacturer of construction equipment.

It is another great Staffordshire engineer, Reginald Mitchell, who is famous for designing the Spitfire. He was born in 1895 in Kidsgrove, Staffordshire and educated at Hanley High School, Stoke-on-Trent.

Sir Anthony Bamford said: "Reginald Mitchell put Staffordshire on the map in the 1930s with the design of the Spitfire so it's very fitting that JCB, a modern day innovator and engineering company based in the county, should be providing the excavators to dig up the planes."

Oliver Keates, who has worked for JCB for 14 years, said: "I'm excited at the prospect of being involved in this project. It's going to be thrilling to be at the controls of JCB machines attempting to unearth a Spitfire."

Newcastle-under-Lyme businessman Julian Mitchell, who is Reginald's great-nephew said: "I'm delighted that JCB is involved in helping recover the Spitfires. Staffordshire is a great manufacturing county and I'm sure my great-uncle would have been pleased that a modern-day British engineering success story was playing such an important role in this project."

The dig is getting underway after a 17 year search for the Spitfires led by aviation enthusiast David Cundall. Award-winning on-line games developer Wargaming is funding the efforts to recover the buried Spitfires.

The JCB 3CX backhoe loader is the world's most versatile piece of construction equipment and is one of the biggest selling machines thanks to its ability to load, road and excavate. It weighs in at eight tonnes, has a top speed of 40kph and a bucket capacity of 1 m<sup>3</sup>. JCB has made more than half a million backhoes since 1953. The JS200 tracked excavator being used in the dig weighs in at 20 tonnes and is powered by a 172hp engine and can dig to a depth of 6.6 metres (21.8 feet).

JCB is supplying the machines through its dealer in Burma, RMA Services Co Ltd. Based in purpose-built facilities in Yangon, the company is also providing logistical and service support.



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## Accurate and dependable weighbridges for Winters Recycling Ltd

**Having recently invested in a new £3 million state-of-the-art recycling centre (MRF) in Hitchin, Hertfordshire, Winters Recycling have again chosen Precia-Molen as their preferred supplier and installed a VS400S Precia-Molen weighbridge.** Committed to reducing the impact of waste in the South East it was essential that they could depend on a robust and accurate weighbridge that would take the strain and have found the new 15 metre long, 50,000kg capacity, VS400S up to the daily task of weighing all incoming and outgoing traffic (including despatch of all C&D material from the MRF for crushing off site) through the busy recycling centre.

A family owned business since 1966 the company have been involved in the waste business since 1986 with their primary business in skip hire, earthmoving and recycling with recycling a huge priority at Winters, with 95% of all waste being recycled.

Winters also own and operate a second site in Southgate, London where they have operated a VS300CS Precia-Molen weighbridge for some time. Liam Winters - Company Director, commented, "It made sense to invest in a second Precia-Molen weighbridge at Hitchin as the Southgate operation has found their weighbridge both accurate and reliable."

With the Hitchin site processing approximately 100,000t/annum of waste materials; a fleet of 40 trucks, managing 2,500 skips including the daily arrival of third party skips, ensures the weighbridge is kept busy at Hitchin.

Liam Winters, further commented, "With business increasing and more going over the weighbridge daily it is imperative that we can depend on a brand that we can trust with the peace of mind that it is fully backed by a comprehensive Precia-Molen service contract."

### A truly versatile weighbridge

The VS400S is a truly versatile weighbridge designed by Precia-Molen to provide the user with the most flexible weighbridge solution for all industrial weighing applications. Combining strength, durability and flexibility within a simple and cost effective design the VS400S features a modular, all steel, fully welded construction which is entirely suitable for in ground or surface mounted installation.

Easy to install, maintain and re-locate if necessary the VS400S features a very low profile structure with minimal moving parts. Available in standard module sizes of 7.5 and 9 metres in length, these may be combined to provide a weighbridge length of up to 36 metres. Standard width is 3 or 3.5 metres when the 'oversize' version is specified.

In ground, surface mounted or transportable, the VS400S at Winters Recycling uses Precia-Molen's latest generation of digital load cells, the ASL, bringing all the benefits of digital technology in performance and reliability in one flexible package.

Ideal for the recycling industry the VS400S is constructed to provide an extremely rigid and reliable platform structure, having tremendous inherent strength to withstand the most arduous heavy-duty operations similar to the sites at Hitchin and Southgate.





## Wheeldon Brothers get the Max X Tract Treatment

**Industrial, commercial and domestic recyclers, Wheeldon Brothers, are reducing waste disposal costs whilst maximising material recovery thanks to the Max X Tract density separator supplied by Worsley Plant.**

Wheeldon Brothers run four waste and recycling transfer stations in Greater Manchester which together process 120,000 tonnes of construction and demolition (C&D) waste and commercial and industrial (C&I) waste every year. The processing of this material leaves behind around 120 tonnes of trommel fines each day which were sent to landfill.

Wheeldon Brothers recognised that rising landfill tax and disposal of trommel fines could become an issue for the business after a trial in Yorkshire by the Her Majesty's Revenue and Customs (HMRC) found that some waste transfer sites were failing to process material to a level suitable for the lower rate of landfill tax. (Landfill tax on trommel fines below 8mm qualifies for a lower rate of landfill tax currently at £2.50 per tonne.)

It meant that this material would have to be disposed of at the standard rate of landfill tax (£64 per tonne), thus becoming extremely expensive.

Wheeldon Brothers came to Worsley Plant as the sole supplier of the Max X Tract density separator because it is unrivalled in its ability to extract material with a market value. It can therefore significantly reduce costs for the business whilst generating revenue through the trading of recovered materials. It also allows Wheeldon's to demonstrate its commitment to sustainability and shows customers that their waste is being dealt with responsibly.

### Working with Worsley Plant

Worsley Plant recommended the installation of both the Flex X Tract and Max X Tract density separators in order to safeguard against rising landfill tax. Together the machines can separate out material of value to generate revenue for the company whilst reducing the volume disposed of in landfill.

The **Flex X Tract** separates out fines less than 8mm. This material is used as cover material at landfill sites which makes it suitable for the lower rate of landfill tax. Typically, around 30% of C&D waste can be treated this way.

The **Max X Tract** separates out heavies of 8-40mm, lights and scrap metal, much of which can then be traded as commodities.

### Heavies

- Typically amounts to 60% of material recovered Includes bricks, stones, glass, porcelain and scrap metal. Known as 'clean hardcore', this material can be sold for around £5 per tonne.

### Lights

- Typically amounts to 6% of recovered material Includes paper and plastic landfilled at standard rate but low weight so low cost.

### Scrap

- Typically amounts to 4% of recovered material. Sold for around £150 per tonne.

The efficient use of resources can create jobs, save valuable and finite raw materials and dramatically reduce emissions. For example, using recycled aluminium over primary ores in aluminium production cuts carbon emissions by 95% as well as saving energy.

### Results

Wheeldon's has reduced its disposal costs by over 90%.

This has been achieved through:

- Reduced waste to landfill which means less financial outlay in terms of landfill tax extra revenue generated through sale of recovered materials, including 'clean hardcore' and scrap metal. Due to these savings, the cost of the Max X Tract density separator has been covered within three months of installation.

### How it works: Max X Tract

- The Max X Tract is designed to separate materials less than 100mm giving the customer higher value materials and reducing the amount of material going to costly landfill.
- It uses industry leading, patented separation technology, is compact and can be easily integrated into existing systems.

It extracts materials in different ways to achieve better results than other density separators. For example, metals are magnetically pulled out of the material stream.

It can process 100 tonnes per hour to recover compost, metals, wood, plastics and organics.

It results in clean high quality products which can be returned to the composting process, used as biomass fuel, or to be sold on as secondary commodity materials. ►





## Example:

	Type of material recovered	Percentage of	Cost vs value
Fines <8mm	Soil	30% rate (£2.50/tonne)	Landfilled at lower
Heavies	Bricks, stones, porcelain, glass, scrap metal	60%	Sold for £5/tonne
Lights	Paper	6%	Landfilled at standard rate (£64/tonne)
Scrap	Metal	4%	Sold for £150/tonne

\*Prices correct at August 2012.

James Wheeldon - Wheeldon Brothers, commented, "The Max X Tract is significantly reducing our waste disposal costs. We deal with a lot of C&D and C&I waste so it is perfect for our needs as it allows us to adjust the different separating actions depending on the material going in. We continue to work with Worsley Plant to ensure the machine is working to its optimum level.

"The HMRC guidance relating to landfill tax on 'inert' trommel fines which was published in May 2012 really brought the issue home for us. There were people across the industry panicking about this material potentially being charged at the full landfill tax rate and so they were holding on to material. Having the Max X Tract means we are extracting a significant proportion of material, much of which we can sell rather than paying to get rid of, so it is keeping our costs down when waste disposal costs are rising."

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## New Materials Recovery Facility offers businesses a chance to reduce their waste costs and improve their green credentials



The new recruits at SITA UK in Wareham

A £2.5 million investment in a Materials Recovery Facility at Binnegar Eco Park, near Wareham, by leading recycling and resource management company SITA UK, is providing opportunities for regional businesses to recycle more effectively and has created new jobs.

The new Materials Recovery Facility can accept and sort dry mixed recyclables, such as cardboard, paper, plastics, cans, polythene and textiles. Local businesses looking to improve their carbon footprint and reduce their landfill tax burden, are urged to get in touch with SITA UK who will undertake a free waste audit for them.

James Howarth, SITA UK's Regional Manager for Dorset and Hampshire said: "The local team, which includes 10 new recruits from the Wareham area, is quickly getting to grips with the new equipment and we now have a modern, reliable and fit for purpose facility that can help businesses put their waste to good use."

"The facility can handle 20,000 tonnes of materials per year and with an experienced local management team, competitive prices and a fleet of collection vehicles we aim to attract new customers from Dorset, Hants and beyond", added James.

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## Creusabro® Dual joins the family!

### Introducing the Latest High Performance Wear Resistant Steel

Steel specialists Abraservice UK, formerly known as IMS UK, have extended their range of Creusabro materials with the introduction of Creusabro Dual, a new, advanced, high performance grade of abrasion resistant steel additionally alloyed with a high titanium content of 0.6%. With its outstanding properties, this innovative grade of material is ideally suited for parts in applications with severe sliding wear conditions where chrome carbide overlay plate has been used for many years such as chutes in the quarrying industry and chutes and screens used within glass, wood, tyre and metal recycling processes.

However, unlike weld overlay plate Creusabro Dual can be welded, drilled and machined and undergo standard processing such as being rolled, formed and fabricated. As a through hardened plate, the Creusabro range has better impact resistance and is therefore ideal for bucket liners, dump truck body liners and bucket cutting edges used in the quarrying and mining sector. Another benefit of this new grade is its high resistance to heat, up to 450°C, without significant reduction in hardness. The Creusabro range of products are used in high temperature industries such as the production of cement for clinker exit chutes and screens for sinter and coking screens used in the production of steel.

Creusabro Dual's unique properties have been created through an innovative metallurgical concept, based on a specific chemical analysis and heat treatment procedures based on oil quenching, rather than the more traditional water quenching method. Oil quenching reduces the level of the residual stresses encountered within the plate, resulting in outstanding extra wear resistance and severe abrasion resistance combined with a high impact cycle load. It is the homogeneous precipitation of extra hard primary titanium carbides in the steel mix that leads to such a significant improvement in the sliding wear resistance in extreme service conditions.



The range of Creusabro specialist steels; Creusabro Dual, Creusabro 8000 and Creusabro 4800 offer exceptional resistance to severe combined abrasion types, abrasion with impact, abrasion with elevated temperature, abrasion and corrosion.

Recycling is a top issue of our days. Side by side testing shows these specialist steels provide an economical solution in abrasive and impact prone environments. In shredding and granulating processes in the tyre recycling industry, screens produced from Creusabro 4800 have been proven to last 2x as long as those produced in standard 400HB steel, which reduces costly downtime and production losses.

Abraservice UK, is one of Europe's largest independent special steel stockholders and processors, and is the exclusive supplier in the UK market for this new, advanced, high performance grade of steel. Creusabro Dual is the only wear resistant steel at this level of hardness 500HB, currently available on the market that offers customers such high abrasion resistance combined with high resistance to cracking in service.

*"The addition of Creusabro Dual to this family of specialist steels is a fantastic new product for us to bring to the market. It brings exceptional material properties suitable for many applications in different industries including recycling and quarrying and mining. We have the whole range of Creusabro materials in stock and are also able to offer our processing services to customers with specific application requirements"* stated Nick Taylor, General Manager at Abraservice UK.



