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Volume 18 • Number 2 • February 2013 • *English Edition*



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Volume 18 Number 2
February 2013

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InfraStructures is circulated free of charge to qualified users of heavy machinery and specialized equipment in construction, public works, and natural resources across Canada in both French and English.

The cost of a subscription for either edition for one year is \$50 for Canadian residents and US\$75 or €75 for U.S. and overseas.

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LEGAL DEPOSIT

Bibliothèque Nationale du Québec, 2012

DISTRIBUTED BY CANADA POST

Publications Mail Agreement #40052183

A Brief Word...

Well, the 21st Century marches on, and with it so do we.

There may be some lessons in the Mayan Calendar Mania for us. Primary among them being we can't predict the future, we can only learn from the past and deal with the present.

Don't follow the pack is the other lesson to take into 2013. "The Pack" reacts to fear and loud noises and can risk dragging you somewhere you don't want to be.

Okay, what has this got to do with our industries? Short answer: a lot.

The business owners and managers amongst you need to control the destiny of your entity. To do that you must take in information, use experience to analyze it, and make decisions.

*Bad decisions can be corrected.
Good decisions will be rewarded.*

Indecision will wreak havoc on you, your staff and your business.

InfraStructures is one of your key sources of balanced and insightful information to help you make those decisions on the daily journey.

Did we predict InfraStructures would be Canada's leading industry publication when we started? No.

Is it? Absolutely, and InfraStructures will continue to be your trusted source of industry news and events as the new year unfolds.

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On the cover: a view from below the Beauharnois Canal Bridge over the St Lawrence Seaway.

Part of the \$1.5 billion A30 project, one of the largest design/build public-private partnership (P3) projects in North America, it was inaugurated in a ribbon-cutting ceremony on December 17, 2012.

TORO ADDS TRENCHLESS UTILITY EQUIPMENT TO ITS DEALER NETWORK

The Toro Company is pleased to welcome Trenchless Utility Equipment, Inc. of Burlington, Ontario, to its comprehensive equipment distribution network. The equipment dealership will now be carrying the full line of Toro® underground equipment, including directional drills, compact utility loaders, trenchers, vibratory plows, and stump grinders.

"We are pleased to have this top-notch dealership now carrying the full Toro underground product line," explains Butch Greeninger, senior national sales manager for The Toro Company. "Our dealers are the stewards of the Toro brand, and by bringing on only the best, we can ensure that Toro continues to be a name that folks associate with not only power, performance, and reliability, but also aftermarket support and outstanding service," he adds.

Jeff Lyons, president of Trenchless Utility Equipment, Inc. is pleased with the new-found partnership, and looks forward to growing with the Toro underground line. "We were impressed with a lot of aspects of Toro, but two things in particular come to mind: their commitment to the engineering of these products, and the commitment to dealers," says Mr. Lyons. "When a manufacturer supports the dealers well, the dealers can then offer better support to the end users."

Source: The Toro Company

WAJAX INDUSTRIAL COMPONENTS ACQUIRES KAMAN INDUSTRIAL TECHNOLOGIES' CANADIAN BRANCHES

Wajax Industrial Components is pleased to announce the acquisition of the Canadian branches of Kaman Industrial Technologies, Ltd. The acquisition includes six locations in British Columbia (Greater Vancouver, Cranbrook, Terrace, Prince George, Sparwood and Surrey) and one in Mississauga, Ontario.

Wajax Industrial Components now operates a total of 65 branches including 13 certified service and repair centers across Canada.

As a result of the acquisition, Wajax Industrial Components welcomes as new employees the experienced members of the Kaman Canada team. "The bearing and power transmission expertise gained from the Kaman employees will play an important role as we further enhance our capabilities and footprint to better serve customers in British Columbia and Southern Ontario," said Russell Grant, vice president – Industrial Distribution, Wajax Industrial Components.

"This acquisition aligns with our strategy of growing all of our lines of business – Bearings and Power Transmission, Hydraulics, and Process Equipment – across Canada. We are continually looking for opportunities to expand our geographic coverage," added Adrian Trotman, president, Wajax Industrial Components.

"We welcome Kaman Canada to the Wajax Industrial Components family and look forward to their contribution in growing our business in Canada," Mr. Trotman said.

Source: Wajax Industrial Components



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SUPREME GROUP ACQUIRES PRO-V MFG.

Supreme Group, the largest privately owned steel fabrication and construction business in Canada, has announced the full acquisition plans of Pro-V Mfg. Inc., located in Acheson, Alberta. As of January 1st, 2013, Pro-V will become Pro-V Manufacturing LP, a proud member of the Supreme Group family of companies.

In early 2010, Supreme Group acquired a majority stake of Pro-V's operations with the option for future expansion of the shareholdings. Both companies have a long history of successful joint ventures, including the completion of numerous module projects for the industrial sector. Pro-V is an ASME code certified manufacturer with ABSA approved quality programs for their shop and field operations. These certifications extend from design and manufacture of pressure vessels, including their repair and alterations, to repair of boilers and green-field piping fabrication and installation.