## SSI Shredding Systems Inc. forms strategic working relationship with Challenger Handling Limited; to increase sales and service support throughout the UK and Ireland

**To provide stronger complete solutions to the growing demand of industrial shredder products and services in the United Kingdom and Ireland, SSI Shredding Systems Inc. has signed a new distribution and service agreement with UK-based Challenger Group.**

SSI Shredding Systems Inc. has recently announced expanded efforts towards meeting the demand for industrial shredder sales and services throughout the United Kingdom and Ireland. Over the past several years, the industrial equipment manufacturer has installed more than 70 high-torque, low-speed shredding machines around Britain. In that time, SSI has seen continued market growth and responded with a significant plan to satisfy the needs of current and potential clients. A new distribution and service agreement was recently formed between US-based SSI Shredding Systems Inc., and UK-based Challenger Group.



Based in Hull, United Kingdom and with two additional locations, Challenger Group is well positioned to meet the British region's industrial shredder sales and service needs. The Challenger Group offers a comprehensive design, manufacturing, installation and after-sales service for systems in a diverse range of applications throughout most industry sectors in the UK and Ireland.

They specialize in a range of areas, providing products such as balers, compactors, conveyors and hydraulic cylinders, along with equipment to provide services such as drum and IBC reconditioning.

The two companies reacquainted in September 2012 at the Birmingham NEC for the RWM trade show. Challenger and SSI discovered they had a vast number of mutual clients and realized there were many possible benefits in a working relationship between the two organizations.

*"With the number of units we have in operation in the UK, it makes sense for SSI to have a strong partner there like Challenger Group who can efficiently handle both the sales and service of our equipment,"* said Joby Easton, Sales & Marketing Director for SSI Shredding Systems Inc.

Richard Green, Managing Director of the Challenger Group said *"I believe that this agreement is a great strategic fit for both Challenger and SSI as we have been manufacturing support frameworks, conveyors, lifting tippers, ram assist hoppers, etc. that feed material to and from shredders for many years. In addition, we have been providing after-sales service on a number of shredders, including cutter replacements and full rebuilds of a number of different makes and models of shredders."*

Combining efforts and expertise allows SSI Shredding Systems and Challenger Group to significantly impact the needs of shredding and size reduction clients throughout the United Kingdom and Ireland. This supports many of the same goals of each company and helps further establish each as an international solution provider.

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## Coming in our April edition...

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**Materials Handling** - Weighing Systems, Weighbridges/Instrumentation & Software

**For more information call 0845 680 0024**



## Waste paper specialist chooses new mobile shredder

**Waste paper recycling specialists Parry & Evans has added a Lindner Urraco mobile shredder to its range of recycling facilities at its Deeside site.**

The Urraco, supplied by Lancashire-based Mach Tech Services Ltd, has aggressive intake, multiple cutter configurations and quick change rotors, making it suitable for a range of different materials including waste paper. The slow-speed two shaft shredder can also deal with domestic, commercial and bulky waste, mixed waste wood, biomass, logs and electronic waste.

Mach Tech Services Ltd launched the Urraco to the UK market at last year's RWM exhibition.

Tony Gallagher, Business Development Manager, said: "The Urraco offers a whole new way of working for recycling companies, giving them the flexibility of a shredder that can be moved around."

Mach Tech Services, the UK and Ireland's exclusive supplier of Lindner machinery, specialise in a wide range of shredders including SRF/RDF, plastics and metals.



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## Granulation Capacity Increased at REGAIN Recycling & Plastics

**Following the commissioning of a Zerma 800 heavy duty granulator at REGAIN Recycling & Plastics site at Rainham in Essex, capacity has been increased by up to 5,000 Tonnes per annum.**

With a name plate capacity of circa 1,800kg per hour and complete with air classification for dust removal, the new granulator provides increased opportunity for REGAIN Recycling & Plastics to access and recycle rigid plastic scrap arising in London and the South East.

Historically, scrap materials arising in this locality would have required transport to the REGAIN Polymers site at Castleford, West Yorkshire which often proved uneconomical. Installation of granulation capacity at REGAIN'S Rainham site will therefore facilitate delivery of additional feedstock to its compounding business in Yorkshire.

Commenting on the increased granulation capacity, Mark Roberts, Technical Sales Director at REGAIN Polymers, says: "2012 continues to be a milestone year for REGAIN as investment in our businesses, as well as that in the industry generally, continues to gather momentum."

"The commissioning of this granulator at the Rainham site was the next step in our investment program, as we seek to reduce cost and deliver process efficiencies across our plants. In addition to an overall capacity increase, this new installation allows us to size reduce cleaner feedstock more competitively at Rainham without the need to put such materials through the existing wash process."

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### The Forrec range from Jarshire

**Represented in the UK by environmental and recycling specialist Jarshire Ltd, Forrec Srl is a market-leading manufacturer of high quality shredders, grinders and granulators together with customised turn-key recycling systems for the treatment of WEEE, tyres, refrigerators, SUV, metallic scrap, oil filters, toners and plastic.**

Designed to operate within continuous production cycles and with minimum maintenance, the Forrec range can provide convenient solutions to meet specific needs and includes:

Double-shaft shredders that provide unbeatable, simple shredding of any type of solid waste; four-shaft shredders that combine the reliability and power of the double-shaft shredders with control of material size output - from 30mm upwards.

Rotary blade Granulators that grind heterogeneous plastic scrap resulting from the injection moulding, extrusion, blow moulding and thermoforming processes. Even the most challenging materials can be treated thanks to the use of special steels.

Other Forrec products include ferrous grinders ranging from a base model that can treat solid waste, plastic, wood, rubber, paper or cardboard, to four-engine double-shaft grinders that process packed or entire automobiles and general metallic scrap.



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## APR deliver new McCloskey S130 Triple deck to Tong Quarry

**Tong Quarry Ltd is a family business that has owned and operated Tong Quarry near Bacup, Lancashire since 1992.** Supplying the North West of the UK with gritstone, screening operations are at the forefront of processing operations, making it essential that machines are productive and reliable in operation. With a desire to upgrade an existing machine (Sandvik QA330) which was three years old, Operations Director - Jim Laycock recently visited the Hillhead 2012 exhibition to view all the machinery currently available on the market.

### Build quality:

After viewing the range of mobile crushing and screening machines at the show Jim visited the APR stand and was very impressed with the McCloskey S Series range of screening machines on show. In particular he noted that the build quality and design features put this machine ahead of the competition, especially the cross conveyor for the top deck oversize and the amount of room in the engine compartment illustrating how easy it was to access the engine for servicing.

After much discussion at the show Jim invited APR to Tong Quarry for further consultation, and subsequently placed an order for a McCloskey S130 Tripledeck (TD) Screener.

### Wide range of applications:

The S130 TD that was supplied to Tong Quarry is a highly effective screener that offers all the class leading features associated with the McCloskey S-Range, such as the high

energy screenbox and other user friendly features. The S130 TD can be used across a wide range of applications from aggregate, coal, crusher circuits, wood chip, and performs extremely well in fine sand screening, on which it has excelled and stunned customers worldwide with its production capacities.

With its unique size designed to meet demands of operators who require significantly more screening capacity than a 10' or 11' screenbox; but may not require the full capacity of a 20' plant, the S130's production capabilities have been proved in a number of application demonstrations. On every occasion the S130 has matched, or in some cases outperformed in productivity against the 'so called' larger competitor models, in the same material, with the same screen mesh sizes.

### Features and benefits:

The McCloskey S130 TD boasts an array of features and benefits which elevate the models above all the competitors in its class, having comparable production capacity to its competitor's larger models at a far more cost effective price.

This class leading screening area, along with its high energy screening action (combination of optimised screenbox weight, shaft speed, and screen amplitude dynamics) ensure that the McCloskey TD models are the superior choice in aggregate material screening.

Uniquely produced with a cross conveyor, and a fully hydraulic fold fourth conveyor as standard which reduces set up time, the need for lifting equipment, and prevents damage or bending when moving the machine, or when setting up with manual lifting gear.

With quality components throughout, the McCloskey TD offer a reliable solution to the demands of customers application needs.

Jim Laycock, commented, "The new screen has provided significant benefits as it is now producing a cleaner range of product, and is also making an additional product I have a market for, and did not previously sell."

## Manufactured sands increase efficiency for Grange Quarry

**A new modular washing plant has allowed Grange Quarry to increase the efficiency of their concrete manufacturing operation by eliminating the requirement to buy in washed sand and aggregates.**

The new plant is situated at Kelhead Quarry near Annan in Scotland and includes the M2500 E4 mobile washing plant and AggMax 83 portable logwasher. Operational since October 2012 the new plant has a capacity of 200 tonnes per hour and is processing 0-75mm limestone conglomerate material to produce a 0-4mm washed manufactured sand as well as 4-6mm grit and three washed aggregates - 6-10mm, 10-20mm and 20-40mm. The 40-75mm material is crushed and fed back to the washing plant.

The efficiency gains have come from eliminating the requirement to buy in washed sand for use in the concrete plant operated by Grange Quarry at Kirkburn, Lockerbie. "Before we bought the CDE plant we were buying in large quantities of washed sand from various sources and we are now able to produce this material ourselves" explains Stuart Dodd, Managing Director of Grange Quarry Ltd. *"The washing plant has also allowed us to enhance the quality of our concrete aggregates which has not only introduced efficiencies to our production processes but further improved the quality of our concrete products."*

It was the introduction of the AggMax system that enabled Grange Quarry to produce concrete specification aggregates from the limestone conglomerate material at Kelhead Quarry. The clay present within the feed material required an attrition system which would effectively separate the clay from the limestone aggregate material. "We went to see the AggMax system in operation on a C&D waste recycling project for Malcolm Construction in Irvine in July of this year" explains Stuart Dodd. *"This demonstrated to us the capability of the machine to effectively deal with the clay in our material."*

The feed material is delivered to the M2500 initially where initial screening separates the 0-6mm sand and grit fraction from the 6-40mm aggregate material. This aggregate material is then delivered to the AggMax which includes the Rotomax RX80 logwasher and a triple deck dewatering screen on a single chassis. Once the material has passed



Overhead view mobile M2500 wash plant



Feed material on M2500 wing conveyor

through the Rotomax the scrubbed aggregates are discharged onto the integrated dewatering screen where they are sized into the final product gradings. These are subsequently stockpiled by three 15m mobile belt conveyors. The waste water from the AggMax containing the fines liberated by the scrubbing process is returned to the M2500.

The 0-6mm material is washed on the M2500 to produce a 0-4mm washed sand and 4-6mm grit which are stockpiled via two integrated wing conveyors. The 0-6mm material is delivered to one side of a split dewatering screen where the 0-4mm sand falls through to the sand plant sump while the 4-6mm material is dewatered. The 0-4mm material is then pumped to the hydrocyclone where the 0-63 micron material is removed and the remaining material is discharged onto the dewatering screen before being stockpiled. The waste water from the sand washing phase is then discharged to settling ponds. *"By minimising the fines content within our final sand product we are able to increase the efficiency of our concrete production and also produce a very high quality concrete product"* says Stuart Dodd.

The M2500 and Aggmax combination was chosen by Grange Quarry for this project as a result of the modular nature of the equipment which allows for quick set-up on site and also a small plant footprint. *"The ability for us to get up and running very quickly was crucial in our decision to invest in the new plant"* says Stuart Dodd. *"We acquired the rights to extract at Kelhead quarry in June and were producing material by the end of October."*



# Reaching Target Zero doesn't have to cost the earth

**The extractives and minerals processing industries have taken health and safety by the horns and addressed it head on. With the aspirations of the Minerals Products Association to achieve TARGET ZERO and ZERO harm, it is vital that those organising training understand how to achieve complete workforce competence.**

## A helping hand

Mentor delivers training under the MPQC operator competence scheme for a multitude of mobile plant, supporting those who want to build the kind of safe, efficient and effective workforce that will help industry reach TARGET ZERO.

It is clear that operator training is a must but in this tough economic climate it can be difficult to make it a priority with diminishing budgets. With this in mind Mentor regularly works with its customers to ensure that training schedules are as lean in cost as they can be without compromising on course duration or quality. Mentor recommends the following seven steps to ensuring companies get the most out of their training budget.

**Step 1 Complete a skills gap audit** - find out who onsite is required to operate the equipment and whether they have had any experience of using it. Always find out the role of the operator and the equipment in the business to allow you to make informed decisions when organising the relevant training courses. For instance, is the excavator used for basic cleaning duties, is it working to load vehicles or is it stationed at the quarry face?

**Step 2 Assign the relevant training/assessment category to each operator** - using the below categories of training requirements

**Novice** - never used the equipment before.

**Experienced** - has operated the equipment but has never received formal accredited training.

**Conversion** - holds a valid licence / certificate of training on an item of equipment that has similar operational methods and requires transfer of skills or is required to operate a larger category of the same equipment.

**Refresher Re-Assessment** - has operated and held a certificate / licence for the operation of the equipment previously but would benefit from a training update and assessment.

**Assessment Only** - operates the equipment on a daily basis as part of their main job function and holds a valid licence of operation which is coming to its expiration date.

**Step 3 Training and Assessment Plan** - put together a plan for training and assessments or speak to your chosen training provider about your requirements and see if they can organise a schedule for you.

**Tip** - Wherever possible make sure training is fit for purpose and relevant to the job and the operational requirement for the machine. A common mistake is to organise training that includes a multitude of equipment operation your operators are never going to need; ensure the training is geared towards the way they utilise the equipment. Be realistic and keep it relevant.

## Step 4 Ensure operators are trained to adopt fuel-efficient, cost-effective methods -

Training courses should improve operator, machine and cost efficiency without lowering productivity. A company with operators trained to consider such factors should see a significant reduction in general machine wear and fuel consumption.

## Step 5 Verify the competence of everyone operating on site -

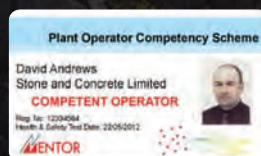
when it comes to competence the MPA state that companies have the same responsibility to regular contractors as they have to their own employees. By ensuring that your contractors hold an MPQC/SPA Contractors Safety Passport, you can save time and resources on generic health and safety inductions and stick to site-specifics. But more importantly, having competent contractors on site should further reduce the chance of incidents, meaning you can make savings on legal fees, machine maintenance and down time in the long run.

**Step 6 Keep training records** - for each equipment operator and be able to show what initial training has been provided - your training provider should also be able to assist with this.

**Important Reminder** - If you are an internal or external training company you must be able to demonstrate what has been taught during training. Keep master copies of training documentation for each course with any lesson plans and testing paperwork.

**Step 7 Continue to reinforce training** - get your staff to buy into the training, speak to them about skills gaps, reinforce safety messages and get them involved with all training initiatives.

**Mentor are happy to help you with any training queries and can offer training under the MPQC Operator Competency Scheme and the newly launched joint MPQC and SPA Contractors Safety Passport Scheme. For information contact Emily Bonsall on 01246 555222.**





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# Powerscreen® XH320X Mobile Impact Crusher



**Powerscreen, one of the world's leading providers of mobile crushing and screening equipment, launches the new XH320X impact crusher.**

Damian Power, Powerscreen Global Product Director, said, "Building upon the success of the XH320 in the Quarry and Recycling industry, the new XH320X is the next generation of impact crusher for these markets."

The XH320X 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 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 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.



## Barrack Hill Quarries Ltd supplying the materials for the Irish construction industry

**Since its incorporation in 1992, Dungannon based Barrack Hill Quarries has played an increasingly important role in the supply of high quality aggregates and stone to the Irish construction industry. Possessing unprecedented industry expertise, and incorporating an armoury of some of the most up to date quarrying machinery available, continued development has seen the company invest in some of the latest Sandvik crushing and screening equipment in order to process quarried materials even more accurately, whilst simultaneously improving production efficiencies and reducing emissions.**

Based in Dungannon, County Tyrone, Northern Ireland, Barrack Hill Quarries Ltd was first incorporated in January 1992, with this family run business being established by current Managing Director Cormac McDonnell. Starting with just 5 employees, Cormac's aim was to use his industry expertise in synergy with the naturally occurring basalt within the quarries, in order to provide a source of high quality aggregates for the construction and associated industries. Due to systematic business growth Barrack Hill Quarries, and its sister company EPL Ltd, now employ over 50 people in a variety of roles.

The growth the business has experienced is fundamentally due to Barrack Hill Quarries now being considered to be one of the premium aggregates suppliers in Ireland, but as it has expanded the business it has also diversified into related areas such as demolition, recycling, plant hire, civil engineering, crushing and screening contracting. When asked to define why the company has experienced such strong growth during the last 20 years Cormac McDonnell was unhesitating in stating - *"Sound management and good business practices."* He further added that - *"We have always operated a quality driven quarrying operation, but we have been aware of the possibilities that exist in related business areas to not only use our expertise, but also the equipment we own."*



Despite the business diversification operations are still very much centred on the original Barrack Hill base, and it is from here that Barrack Hill Quarries sets out to supply grading's of material for uses in various applications throughout Ireland. It is due to the inherent customer focus of the business, a fact acknowledged by the company recently being awarded ISO 9001 in recognition of its quality management systems, that Barrack Hill Quarries has from its very inception been geared at providing the materials required, when they were needed, and all to exacting specifications. Thus, the company now counts as clients some of the biggest players within the Irish construction industry including such names as Sisk Construction, Laing O'Rourke, Tarmac UK, Farrans Construction (part of the CRH Group), Graham Construction, Rail Track Ltd; all of whom rely upon Barrack Hill Quarries for the supply of aggregates.



The reason for such an esteemed group of companies all relying on Barrack Hill Quarries is easy to understand, as they are able to provide stone and aggregate for a variety of uses, whenever and wherever it is needed. Using their fleet of light and heavy haulage vehicles Barrack Hill Quarries is able to supply materials in various sizes for projects large and small. This has included private housing developments, water-sewage treatment works, road construction, sea defences, road construction and other projects too numerous to mention. The actual materials being supplied range from quarry dust to boulders, either as crusher run or clean stone, including various sized aggregates ranging from 6-150mm, gabion stone, rock armour, boulders and rubble, as well as the supply of filled sand bags.



In order to be able to produce and supply such a wide variety of stone and aggregate, for such a wide variety of applications, Barrack Hill Quarries has invested in a variety of equipment, from a cross section of the leading construction equipment manufacturers. The common denominators for the equipment being that it has to be tough, hard wearing, efficient, minimise negative environmental emissions, possess the highest standards of health & safety, and contribute to the overall efficient productivity of the business operation. Thus the range of equipment now operated includes a range excavators from 13 to 100 tons, dozers, dumpers ranging from 1 ton upwards (both rigid and articular), a tracked crushing and screening train, as well as individual scalpers, screens (double and triple deck) and crushers.

Some of the newest equipment invested in has included some of the latest developments in Sandvik Construction's range of tracked crushers and screens. This is hardly surprising as the Sandvik range of mobile crushing and screening equipment has been developed with the needs of the minerals extractive industry very much to the fore, with all equipment possessing inherent flexibility allowing it to be used in other applications ranging from demolition to surface mining. Thus a major reason for Barrack Hill Quarries investment in the Sandvik range is due to Sandvik's emphasis on enhancing their customer's profitability, with machine performance being focused at producing the right mineral products, at the desired levels of production. Additionally, all Sandvik equipment not only aims to maximize customer profitability, but also to minimize environmental impact, whilst helping produce the safest possible working conditions. Barrack Hill Quarries now operates a full range of Sandvik equipment including jaw crushers (the QJ341), cones (QH331 & QH440) and screeners including the 4-way split QA450 doublescreen.

The latest piece of crushing equipment for the Barrack Hill Quarries armoury has seen the recent delivery of two Sandvik QH331 track mounted cone crushers. Based on its predecessor, the QH330, the QH331 has been redesigned to provide Barrack Hill Quarries with a more environmentally friendly, economical and efficient machine. This has not meant that the QH331 does not possess the features that made the QH330 a worldwide success - compact design for easy transportation and on site manoeuvrability; Sandvik's CH430 cone crusher and hydroset system, as well as an automatic setting regulation system that keeps track of liner wear - but rather adds a number of new and enhanced features. These include the fitment of a CAT C9.3 engine providing savings on fuel, and a direct drive which has replaced the previous hydraulic drive. This latter change now sees the QH331 use its power more efficiently, and consequently enhances its operational capabilities through tighter closed side settings and larger bush variations.



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An added benefit of possessing such versatile and productive equipment as the Sandvik mobile crushers and screens has been the ability of Barrack Hill Quarries to provide a wide range of additional services through its sister company Equipment and Plant Hire Ltd (EPL). Thus the company now provides a contract crushing service for Farrans, Pitwood Quarries Ltd and McCormick demolition, to name but few, as well as demolition, recycling, muck shifting, site clearance and plant hire, throughout Ireland. Additionally civil engineering contracting has become an increasingly important part of the business, with the company playing a major role in the construction of the M1 motorway between Dublin and Newry, as well as further road construction on the N11 in conjunction with Ascon Road Construction Ltd, building work at Dungannon College as well as the building of a specialist recycling facility in Lurgan.

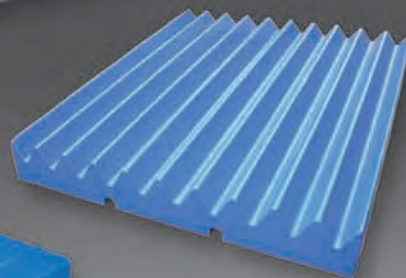
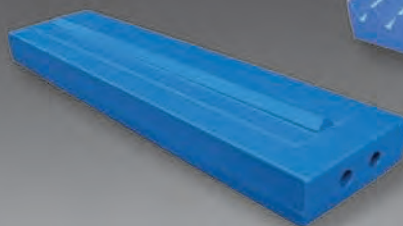
To be able to prosper in a highly competitive market place, during a difficult economic climate, requires a business to embrace flexibility, customer focus, commercial acumen and the latest equipment. All of these facets are very much to the fore at Barrack Hill Quarries as they produce the right materials, to exacting specifications, whilst providing services to other parts of the industry. This has seen the company utilise methodologies and equipment that has driven their costs down, but at the same time their productivity up.



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## Introducing the NEW Terex® Finlay J-1170 primary mobile jaw crusher



**The NEW Terex® Finlay J-1170 is a high performance primary mobile jaw crusher built around 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 Terex 1100mm x 700mm (44" x 28") jaw chamber provides excellent material reduction and product sizing in the processing of blasted quarry rock and ore material. The jaw chamber is also available with optional hydraulic release, an excellent feature when crushing construction and demolition debris. The hydraulic release option has an automatic overload protection system to prevent damage by uncrushable items in the feed material.

The machine is powered by either a Tier 3 / Stage 3A Caterpillar C9 261kW (350hp) or a Tier 4i Scania DC9 70A 257kW (350hp).

Hydrostatic transmission of the jaw chamber offers operators reversible operation in the event of a blockage. The hydrostatic system also provides variable chamber speed to suit given applications. The crusher features hydraulic assist Chamber CSS (Closed Side Setting) adjustment, and can be changed in a matter of minutes.

The machine has a heavy duty variable speed vibrating grizzly feeder (VGF) with integrated pre-screen, providing an aggressive action to separate fines material efficiently. The variable speed VGF ensures continuous choke feeding of the crushing chamber for optimal productivity. Material from the pre-screen can be diverted to a stock pile via the on board by-pass conveyor, or join the crushed product on the main belt.

The large 9.6m<sup>3</sup> (12.55yd<sup>3</sup>) hopper has hydraulically folding sides and an innovative hydraulic self-locking mechanism to provide efficient and faster machine set up and tear down times.

*"The J-1170's 45 tonne transport weight and compact dimensions mean lower transport costs between and within crushing sites. The robust and intelligent chassis design, with good clearance on both ends, also enables safe and easy loading onto all transport trailers. When you combine these factors with the excellent crushing capabilities the machine easily meets the demands of owner operators and crushing contractors"* said Nigel Irvine, Sales and Marketing Director.

### Key Features:

- Robust proven Terex 1100mm x 700mm jaw crusher for high capacity and large reduction ratios in quarrying, mining, demolition and recycling applications.
- Optional hydraulic release for demolition and recycling applications.
- Compact dimensions and quick set-up make the J-1170 the optimum solution for contract crushing as well as demanding in-pit applications.
- 45ton / 99600lbs transport weight ensures easy transport of machine between work sites.
- Full CANBUS control system.
- Hydraulically assisted closed side setting adjustment minimizes downtime and offers quick adjustment.
- Excellent fuel economy
- Safe, quick and easy service points for regular maintenance



## Volvo package for Chambers Group

**Durability of the product and an excellent after sales support has prompted the Chambers Group of companies to re-invest in quality products from Volvo Construction Equipment.**

As a long standing user of Volvo equipment Peter Chambers, Chairman of the Chambers Group, had no concerns when it came to placing orders for two further wheeled loaders and a thirty tonne excavator for his waste management and quarrying activities. *"We invest in the Volvo brand wherever possible because the products are durable and dependable. Moreover, the after sales service support we enjoy from Volvo's Horsham support centre and their local home based engineers is in a class of its own,"* commented Mr Chambers.