As stated by John Leder, president and COO of Supreme Group to employees of Pro-V: "By this acquisition, Supreme Group includes an established and reputable mechanical company within the Group, and Pro-V Mfg. Inc. moves forward by its association with the largest privately held structural steel fabricator and constructor in Canada. In combination, we will be able to provide significant enhancements to our capacity to supply the burgeoning industrial sector in Alberta and beyond."

Greg Prinsen, president of Pro-V, will remain at the helm of the newly fully integrated operation. He is supported by a strong contingent of loyal office, plant and field forces that have already demonstrated compatible operations acumen with Supreme Group business culture and staff.

Pro-V's existing plant is in close proximity to Supreme Group's newest fabrication plant and module yard also located in Acheson. Through increased demand in pipe fabrication services, Pro-V has expanded production into available shop space in Supreme Steel's Plant #1 facilities, situated in West Edmonton.

Source: Supreme Group

OMNIGLASS SCT, REBORN IN WINNIPEG

One of Canada's leading manufacturers of fiberglass for window and door frames has been reborn one year after fire destroyed its predecessor. Omniglass SCT

began work on new fiberglass pultruded frames and components in November 2012, at their new location inside Structural Composite Technologies' state-of-the-art composite plant in Winnipeg, Manitoba.

Omniglass SCT was formed by partners John Zadro, president of Structural Composite Technologies, who will be president of the new company, and Leroy Dankochik, general manager of both the predecessor and the new companies. Together they purchased the assets, including the patents, processes and window and door systems of Omniglass. Omniglass SCT has hired 10 former employees, including Laurie Davies, founder and former CEO of Omniglass, to assist with sales and business development.

Fiberglass windows and doors are rising in popularity because of their superior structural strength, thermal resistance and paintability. They have been grabbing increasing market share in commercial construction (where they qualify for coveted LEED environmental certification) as well as the residential market where

quality, durability and aesthetics are increasingly important.

Omniglass SCT does business alongside privately-owned Structural Composite Technologies. Founded in 1961, Structural Composite Technologies custom fabricates fiberglass equipment for multiple industries: mining, chemical, utilities, wind energy, transportation, and construction industries throughout North America.

Source: Omniglass SCT

CLEAN HARBORS COMPLETES ACQUISITION OF SAFETY-KLEEN

Clean Harbors, Inc. recently announced the completion of its acquisition of Safety-Kleen, Inc., a leading provider of parts cleaning and environmental services and the largest re-refiner and recycler of used oil in North America. Clean Harbors purchased Safety-Kleen in an all-cash transaction valued at approximately \$1.25 billion, financed through the combination of \$289 million of existing cash, \$370 million in net proceeds from its recently completed follow-on offering of common stock and

The Messersi TCH-R16 FED Electric Self-Loading Dumper

Eastern Farm Machinery would like to introduce the Messersi TCH-R16 FED electric self-loading dumper. This environmentally-friendly self loading dumper is ideal for limited access indoor or underground work requiring a zero emission environment.

Its class-leading 1000 kg payload capacity, rolling rocker patented track design, fast recharge LiFePO₄ (lithium-iron-phosphate) batteries, 81 mm width and 65 l loading shovel make it ideal for limited access interior demolition work.

Zero emission electric drive allows for use in confined spaces and is environmentally-friendly compared to gas/diesel engines. LiFePO₄ batteries have a faster recharge time and are less toxic than the more common LiCoO₂ (lithium-ion) batteries. LiFePO₄ also offers a longer cycle life and higher current or peak-power ratings than other lithium-ion approaches. The use of phosphates avoids cobalt's cost and environmental concerns, particularly about cobalt entering the environment through improper disposal.

The Messersi TCH-R16 FED is the only self-loading electric tracked dumper with a 1000 kg payload capacity available on the market. The undercarriage features rollers in the central area of the track and the patented layout of the tracks ensure a wide footprint, high stability and excellent driving comfort in all conditions.

Source: Eastern Farm Machinery



\$591 million in net proceeds from its recently completed Senior Notes offering.

"The acquisition of Safety-Kleen aligns perfectly with our strategy of expanding our Environmental Services business in North America," said Alan S. McKim, chairman and CEO. "Safety-Kleen brings well-established leadership positions in several important markets, including parts cleaning, small quantity waste generators and used oil recycling. We expect the transaction to drive a substantial increase in waste volumes into our waste disposal treatment network. Safety-Kleen services more than 200,000 customer locations – we are looking forward to the substantial cross-selling opportunities we anticipate across our combined customer base. In addition, Safety-Kleen's re-refining and recycling capabilities significantly broadens our existing portfolio of services and enhances the sustainability offerings available to our customers. We believe this transaction greatly enhances shareholder value and will support our growth momentum in 2013 and beyond. We welcome Safety-Kleen's employees to the Clean Harbors team and look forward to advancing our combined organization."

Based on the current operating and anticipated future performance of Safety-Kleen, Clean Harbors expects the acquisition will be immediately accretive, excluding one-time fees and acquisition-related expenses.