The forty three year old company founded by Peter Chambers has two operating division - Chambers Waste Management PLC with its headquarters and state of the art recycling centre based in Guildford and Chambers Runfold PLC which takes care of the Group's quarrying activities close to Farnham, Surrey. The latest models to join the Chambers fleet are a Volvo L150G wheeled loader and a thirty tonne EC300D for the Runfold operation and a Volvo L120G equipped with long boom for a new waste rehandling facility that has come on stream in Aldershot.

As with the existing fleet of predominantly branded Volvo equipment, the three new models have been supplied with service contracts which according to Mr Chambers, pays dividends in the long run. *"Taking out extended driveline warranties and service agreements with the manufacturer suits the way we run our business,"* he said. *"We know we can rely on Volvo to take good care of the machines with experienced*

*engineers who also know us and what we expect from them. For instance, we took one of the very first L150 loading shovels into the fleet some seventeen years ago and ran it for 25000 hours on the original engine. It just proves that if you have a good product and maintain it properly then you get good service in return,"* he continued.

Equipped with Stage IIIB compliant engines both the excavator and loading shovels are designed with fuel efficient and fuel saving features in mind to boost productivity whilst reducing the amount of carbon emissions. For example with the excavator, the engine is ideally matched to its automatic sensing mode hydraulic system and features an automatic idling system that reduces engine speed when the levers and pedals are not activated - aiding fuel efficiency and lowering external noise.

The loading shovels on the other hand feature a fuel efficient device known as 'eco-pedal' which encourages the operator to work within a certain rpm band for normal operations. Two strong, variable displacement load-bearing axial piston pumps and hoses have been introduced to handle the increased pressures. These provide superior control of the load and attachments, as well as high breakout force, faster lifting and tilt functions.

Chambers Waste Management PLC was established in 1969 by the current Chairman and Managing Director, Peter Chambers and remains privately owned. Since then the Chambers Group has evolved into an integrated recycling, waste management and aggregates business, servicing a wide range of commercial and domestic customers.

Volvo Construction Equipment Division markets wheeled loaders, articulated haulers, hydraulic excavators, graders, Volvo utility equipment and Volvo road equipment products in the U.K. There are eight strategically placed customer support centres and a network of utility equipment dealers high quality customer support is maintained throughout the country.



Metso's latest track-mounted crushing plant, the Lokotrack LT120E, has been a success in Germany, crushing highly difficult feed materials

## Economy and ecology with diesel electric driven crushing



**Successful primary crushing of hard, round-shaped natural stone boulders can pose a big challenge for any contractor. The German gravel plant Heidelberger Sand und Kies GmbH has found the right tool for the job in Metso's new Lokotrack LT120E jaw plant. The diesel-electric Lokotrack LT120E has proved to be a very cost-effective solution for Heidelberg, while at the same time fulfilling their environmental regulations.**

The Lokotrack LT120E's good energy economy is a combination of several factors. The C120 crusher with high inertia flywheels provides a balanced process, while the CAT C13 Tier4 diesel with generator runs steadily at 1500 rpm.

### **Steady capacity even with extremely difficult feed**

After more than seven months of operation and over 970 crusher hours, Heidelberger Sand und Kies, which is part of the global HeidelbergCement group, is quite happy with the new Lokotrack jaw plant:

"With this extremely difficult feed material, we have achieved good and steady capacities.

During the rental period, no unexpected stoppages occurred," comments Hans-Jürgen Jeschke, Heidelberg's Langhagen plant Quarry Manager.

*"It's really amazing how well the C120 jaw crusher processes and keeps even the roundest and large boulders inside the crusher cavity. It must be a combination of the well-designed nip angle, the exceptionally long cavity and the correctly shaped special quarry jaws," Jeschke believes.*

*"There is a big difference between Metso's and our previous jaw. Actually, the old one was given the nickname 'dry fountain' by our workers."*

According to Jeschke, Metso's Lokotrack LT120E is clearly more economical, "We are happy that the diesel-electric-driven Lokotrack also fully meets the environmental targets set by Heidelberg Cement. When moving the unit to the next site, we may be able to test the plug-in of the Lokotrack to the electrical network to run it fully electrically," he ends.

### **One million tons per year**

The Langhagen quarry, situated outside the city of Rostock, has an operational area of over 30 hectares. Its annual production is about one million tons of aggregates for road materials and asphalt mix, and sand.

The quarry processes natural sand and gravel reserves. Inside the gravel, up to 1200 mm sized boulders can be found. The boulders sized up to 700 mm are crushed and screened in two stages to different sized aggregates.

The primary crushing with Lokotrack is operated, 12 hours per day, targeting to reach aggregates size suited for the secondary crushing.

## Re-inventing the slurry pump

*By Harvinder Bhabra, senior product manager at Weir Minerals Europe Limited*

**As mine and quarry operators look to increase efficiency to tackle economic and environmental challenges, the focus on longevity and efficiency of pumps has intensified.**

Manufacturers are responding to this by innovating and applying advanced engineering to develop pumps that are more efficient, run for longer between repairs and are quicker and easier to service.

It is these challenges that have lead Weir Minerals to develop the Warman® WBH® pump, an update to the long-standing Warman® AH pump range - a common feature on quarries and mines around the world and considered the industry standard by many operators.

It was clear that to improve the Warman AH any further, fundamental changes to the design were needed. As a result, the decision was made to start from scratch and, taking nothing for granted, design a new pump that would out-perform the Warman AH in every way - wear life, efficiency, safety and ease of maintenance.

This new development, the Warman WBH® pump, was developed using state of the art techniques, drawing on every available design verification method.

Computational Fluid Dynamics (CFD) software was used to develop wear-prediction and performance-analysis models that assisted in refining the impeller and volute design.

The final product is a pump range with some unique features including:-

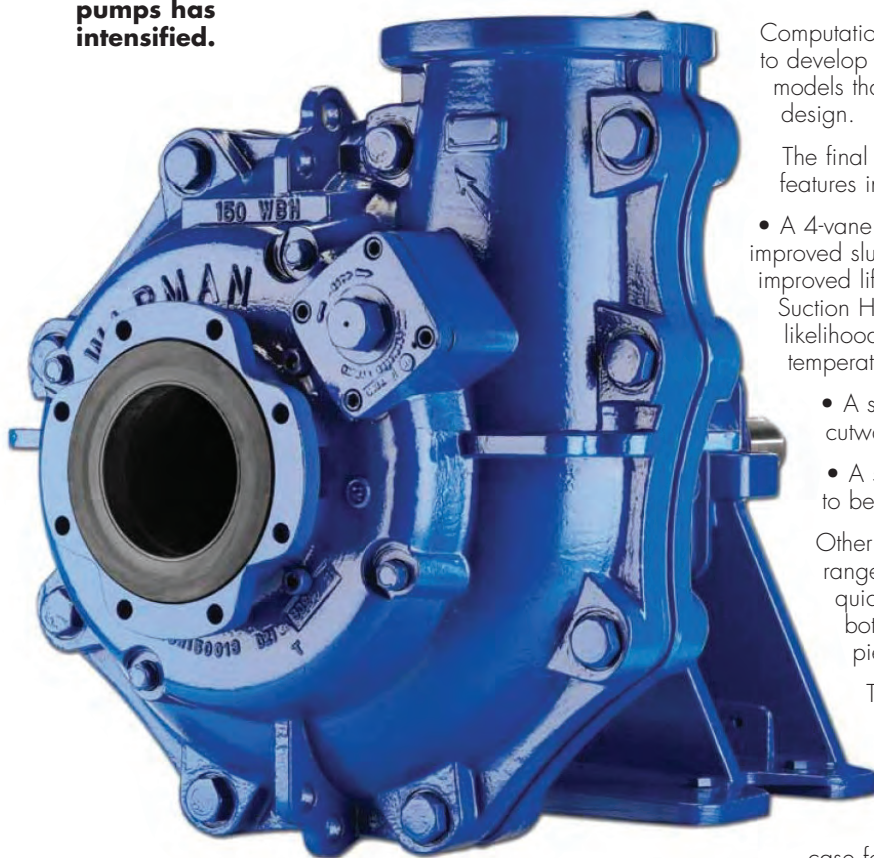
- A 4-vane impeller design that allows for a much improved slurry guidance and smoother flow to give improved life, higher efficiency and low Net Positive Suction Head (NPSH) characteristics, reducing the likelihood of bubbles of gas forming in high-temperature flows

- A streamlined volute liner with a profiled cutwater

- A single-point control that allows the throatbush to be adjusted both axially and radially

Other features have also been designed into the range to facilitate easy maintenance, including a quick-release mechanism for the casing liners in both metal and rubber-lined pumps and a one-piece bearing frame.

The Warman WBH is born of a need for operators to get the very best performance out of their pumps. In industry, where the efficiency of a process can have a significant impact on the operation's profit margin, the case for investment in the latest technology is clear.



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## CRUSHING AND SCREENING EFFICIENCY



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# Call for Papers

Submissions by  
28th February 2013



## Bulk Handling Conference

15-16 May 2013, Forest Pines Conference Centre, North Lincolnshire

### Building on the success of last year's conference MHEA is pleased to announce the Call for Papers for Bulk2013.

MHEA now in its 75th year is offering the opportunity for speakers from the Bulk Materials Handling sector and associated sectors the opportunity of presenting papers to a wide and attentive audience.

Delegates who attended Bulk2012 were asked after the event to comment on what they thought about the presentations and on what benefits it brought to them. Delegates gave the event top marks for the technical and informative content of the papers, the wide range of subject matter and excellent audio visual equipment. Speakers from last year's conference also felt they got a great opportunity of informing a large audience of their latest technologies and innovations. Both Delegates and Speakers agreed wholeheartedly that the networking opportunity the event offered to Speakers and Delegates was superb.

The event will be held again at the highly attractive Forest Pines Resort Complex which provides excellent facilities for business, conference and leisure. The timing will follow the revised format from last year to give a more balanced event over a Wednesday/Thursday, to allow time to travel on the Wednesday morning, and the offering the option of a sports event/leisure break on the Friday. The event will encompass keynote and plenary presentations, gala dinner and after dinner speaker entertainment.

Accompanying the conference will be a related exhibition, integrated into the conference area. Opportunities are available for event and item sponsorship ensuring outstanding opportunities for corporate entertainment and networking.

Moving from a specifically focussed technical seminar to a more all-embracing Industry Conference we aim to broaden the delegate profile and include all matters relating to bulk handling with a separate provision for commercial presentations.

Conference Papers will finally be determined by the contributions received but are likely to include:

- Biomass Handling/Storage
- Developments in Materials Handling
- Drives and transmissions
- Loading, unloading, storage and reclaim
- Crushing, screening and washing
- Control of impact, abrasion and erosion
- Spillage and dust control
- Storage and reclaim
- Waste and recycling
- Control, metering and management systems
- Energy efficiency
- Operation and maintenance
- Regulatory compliance and H & S matters

**If you are in this sector please consider sending a paper for consideration for inclusion in Bulk2013. Initial submissions, in form of a synopsis, should be addressed to the secretary, Mr Peter Webster to the email below.**

**Submit your paper to [pw@mhea.co.uk](mailto:pw@mhea.co.uk)**

**All submissions must be received by 28th February 2013.**

Submissions relating to technical innovation or process improvements will be given preference, particularly those relating to heavy industries such as minerals processing and cement, metal manufacture, power, port operations, mining, waste processing and recycling.

Specific timetabled slots in the programme are available for commercial presentations which can also be arranged through the secretary.





## Worsley Plant supply the solutions for Howford Quarries

**Cost control is a major concern to all companies more so when the company is starting out on a totally new venture. Howford Quarries are a fledgling company formed to recycle inert waste into usable products and operate from a disused aggregates quarry on the outskirts of Hexham. The three partners behind the Howford Group originally purchased the land with the intention of developing it further but having over 2000 tonnes of mixed soils and aggregates left on site the development plans have been put on hold whilst the removal and remediation of the site takes place.**

Whilst the site was used for aggregate extraction in a previous life the previous owners had left the place covered in what was seen as a spoil tip. The mixed soils, concrete and aggregates were piled to a height of approximately 5m right across the site and the initial thought was to remove the materials to landfill. Upon closer inspection the company decided there was a possibility that the materials could be processed resulting in an income rather than costing a fortune to send to landfill.

Operating a new venture and on such a small scale meant that a purchase of mobile crushing and screening equipment was going to be needed to complement the companies existing small fleet of earthmoving equipment. Company Director, Roy Foster was already in the construction industry operating a contracting and golf course building concern and it was his small fleet of JCB excavators that was first used at the quarry.


The initial forays into recycling the various materials with the company's JCB JS130 and Anross screening bucket were successful to a point but with such a large stock of material and a contract with the local council to process their inert waste, a more reliable and productive solution was needed. Howford's directors approached various manufacturers and dealers with a view to them coming to site and demonstrating their wares on the site and whilst many were prepared to sell equipment to the company only Worsley Plant were willing to send men and machinery to Hexham.

*"We approached a few companies but none took us seriously until we knocked on Worsley's door" explains Mr Foster. "With the various products on site and the amount of finished products achievable we needed a variety of solutions and Worsley were the only ones willing to help us find the right solutions."* Worsley Plant have been instrumental in getting Howford up and running, supplying them with a variety of kit, they are now able to produce a wide variety of soils including specialist sports soils, crushed concrete and brick and a variety of clean washed sand and gravels. Whilst the site is large enough to accommodate a mobile crushing and screening plant the company felt that a smaller solution was the better option for them. Only the concrete needs crushing and to purchase a mobile crusher, even a compact version, would have blown the quarries budget immediately. One asset purchased with the quarry was a Powerscreen three way split screen and this machine is still used to segregate the materials prior to final processing.

Worsley Plant have supplied four items of equipment to the quarry to undertake all their crushing, wet and dry screening requirements. All the Worsley supplied kit is being used on the companies other new purchases, a pair of Hyundai 14t excavators, more of which later.







Crushing of concrete on site is taken care of by a MB BF60.1 crusher bucket. With a jaw opening of 600mm x 450mm the bucket is currently producing up to 20t per hour and is capable of producing sizes of between 15mm and 100mm. Ideally suited to smaller scale crushing applications the BF60.1 is also taken away to undertake contract works for on-site crushing at customers own sites. *"We still use the equipment for outside contracts, both earthmoving and recycling."* explains Mr Foster. *"We have to be flexible in our approach to keeping the machines busy!"*

One of the interesting applications undertaken at the quarry is the recycling of a soil contaminated gravel. The gravel is initially screened with the Powerscreen into two different grades after which it is picked up by a Rotar HEX850S screening bucket. Capable of washing over 20t per hour the Rotar is used with varying mesh sizes to produce the required size of product. The unit is capable of dry screening the material but at Holford the material is wet screened in an old water filled pit and produces a high quality, clean product capable of being used as a drainage stone or even a decorative stone. The Rotar is seen as the ideal tool for undertaking the cleaning of this material in this method. Dry screening of this product results in the soils still present in the gravel and whilst dry screening is possible, wet soil conditions meant that the screens were constantly blocking up.



Although the conditions at the time of EARTHMOVERS visit were dry, the previous few days had seen the site deluged with record rainfalls resulting in all the materials on site being saturated. This was were the two other pieces of Worsley supplied plant to come into their own. The company has taken a Remu EP3150 screening bucket and was trailing an SBF1500 at the time of EARTHMOVERS visit. Both pieces of kit are used to final screen the material ready for dispatch and even with the material sticking together with all the moisture both units were performing better than expected. With a capacity of 1.1m<sup>3</sup> the EP3150 and can be specified with either 1 or 2 hydraulic motors. Offering a huge variety of finished product sizes the spiral blade pattern is adjustable in nine stages from 0-8mm up to 0-68mm. Currently producing over 25t per hour the EP3150 is performing well above expectations and is producing a highly sought after soil suitable for sports field work.



The REMU SBF 1500 screening bucket is equipped with two screening-blade shafts and extra thick blade spacing to produce a particle size of 0-10 mm. Having a capacity of 0.8m<sup>3</sup> the SBF 1500 is currently producing between 20 and 25 tonnes per hour. Unlike the rest of the range, the SBF 1500 is shaped like a general purpose bucket and because of the structure, it is compatible with most tilt-rotators. This feature makes it an effective and agile tool and although Howford do not operate a tilt-rotator it is something that is on the shopping list for the future!

Mr Foster confirms he is very pleased with the company's investment and from the help and assistance afforded by both Worsley Plant and Taylor and Braithwaite. "We couldn't have progressed as much as we have without Sean," explains Mr Foster "They have been very helpful in specifying the best equipment for our needs." Although the four pieces of plant supplied by Worsley represent a significant investment for the fledgling company, the quality, variety and quantity of materials that they produce makes them a very cost effective purchase for the company.

## Excavator fleet.

As previously mentioned the company commenced operations on site with a JCB JS130 excavator. Mr Foster's company had been a long term user of the JCB product but decided to look at all available makes for the new venture. After appraising various machines, local Hyundai dealers,

Taylor and Braithwaite and their salesman Geoff Butterfield won through with a deal for a pair of 14 tonne excavators, a standard R140LC and a reduced tail-swing R145L CR. Both are dash 9 models and are fitted with Tier 3 Mitsubishi engines developing 121bhp and sport one the largest cabs in their class. Providing ample room for even the tallest of operators the Hyundai cab comes in for praise from both Mr Foster and regular machine operator Chris Bates. Sitting to the operators right hand the integrated 7" colour touch screen enables easy adjustment to the required oil flows for the various attachments. Both machines are fitted with hydraulic quick-hitches the R140 with a Miller and the R145 with a Hill unit enabling the variety of units to be changed quickly. The only downside according to Chris is the time taken to remove and refit the hydraulic connections. "You need to be very careful not to get grit and dirt into the couplings" explains Chris "This not only makes it harder to refit the couplings but can also lead to contaminants in the hydraulic system." Whilst both machines are predominately used at the quarry they are also taken out to site to undertake crushing and screening operations for the company's client base. The compact dimensions of the machines mean they can be sent into the tightest of sites to process even small amounts of waste, making them a more cost effective solution to mobile crushers. Both purchases are performing admirably and returning very good fuel figures despite having to power the attachments on a constant basis. Operator acceptance is also high with the dash 9 cabs coming in for high praise from the regular operators. Both machines benefit from Hyundai's monitoring system which allows the quarry to remotely monitor machine location, fuel consumption and hours worked. This function is particularly useful keeping a track of the machines working hours when it is sent out to site on a self drive basis.





## New Doosan 42 Tonne Crawler Excavator

**The new Stage IIIB compliant DX420LC-3 large crawler excavator has been launched by Doosan Construction Equipment. Compared to the model it replaces, the new excavator offers several improvements, including a substantial boost in power, resulting in significant increases in performance specifications such as drawbar pull, arm and bucket digging forces and lifting capacities to provide a much higher overall productivity.**

The DX420LC-3 excavator is designed to handle a broad range of applications such as heavy earthmoving, road building, civil engineering, demolition, quarrying and large scale material-handling.

### Higher power and work output

The DX420LC-3 excavator is powered by the Isuzu AL-6UZ1X 'common rail' 6-cylinder turbocharged diesel engine meeting Stage IIIB engine emission regulations through the use of Exhaust Gas Recirculation and Diesel Particulate Filter after-treatment technologies. The new engine delivers 19% more power [270 kW (362 HP)] at 2,000 RPM with a 6% increase in engine torque.

A new travel device in the DX420LC-3 excavator contributes to an increase in drawbar pull by 10%, a 5% increase in swing torque and a 10% increase in the travel speed.

New hydraulic pumps and valves have increased main pump flow by 6%, providing a combination of higher overall pressures and hydraulic flow for increased comfort, travelling performance, smoothness, power and improved attachment work.

A 9% increase has taken the system hydraulic pressure up to 350 bar, resulting in higher lifting capabilities, faster cycle times and higher breakout forces.

Compared to the previous model, the front end lifting capacity has been increased by 14%, while side end capacity has been boosted by 2%. The arm/bucket digging forces have both been increased by up to 3%.

Overall, the hydraulic system on the new generation DX420LC-3 excavator improves performance and productivity, with highly responsive joystick controls that provide excellent true controllability for the operator.

### Increased operator comfort

A new ROPS and OPG certified cab offers more space (+6%) for the operator. Direct control through the joysticks, which have new proportional thumb wheel switches and integrated buttons, provides precise, proportional control of attachments.



A 7-inch colour high quality visual control console offers an attractive display and excellent functionality. All functions can be controlled both from the instrument panel as well as via a new jog/shuttle control next to the joystick, a feature exclusive to Doosan excavators. As a standard feature, the operator has access to a new attachment select and setting function, with multiple recordable preset values.

A high-quality, heated air suspension seat reduces operator fatigue, while a new cab suspension system helps to cut vibration by 20% and reduce the noise in the cab to as low as 72 dB(A). The cab is pressurised to prevent particles from entering the cab.

Lighting capability has been increased by 100% to facilitate working at night. A side camera is available as an option. Other convenient features include fully automatic climate control, a USB port to play music and videos, and more storage compartments.

### Lower total cost of ownership

Compared to the previous model, the operating weight of the DX420LC-3 excavator has been increased by a tonne to 41 900 kg and the counterweight has been increased by 200 kg to 8 200 kg. The heavy-duty undercarriage on the DX420LC-3 excavator features reinforced track links, track springs, sprockets and bushings. As a result, the service life of the machine has been extended significantly.

The engine bonnet is in four parts to improve serviceability and ease of opening. Filters, valves and batteries are within easy reach for service work. The fuel tank capacity has been increased by 14% and the maintenance intervals for the hydraulic oil have been boosted to 5000 hours.

Cooling capacity has been increased by 10 to 15% compared to the previous generation machine. The new cooling system offers separation of the radiator and oil cooler, plus independent hydraulic fans for the engine and oil cooler, resulting in much lower noise levels.

As well as offering more standard features than other excavators of its size on the market, there is a greatly expanded choice of options, including a narrow (3 m) undercarriage and a two-mode floating boom system. In the flotation mode, the boom is free to move upwards and downwards following the bucket and arm movements, whilst in the breaker mode, the boom is free to move downwards to maintain the optimum hammering effect.

Options for heavy-duty applications include dual pump flow for high flow attachments; a 6700 mm long heavy-duty boom and a 3250 mm heavy duty arm; a straight travel pedal; an oil-washed air cleaner; and added protection such as dual track guards and full length track guards.



Two of the nine Bell B40D ADTs purchased by Stokey Plant Hire within the last 12 months



## Stokey ramps up Bell ADT fleet due to fuel savings

**Midlands-based Stokey Plant Hire has praised the fuel efficiency of Bell ADTs after taking delivery of its ninth Bell dump truck in less than a year.**

Stokey, of Albrighton, near Wolverhampton, took its first delivery of three Tier3b-compliant Bell B40D trucks at the end of 2011, and has since purchased six more B40Ds to add to its 30-plus fleet of trucks, loaders, excavators and dozers.

The latest delivery signifies a growing preference among Stokey customers to operate Bell trucks due to their superior fuel efficiency over other manufacturers' machines, according to Stokey director Stewart Cox.

*"Fuel consumption is extremely important, and our customers specify Bell trucks because of their fuel consumption," said Cox.*

*"Word about the fuel efficiency of the Bells has spread fairly rapidly. Fuel consumption is especially important where the muck shifting work is heavy going," he said. "And the other ADTs we've used in those conditions burn much more fuel."*

Cox said that the Bell ADTs were burning between four and eight litres per hour less fuel than the rival trucks, and that Bell's advanced in-built GPS-based Fleetmatic management software was a huge benefit in terms of accurate data gathering.

He added: *"I'm very pleased with the overall performance and reliability of the Bell ADTs. And the Fleetmatic system is extremely useful for gauging productivity on both our customers' contracts and our own."*

*"The entire buying process and personal touch that you get from Bell is also creates a much better experience than you might get from some other manufacturers."*

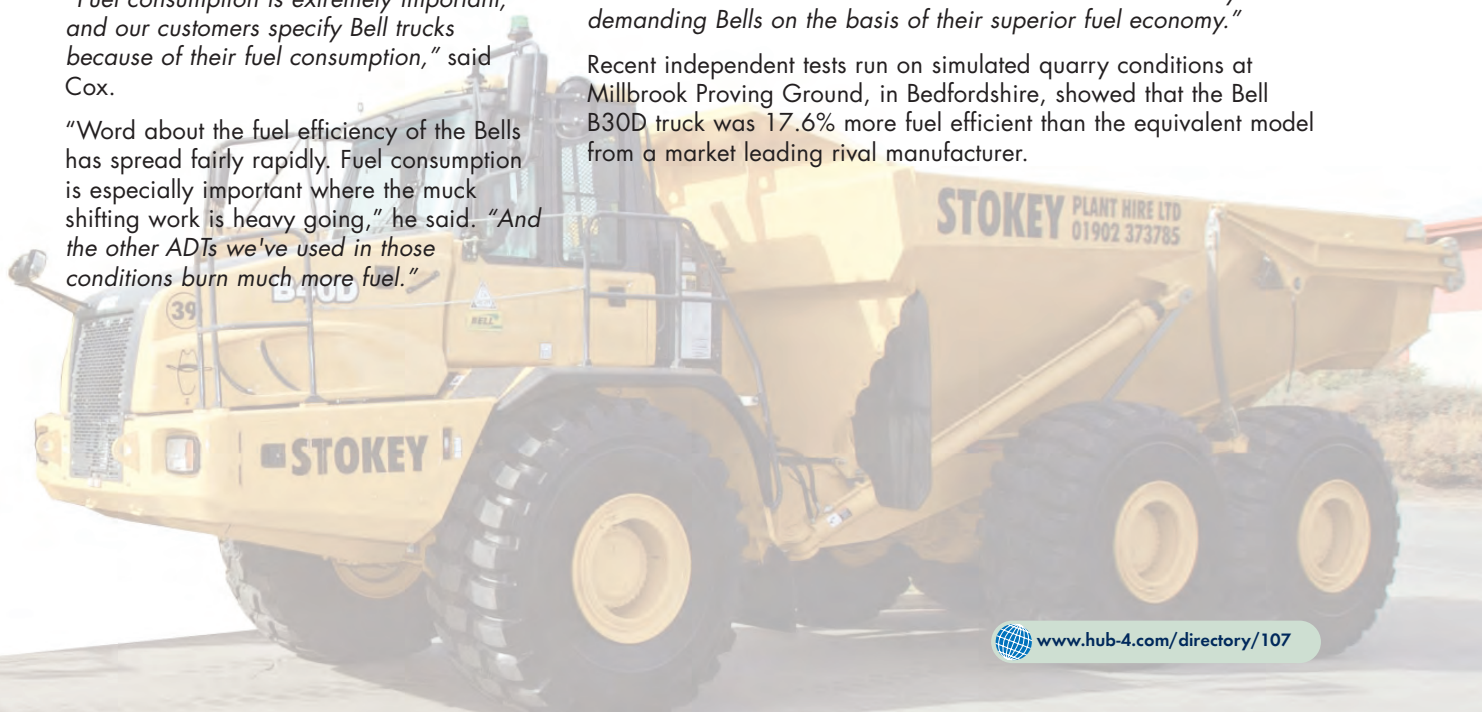
The Bell ADTs have worked on a variety of contracts over the past few months, including an open-cast coal operation in Scotland, rock pit in north Wales, a landfill site in Oxfordshire, sand and gravel quarry sites and general muck-shifting work.

Nick Learoyd, sales and marketing manager for Bell Equipment UK, said: *"The wide range of work that is typical of a successful contracting and plant hire operation means that the machines must be highly versatile and up to the job, whatever job that may be."*

*"The fact that Bell remains confident that the fuel efficiency of its ADTs is by far the best on the market, means that we have a very important additional tool in our box."*

*"And it's fantastic to hear from other sources that the industry is now demanding Bells on the basis of their superior fuel economy."*

Recent independent tests run on simulated quarry conditions at Millbrook Proving Ground, in Bedfordshire, showed that the Bell B30D truck was 17.6% more fuel efficient than the equivalent model from a market leading rival manufacturer.





## Viby buckets "bullet proof" for Eco

**Organics recycling specialist Eco Sustainable Solutions has purchased new Hy-Tip buckets from Viby Attachment to ensure continuity in its expanding operations in the south of England.**

**Eco, which operates from several sites in Dorset and Hampshire, has bought a 7m<sup>3</sup> and a 3m<sup>3</sup> Hy-Tip this year from Viby Attachment following the on-going success of its existing Viby buckets. The attachments are being used on Eco's fleet of Volvo wheeled loaders.**

*The Viby Hy-Tip buckets complement the quality of Eco's Volvo loaders*

Steve Harman, operations manager for Eco Sustainable Solutions, said: "We've tried one or two other options over the years, but I don't think you can beat Viby in terms of build quality. They just don't break. They are bullet-proof!

*"In the long term, Viby is definitely the best option. At the end of the day, you get what you pay for - I'm a firm believer in that.*

*"Production is key for us - we simply can't afford to have downtime. The Viby buckets give us continuity, which is essential for our operation."*

Eco processes around 150,000 tonnes of waste annually - 99.9 per cent of which is recycled - in addition to other sustainable operations such as turf production.

Its growing range of operations includes the production of woodchip for biomass, green waste composting, in-vessel composting and "clean wood" operations, which supplies product for the equestrian market.

Interestingly, most of the woodchip processed by Eco is exported to Sweden.

Eco supports a number of major customers, including the National Trust, the Eden Project and waste giants Viridor and Biffa, as well as handling waste recycling contracts for local authorities in the Dorset and Hampshire region.

Harman said: "The sheer diversity of our applications, means we need excellent versatility from our plant and machinery. The Viby products provide that versatility."

He said it was an "added comfort factor" that the Danish attachments manufacturer had a dedicated customer service network in the UK, including sales, after-sales, parts and servicing.

The expansion of Eco Sustainable Solutions is set to continue with the construction in 2013 of a £14m biomass generating station on its existing composting site at Parley, near Christchurch.

The company is also seeking permission to create one of the UK's largest renewable energy parks on a purpose-built site in Dorset. The scheme is expected to cost around £36m. Eco is also proposing to build a £7m biogas plant which will convert 45,000 tonnes of food waste and locally sources maize into gas.

Andrew Little, UK sales manager for Viby Attachment, said: "Eco is leading the way in terms of providing important sustainable solutions for the UK. It is fantastic for our products to be associated with such a forward-thinking company.

*"We're delighted that Eco recognises the quality and durability of our products. We have always aimed for quality, as we know this provides the best value for money in the long term.*

*"Companies like Eco rightly appreciate that downtime can prove a lot more costly to an operation than the price of a bucket. We hope to continue working with Eco for many years to come."*



## New Holland Construction launches new generation wheeled excavator range

**New Holland launches its new generation of wheeled excavators, the B Series PRO. The three new models, ranging from 15 to 19 tons, excel in high precision work with their brand new controls and stand out for being remarkably easy to operate and service. They offer a highly professional package that delivers high productivity and reliability at low operating costs:**

- High productivity and lifting performance with exceptional power, speed and stability
- High precision with brand new, extensively tested controls
- Easy operation and exceptional comfort with new controls and rational cab layout
- Excellent serviceability and reliability with easy ground access and new diagnostics software
- Proven performance and reliability through extensive endurance testing

### **Fast, powerful and stable**

The B Series PRO wheeled excavators run high performance, large displacement FPT engines that deliver high torque and power. This performance is matched by that of the 3-pump hydraulic system, which maximises swing performance with a dedicated swing pump so that no power is diverted from the other hydraulic functions, resulting in greater efficiency and fast cycles. In addition, the large displacement engine and 3-pump system result in less wear, increasing the machine's reliability.

The arm, available in three lengths for each model, has been redesigned to provide exceptional breakout force, 5% higher than in previous models. The automatic power boost kicks in when more power is needed, increasing pressure up to 370 bar. The new design of the B Series PRO optimises weight distribution and minimises the offset of the undercarriage, resulting in exceptional stability and equally high lifting performance at the front and the rear. All these features combine to deliver an outstanding lifting performance on wheels.

The new heavy-duty ZF axles and transmission provide excellent traction and deliver a higher maximum travel speed of 35 kph, reducing travel time between jobsites. The heavy-duty axles and higher ground clearance also contribute to the B Series PRO's reliability and durability.

### **Brand new controls for high precision and versatility**

The electro-hydraulic system has been re-engineered and now relies on a single integrated CPU instead of the three controllers of the previous models, with new software developed to maximise the machine's uptime and deliver clear diagnostics. The new system and software have successfully completed an extreme testing programme to optimise their performance and reliability.

The 3-pump system enables the operator to carry out simultaneous movements under every load. The proportional controls and new low-effort joysticks with longer stroke further add to the excellent control characteristics of the B Series PRO in tasks requiring particularly high precision, such as levelling.

The B Series PRO is a true multi-function master. The operator has a choice of working modes to match the requirements of their task. The adjustable swing speed enables them to adjust power and brake force according to the operation. For special applications, the swing brake mode is easily permanently engaged with a dedicated switch. When the highest precision is needed, the operator can activate the levelling mode on the left joystick. Managing the attachment's flow and pressure is very easy and up to 12 settings can be memorised for later use. With the attachment management system, proportional control and wide variety of possible configurations, the B Series PRO is designed to work with every type of attachment, offering exceptional versatility.





## Easy operation and comfort combined with versatility

The entire cab layout and control design have been developed with the operator in mind, to make the machine's operation intuitive and comfortable. The new dashboard with LCD monitor and screen dedicated to the rear view camera puts the operator in full control of the machine's status. The rational layout of the controls makes it very easy to operate the machine. For example, all travel controls - road mode, creep speed, gear shifting, axle lock - are grouped on a switch pad placed on the steering column. The slider function for the blade and stabilisers is on the right joysticks, together with the travel direction control. The working and simplified swing brake modes are easy to select.

The spacious cab with pneumatic heated seat and large glazed areas offers an extremely comfortable workstation with excellent all round visibility, further enhanced by the rear view camera. With the ROPS and FOPS protection and exceptional stability of the B Series PRO, the operator can work with confidence. The comfortable cab and intuitive controls mean that they can maintain high productivity during long hours with minimal fatigue.

## Easy serviceability for maximum uptime and reliability

All the main service points are grouped and easily accessible at ground level, so that daily maintenance operations can be completed quickly and efficiently. The side-by-side radiator layout results in an extremely reliable cooling performance and makes it easier to clean them. A front net keeps dust away from the radiators, lengthening the interval between cleanings.

The easy serviceability, added to the particular care that has gone into the durability of key components, from the heavy-duty axles to bucket linkages and the new design features such as the electro hydraulic controls and the 3-pump hydraulic system, contribute to the exceptional reliability and durability of the B Series PRO wheeled excavators, as shown by the thousands of hours of endurance tests they have successfully completed.

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# Canning Conveyor lend a hand with the redevelopment at Guernsey Airport

**Canning Conveyor has recently supplied an aggregate conveying system for construction work on the redevelopment of Guernsey Airport.**

With planning approval granted in October 2011 the £80 million contract, which is part of the Guernsey Airport Redevelopment Project, predominately includes the rehabilitation and reconstruction of the existing airfield pavements including the runway, apron and taxiways and the installation of a new surface water drainage system.

Commenced in January 2012 the project will take approximately 2 years to complete.



## Bespoke System

The bespoke system which has been supplied on hire was designed and manufactured by Canning Conveyor for the sole purpose of conveying incoming aggregates from ships at Guernsey Docks.

Designed to accept 200tph of -20mm aggregates the system includes a conveyor mounted receiving hopper fed from a barge mounted 360° grab. Mounted centrally this hopper feeds material onto a 16 metre long, ship to shore conveyor.



This conveyor incorporates many unique features that deal with the rise and fall of the tide. The tail end of the conveyor is fitted with a pneumatic tyred wheel bogie which runs on the hatch cover of the ship; the head section being mounted on a support trestle para-bolted to a new concrete pad on the sea wall. This support trestle is fitted with a slewing and pivoting arrangement which allows the conveyor to rise and fall at the tail end with the tide. A further feature allows the tail to be lifted by the ship mounted grab and slewed around to rest on the sea wall at times of high wind or gales.

All aggregate is delivered from this conveyor onto a 50 metre long ground conveyor which runs horizontally on the quay side which then feeds into a receiving hopper on a 12 metre long stockpile conveyor. This stockpile conveyor which elevates to a height of 4 metres discharges into waiting dump trucks, or alternatively stockpiling material onto the ground.

## Canning SuperDrive

The ground conveyor is powered by a Canning SuperDrive™ motorized 22kW single drive drum which is designed specifically to power ground conveyors operating in these applications, having the motor, gearbox and bearings totally enclosed and hermetically sealed inside a steel shell drum.

With an impressive track record the Canning SuperDrive™ offers many benefits which include extremely low maintenance costs - (none, other than recommended synthetic oil change after 30,000 running hours) and a higher efficiency (97%) compared to approximately 85% on conventional drives.

The Canning SuperDrive™ single drive drum which provides a belt speed of 1.6 metres/sec to the ground conveyor is fitted with ceramic lagging and includes a high tension bend pulley, jib discharge drum, loop bend drum and a primary and secondary belt scraper. Complete with a discharge chute with integral crash box and hinged inspection hatch the entire unit is mounted on a substantial skid mounted frame with cantilevered jib discharge.

Along with a loop take up unit, heavy duty tail end loading section the conveyor structure is made up of Canning intermediate bays and Cannoflex belting throughout.

Designed and manufactured in the Canning workshops the system is providing an effective and reliable system for the construction of the airport in the handling of the incoming aggregate for this huge project.



# BG Europa introduces Astec Green Pac for Batch Plants

**Bury St Edmunds based company BG Europa (UK) Ltd, who co-ordinate with Astec Inc to promote their range of equipment and are stockists of genuine Astec parts in the UK have recently introduced the Astec Warm Mix Green Pac System.**

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

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

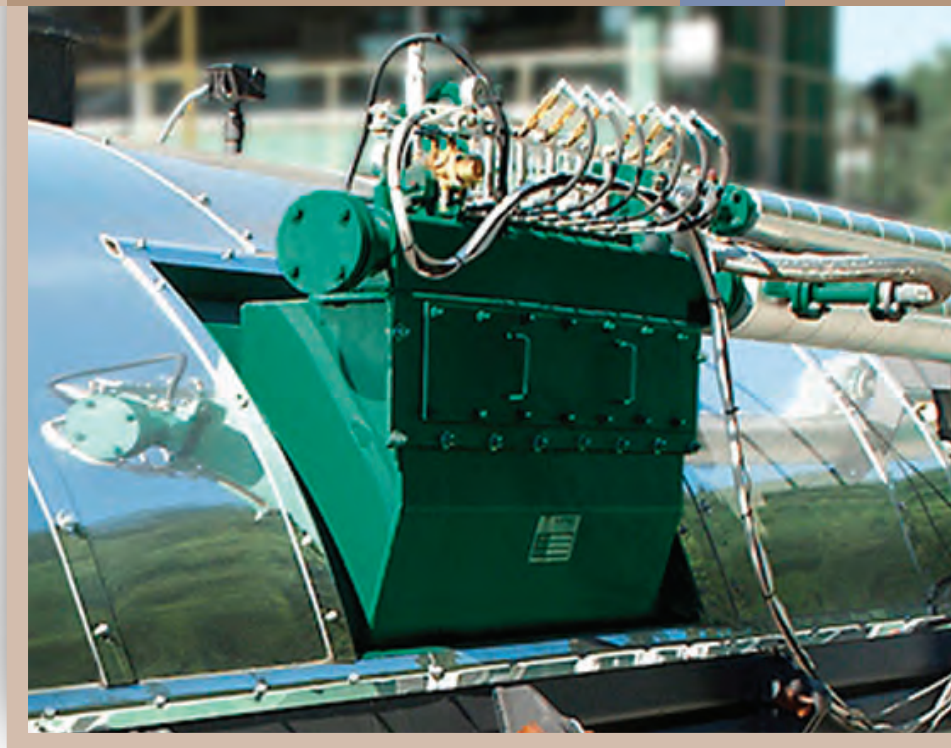
With the introduction of the new Warm Mix Green Pac System need for expensive additives and special bitumen's is eliminated by mixing a small amount of water into the bitumen to create microscopic bubbles. These small bubbles then act to reduce the viscosity of the bitumen coating on the rock allowing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

## Compact with easy maintenance

The Green Pac System for batch plants comprises a bitumen foam manifold assembly and a skid mounted water delivery system. With the system foam bar mounted remotely from the pugmill, common problems, such as nozzle blockage experienced with other foaming systems are eliminated.

A further benefit also allows the system to be fitted to batch plants which have limited access around the pugmill mixer.

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



## How the system works

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

Water is delivered to the Green Pac System from the skid mounted corrosion free reservoir which is fitted with an automatic filling valve that keeps the reservoir full from the water supply. A positive displacement piston pump accurately meters water into the

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

## Expanding the benefits

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

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

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

BG Europa and Astec can retrofit warm mix systems to continuous mix and batch plants from any manufacturer, bringing the benefits of the Astec warm mix system to all asphalt pavement plant configurations.



In an extremely demanding construction project in the Swiss Alps, at an altitude of around 1,700 m and almost 600 m inside the mountain, large chambers are being excavated to form the new expanded underground center of a pumped storage hydroelectric power station that will increase the present power output from 480 MW to 1,480 MW. With an extreme incline of 45 degrees and a height difference of approximately 180 m, conveyor systems in a sub-station are transporting 500 t of excavated material per hour, around the clock, using conveyor belts that are driven by NORD industrial gear units.

The expansion project "Linthal 2015" is Switzerland's largest hydroelectric undertaking. The overall output of the existing power plants is going to be increased from 480 MW to 1,480 MW. A new underground pumping station will pump water from a reservoir at an altitude of 1,860 m above sea level into a reservoir lake about 600 m higher up. The pumped storage power station will use this elevation difference to produce hydroelectric power on demand. The builder is Kraftwerke Linth-Limmern AG, a member of Axpo Holding AG.



A NORD SK 12407 industrial geared motor drives the lower conveyor belt

The power requirements of a national electricity grid are subject to large fluctuations over the course of a single day. Power consumption is at a minimum at night and typically peaks at midday and in the evening. In Switzerland, electric power is mainly supplied by nuclear and river-based hydroelectric power stations. Biomass and conventional thermal power stations also make a contribution. In contrast to nuclear and river-based plants, pumped storage hydroelectric power stations can rapidly respond to changes in demand. The optimum interplay between these various types of power generation technologies ensures that a reliable and economic power supply is maintained around the clock.

## A very special construction project - Heavy-duty work for industrial gear units from NORD DRIVESYSTEMS in the Alps

Panoramic view of the dam - all of the conveyors with NORD drives are below ground







A NORD SK 12407 industrial geared motor drives the lower conveyor belt



NORD manufactures modular industrial gear units for output torques up to well over 200,000 Nm with a one-piece UNICASE housing, thus enabling a relatively compact design and maximum resilience



The upper conveyor belt moves downwards and the lower conveyor belt moves upwards



NORD SK 12407 industrial geared motor with brake function and energy recovery (upper conveyor belt)

## Pumped storage stations meet peak demand

Unlike regular hydropower plants, pumped storage stations cannot just generate energy at peak times; they can also convert excess power, which is available during periods of low demand, into valuable peak-time energy. The demand for peak energy is continuously increasing throughout the entire European grid network. An important reason for this is the massive development of wind energy plants in the coastal regions of the European Union. This factor results in an increase in the so-called stochastic energy, which depends on random wind conditions and therefore cannot be reliably planned. Excess wind power generated in off-peak times can be used to pump water back into the reservoirs of pumped storage power stations. If there is no wind during the day, pumped storage power stations can then cover the power deficit. A further reason for the increasing demand for peak energy is the opening of the electricity market. As consumers can purchase power from any supplier in a free market, power distribution networks must increasingly be regulated by system services, which ensure a reliable supply.

While regular hydropower plants have only an upstream reservoir, pumped storage plants have an additional lower reservoir. Power is generated when water flows from the upper reservoir into the pressure system. The water drives turbines, which in turn power the motor generator. The electrical power which is produced there is fed into the grid. After leaving the turbine, the water flows into the lower reservoir. At peak times, water can be pumped back from the reservoir into the higher altitude lake using excess power from the grid in order to generate hydroelectric power again at a later time. Thus, pumped storage power stations can store energy in the form of water in reservoirs. Pumped storage is a well-established method of compensating fluctuating supply and demand in the grid network in an eco-friendly and economic manner.

The scope of the "Linthal 2015" project includes excavation and construction work for the underground central station of the pumped storage power station and the tunnel system for the water that provides the power. Construction of a new heavyweight dam for the higher lake will increase its storage volume from the present 9 million m<sup>3</sup> to 25 million m<sup>3</sup>. The existing compensating reservoir is also being expanded. Construction work is being carried out at different altitudes and for the most part inside the mountain. The compensation reservoir is the lowest point at an altitude of about 800 m. The Limmernboden reservoir with a capacity of 92 million m<sup>3</sup> is located one thousand meters further up. At an altitude of about 1,700 m and some 600 m into

mountain, the heart of this gigantic expansion project is being created with huge excavated chambers that will house the four groups of machinery for the new 1,000 MW Limmern pumped storage plant. The underground station consists of a 150 m long, 30 m wide machinery chamber with a maximum height of 53 m and a separate transformer vault which is about 130 m long, 20 m wide, and 25 m high. This central station creates the link between the two lakes via a system of upper and lower water delivery tunnels, parallel pressure shafts, and other service tunnels. Personnel, materials, and machines are transported to the construction site via a cable railway with a load bearing capacity of 25 tons.

The excavation work for the two chambers has been completed. The work has been proceeding rapidly in an intensive 24/7, 3-shift operation. The chambers have been excavated from top to bottom. Every day, about 800 m<sup>3</sup> of rock was removed - in total 2,445,000 m<sup>3</sup> from both chambers.

## Drive systems for conveyors

The conveyor system used for the "Linthal 2015" construction project was driven by industrial gear units from NORD DRIVESYSTEMS. Two "S-conveyors" each transported 500 t of material per hour over a distance of about 260 m with an extreme incline of 45 degrees and a height difference of around 180 m. The excavated material was conveyed down to a crushing plant. This conveyor belt was driven by a NORD industrial gear unit with brake control, which simultaneously generated electricity. On a second conveyor belt, the crushed material was transported up to the gravel plant, where it was stored or used as construction aggregate for the dams or as concrete for walls and ceilings. Located right and left of this conveyor system and connected by a common shaft, two NORD industrial gear units generated a belt speed of 2.2 m/s. With a protection class of IP55, these industrial gear units each have a drive power of 250 kW.

The industrial gear units for this massive construction project were developed based on the tried-and-tested UNICASE design: the one-piece housing block integrates all bearing seats. UNICASE housings are manufactured on state-of-the-art CNC machines in a single setting. The concept features high precision, rigidity, and strength with no joints between the output side and the gear case which are subject to radial forces or torque. What is more, the overlapping bearing offset allows for more compact gear cases and larger roller bearings that guarantee a long operating life. Industrial gear units can be right or left mounted.



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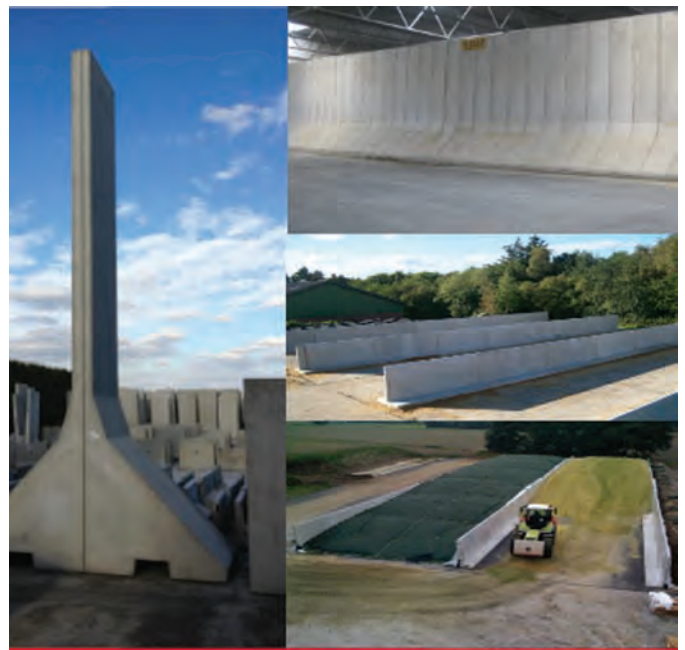
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## Council calls on concrete firm for speedy solution

**A Shropshire precast concrete company has helped one local authority replace its waste storage bays in just a week after a move to an innovative new system.**

Oadby and Wigston Borough Council in Leicestershire has called upon the services of Telford-based Elite Precast Concrete to help replace and upgrade its waste segregation and storage units at its recycling depot in Oadby.

The council has used 250 of Elite Precast Concrete's V interlocking blocks, which link together along the base, sides, and top to form a particularly stable structure, to create two storage bays measuring 6 metres wide by 20 metres deep that are being used to segregate recycling before it is processed.

*"The council's previous storage bays consisted of A-shaped precast concrete blocks, which - even though they did the job to an adequate standard - were neither large nor durable enough to provide optimum performance in such a harsh environment, especially as the council has plans to extend its waste management site in the not too distant future,"* Owen Batham, Sales and Marketing Director of Elite Precast Concrete, explained.

Karen Parkes, Acting Waste Management Officer at Oadby and Wigston Borough Council, oversaw the entire project, from the initial enquiry through to final installation, in just three weeks. She commented: "The V blocks can be stacked higher to give us additional storage capacity, and because of the interlocking aspect, offer an extremely robust and sturdy solution."

*"As the blocks are incredibly simple to slot together using only a forklift, we were able to carry out the entire installation in under a week, eliminating the need for us to bring in external contractors at additional cost. And of course, they can also easily be reconfigured to create storage spaces of various sizes, depending on the dimensions we require."*

The local authority, which currently processes approximately 3,000 tonnes of recycling at the site annually, is aiming to expand its waste management and recycling facilities over the coming months, and will again be calling on Elite Precast Concrete's V interlocking blocks to provide easily installable storage bays.

Founded in 2008 by a team with more than 40 years industry experience, Shropshire-based Elite Precast Concrete Limited is the UK market leader in manufacturing and supplying interlocking and 'V' interlocking precast concrete blocks. By adopting an innovative and forward-thinking approach, both in its production processes and sales and marketing strategy, the company's precast concrete products are now used by a wide range of UK and international clients including local authorities, recycling businesses, and waste management firms, to build durable waste storage bays. The blocks are also heavily used in industries such as outdoor hospitality, transport, and construction, where they are utilised as kentledge - a form of temporary counterweight - to hold scaffolding, security fencing, and marquees in place.



## New $\text{CaCO}_3$ processing plant comes on line

Pneumatic transfer pot



October saw the culmination of a year's work by SN Engineering, UK based bulk materials handling specialists, with the completion of the 1st phase of commissioning of a new carbonate processing plant.

Calcium carbonate, or  $\text{CaCO}_3$ , comprises more than 4% of the earth's crust and is found throughout the world. It's most common natural forms are chalk, limestone, and marble, produced by the sedimentation of the shells of small fossilised snails, shellfish, and coral over millions of years. Although all three forms are identical in chemical terms, they differ in many other respects, including purity, whiteness, thickness and homogeneity. Calcium carbonate is one of the most useful and versatile materials known to man.

### Some typical uses for $\text{CaCO}_3$

#### Paper, Plastics, Paints, and Coatings:

Calcium carbonate is the most widely used mineral in the paper, plastics, paints and coatings industries both as a filler - and due to its special white colour - as a coating pigment. In the paper industry it is valued worldwide for its high brightness and light scattering characteristics, and is used as an inexpensive filler to make bright opaque paper. Filler is used at the wet-end of paper making machines, and calcium carbonate filler allows for the paper to be bright and smooth. As an extender, calcium carbonate can represent as much as 30% by weight in paints. Calcium carbonate also is used widely as a filler in adhesives, and sealants.

#### Personal Health and Food Production:

Calcium carbonate is used widely as an effective dietary calcium supplement, antacid, phosphate binder, or base material for medicinal tablets. It is also found on many grocery store shelves in products such as baking powder, toothpaste, dry-mix dessert mixes, dough, and wine. Calcium carbonate is the active ingredient in agricultural lime, and is used in animal feed. Calcium carbonate also benefits the environment through water and waste treatment.

SNE's brief was to design a facility that would accept & store the raw bulk material before being conveyed to the grinding & classification process. Following processing, the sub  $75\mu\text{m}$  finished product was to be conveyed and stored in a pair of  $2600\text{m}^3$  bulk storage silos. The client then required a high capacity, dust free, out loading facility from the bulk storage silos to road vehicles for onward movement to their client.

Other major considerations was that of logistics - all this was to take place some 2000 miles from HQ @ Gloucester - and would involve more than 20 x 40ft road & sea going containers.

SNE rose to the challenge and completed the task- from initial conception, to design thru' manufacture & delivery to site & finally supervision of installation & 1st commissioning in just 12 months.

Fed via ground receiving hopper, the raw material is conveyed via a series of belt conveyors, and thru' an intermediary crusher which reduces the rock down to  $\sim 50\text{mm}$ , and then onward to a bucket elevator which in turn feeds into a specially designed  $\sim 500\text{m}^3 \times 7.6\text{m}$  storage silo.

The silo has been designed with a larger than normal outlet, to eliminate possible bridging and has the added advantage of 3No vibrators for aiding discharge when required.





Raw material silo

Once the CC is processed, the GCC is then pneumatically conveyed via a 168Ø conveying line to the top of the 12.5Ø x 30m high silos; at which point it is diverted to either of the preselected silos. A dense phase system was selected for this task, and although new to the client (traditionally they had used dilute phase), the system has proved successful in conveying the product with minimum velocity & quick cycle times - typically 45 seconds to convey 2.2Te over a total conveying line of ~75m. Complete feed back to the client's plant room for both the compressors / dryer & the conveying system is maintained via Profibus interfacing.



Finished product silo roofs



Raw material

Each silo is equipped with a high capacity, fan assisted, dust plant to ensure all introduced dust laden air is safely managed with only pre-filtered air being released to atmosphere. With each of these silos having a working capacity of ~2500Te stock inventory is maintained via a dual system of weigh indication & continuous level devices giving a continuous feedback to the client plant room via 4-20mA signalling.

To ensure the 2500Te of stored product discharges freely, the whole of the silo cone has been fitted out with air slides & externally piped to 1 of 3 independent ring mains, thus ensuring any area within the cone can be aerated as and

when required. In addition, each silo aeration system is being fed by its own dedicated low pressure, high volume blower unit. Each of these blowers is enclosed within their own acoustic cabinet to further reduce on noise pollution.

Once the 2600m<sup>3</sup> silos have received the processed material, the product is discharged into 1 of 2 407Ø high capacity, heavy duty designed screw conveyors which in turn discharge, via a SN7000 series dust free loading bellows, into road tankers for onward shipment to client.

For further information or design assistance in powder &/or granular material storage & conveying contact:

SN Engineering. Tel: +44 0 1452 725210 or visit our websites [www.sneng.co.uk](http://www.sneng.co.uk) or [www.scutti.co.uk](http://www.scutti.co.uk)



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# Silo Cleaning Technology keeps material flowing at Illinois Cement

**One of the nation's leading manufacturers of cement and other building materials has overcome a severe blockage of Type I cement in its 80,000 ton capacity storage silo by employing an innovative pneumatic cleaning technology that was remote controlled from outside the domed structure.**

The Eagle Materials Illinois Cement facility experienced the blockage when a support cable on the reclaim screw conveyor came loose, sending thousands of pounds of material down into the silo at one time. But with the unique whip design of the cleaning equipment and some round-the-clock dedication from a Martin Engineering crew, the accumulation was efficiently cleared and loaded out, allowing repair personnel to set up a crane and lift the auger back into position.

The unique design of the equipment allowed it to be lowered from the top through a manhole opening, and although the crew was on-site around the clock for nearly a month, the material could be loaded out with normal operating procedures. *"During the process, we were able to use our auto load-out system from the bottom of the dome, because the material being knocked down fell primarily in the center,"* recalled Chief Chemist and Quality Control Manager Kevin Jensen. *"There was no need to transfer cement in the tunnel, and that helped minimize the disruption."*

Founded in 1964, Eagle Materials is one of the nation's largest cement providers, with four plants supplying a combined total of about 4 million tons annually. The company's Illinois Cement facility in LaSalle manufactures approximately 1.1 million tons of that total each year.

Like most cement manufacturers, the plant uses large storage vessels to hold finished material until it's ready for shipment. At the LaSalle facility, the domed storage unit is 99 feet tall and 186 feet in diameter.

During the course of normal operations, the cable connectors on the reclaim screw worked themselves loose, causing the auger to fall onto the pile and halting the flow of material. The only way to rectify the situation was to position a crane over the top and lift the conveyor out, so the cable could be reattached. But to do that, operators first

needed to clear out enough material to access the disabled equipment, a massive task in light of the nearly-full dome.

*"Our first step was coming up with a plan to tackle the load-out job,"* recalled Chief Chemist and Quality Control Manager Kevin Jensen. *"We needed to remove a significant amount of material in order to make the repair, and there was just no easy way to go about it."*

Jensen contacted Martin Engineering (Neponset, IL) for assistance, and technicians were on site to inspect the situation the next day. They reviewed the options and determined that the best approach was to employ the Martin® Heavy Duty Whip, one of several technologies making up the company's Silo Solutions product line.

Powered by compressed air, the Whip's patented gyro motor can use a variety of flails and cutting edges to knock down accumulated material without damaging storage vessels. Abrasion-resistant steel chain is best suited for most applications, with non-sparking brass chain for combustible materials. Urethane flails can also be employed to protect lined vessels that could be susceptible to damage from metal tools.

*"With this technology, there's no need to send a man inside and risk injury,"* observed Martin Engineering Territory Manager Jim Densberger. *"The equipment can be set up quickly outside the vessel, and it's portable enough to move easily around various bin sizes and shapes."* In most cases, the technique allows material to be recaptured and returned to the material stream.

With safety harnesses in place, Martin Engineering technicians secured the equipment through an access hatch at the top of the dome. Though all of the company's silo cleaning crews are OSHA and MSHA certified for confined space entry, they instead used remote control from outside the vessel to safely guide the head. The 2-man crew lowered the whip through an opening created in the blockage, then worked their way downward from above, dislodging material as they went. By undercutting the wall accumulation, it eventually began falling in sections from its own weight. The modular boom of the Martin Heavy Duty Whip extends up to 8.5 meters (28 feet) and can clean vessels up to 18 meters (60 feet) in diameter from a central opening of just 450 mm (18 inches).

With the reclaim conveyor repaired and the process back up and running, Jensen was asked to summarize the experience. *"The crew's performance was excellent,"* he concluded. *"Martin Engineering was very responsive, and provided an innovative solution to the problem. We had good communication throughout, and all work was done in a safe manner."*





# TECDOS Conveyor Technology for the Transport of Packaged Goods & Bulk Materials

**RUD Chains Ltd is a leading manufacturer of high quality round steel chains, systems and components. For over 140 years the RUD group has been producing top quality chains and applications in accordance with their group wide slogan "Tradition in Dynamic Innovation."**

Experience, diligence, ambition and passion are the virtues RUD manifest in order to remain the best. RUD is ISO 9001 certified and is renowned for its expertise in heat treatment methods - delivering high performance chain products to suit the most demanding applications.

RUD offers an extensive range of conveyor and elevator systems for the transport of packaged goods and bulk materials. The Trough chain conveyors offer a complete system for the smooth transport of your materials. Equipped with round steel chains or forked chains, RUD trough chain conveyors provide the ideal conveyor solution for both horizontal and inclined conveyor sections.

The RUD drag conveyors offers maximum durability in feeding and ash removal for coal fired power plants and biomass plants. The strength and versatility of the drag conveyors are remarkable especially when used in harsh conditions.

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



RUD'S product portfolio offers conveying solutions for conveying projects in any direction, horizontal, inclined or vertical. Screw conveyors are an example of conveyors that can be used in any direction and are suited for conveying abrasive high temperature materials. Bucket elevators are used for conveying at heights and under high performance conditions, an area where RUD has a lot of experience and extensive product range.

RUD retains a high level of technical experience in conveyor and elevator systems for the handling of bulk materials. Supplying standard and specialised solutions across all conveyors, drive and elevator applications, RUD have the expertise and engineering capability to help in even the most demanding of projects.






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The J-1170 features a heavy duty variable speed VGF and integrated prescreen giving excellent production throughput in quarrying, mining, demolition and recycling applications. Notable options include a variable speed pan feeder along with an independent prescreen system. Its compact size, quick set up times, ease of transport and user friendly operational features make the J-1170 ideal for all sized operators.

## Features:

- ▶ The robust high performance hydrostatically driven single toggle jaw chamber provides high capacity with large reduction ratios.
- ▶ Automatic variable speed VGF ensures continuous choke feeding of the crushing chamber for optimal productivity.
- ▶ High powered hydrostatic drive ensures precise chamber control and reverse functionality for clearing blockages and assisting in demolition and recycling applications.
- ▶ Hydraulically assisted closed side setting adjustment minimises downtime and offers quick adjustment.



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