Source: Clean Harbors, Inc.

MORBARK ACQUIRES BOXER EQUIPMENT FROM MERTZ MANUFACTURING

Morbark, Inc., a leading manufacturer of tree care, sawmill, recycling, forestry and biomass chipping, and grinding equipment, recently announced that it has completed the acquisition of Boxer Equipment, a product line of Mertz Manufacturing, LLC, that manufactures and globally markets a full line of compact utility loaders (also known as mini-skid steers) and attachments.

As part of the transaction, Morbark has acquired all product designs, intellectual property and manufacturing tools, as well as existing parts, completed units and other inventory. The Boxer acquisition will enable Morbark to continue to solidify the company's strategy to build equipment that creates opportunities for their customers, dealer network and employees. This acquisition

not only enhances those opportunities in Morbark's existing tree service and rental markets, but also allows Morbark to expand their market presence and current equipment offerings to a broader range of industries and end users, including, but not limited to, landscapers, irrigation and trenching contractors, property owners, and general contractors of all sizes.

"In seeking the optimal buyer for the Boxer product line, we looked for a company that had its own manufacturing capability, as well as shared our desire to see the line continue to develop, grow and realize its full potential. We know without a doubt that Morbark shares this same vision and will apply the necessary resources to bring it to fruition," said Steve Ballinger, Mertz Manufacturing, LLC's president.

Manufacturing of the Boxer Equipment line, attachments and aftermarket parts, is currently being moved to Morbark's 100 000 m² factory and corporate headquarters in Winn, Michigan. As manufacturing of the Boxer line begins in the first quarter of 2013, Morbark will be working with their authorized dealer network to ensure that existing and future customers receive unmatched service, after-sales support, and fast, efficient parts fulfillment.

Commenting on the close, Jim Shoemaker, Jr., president, Morbark, Inc., said, "The strong strategic fit between our companies, combined with Morbark's expanded capabilities in product development, manufacturing and dealer distribution will enable us to efficiently maximize the value and long-term potential of the Boxer product line, allowing it to become one of the market leaders in the compact utility loader category."

Source: Morbark, Inc.

NRSTOR ANNOUNCES ITS FIRST COMMERCIAL FLYWHEEL ENERGY STORAGE PROJECT

NRStor has partnered with Temporal Power, an Ontario developer of the world's highest energy flywheel technology, and Ontario Power Generation, one of North America's largest producers of electricity and a current provider of regulation service in Ontario. Together, NRStor, Temporal Power and OPG will deliver 2 MW of regulation service to the IESO by ensuring fast-response energy to optimally provide this grid-balancing service. NRStor will lease a 0.4 ha parcel of land from OPG for

the construction of the flywheel facility to be located on the site of OPG's Lambton Generating Station in Sarnia, Ontario.

"This is such an important step forward for the future of Ontario's electricity system. With today's announcement, the IESO is making the choice to create one of the most efficient and productive electricity systems in the world," said Annette Verschuren, Chair and CEO of NRStor Inc. "NRStor was created to accelerate the commercialization of energy storage and I couldn't be prouder to have our first project approved in just a few short months."

NRStor was established in 2012 when Annette Verschuren teamed up with Northwater Intellectual Property Fund to accelerate the commercialization of energy storage technologies through the planning and development of energy storage solutions. Northwater is an investor in Mississauga-based Temporal Power Ltd., developer of a highly efficient flywheel energy storage system and Newton, Massachusetts-based General Compression, a pioneer in the development of compressed air energy storage systems. NRStor is working with both companies to accelerate projects from demonstration to commercialization.

Intermittent renewable energy capacity from sources such as wind and solar technologies will grow by 40% globally over the next 5 years. As more renewables come online, the power supply will become more variable causing many challenges for the grid in terms of matching electricity supply to demand. NRStor's facility, using Temporal Power's flywheels, can respond much faster than conventional generation sources, enabling them to follow regulation commands more accurately, thus returning the electricity grid to a balanced state more quickly and ultimately, providing savings to the ratepayer.

This project marks a milestone in the development of commercial energy storage projects in both Ontario and Canada. Grid-scale energy storage solutions, such as this, have the potential to significantly extend the timeline for investment in transmission and distribution assets, enable greater penetration of renewables on the grid, positively impact ratepayer electricity bills and improve overall grid security and reliability.

Source: NRStor Inc.



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NICOLAS Side Girder Deck delivered to Statnett

The French special vehicle manufacturer NICOLAS Industrie S.A.S. recently launched a new 350 t side girder deck with the Norwegian transport company Statnett Transport AS taking the first delivery. The newly constructed deck from the French manufacturer for heavy-duty transport

The fruitful result of the cooperation between Statnett and NICOLAS has set new standards in terms of safety and quality.

The cabins of the NICOLAS side girder deck are equipped with cameras, air conditioning and other conveniently positioned components that contribute equally to a

tem which is still in operation today. Since then, the company has become a loyal customer and business partner to NICOLAS Industrie SAS, constantly increasing its existing fleet over the course of time.

In total, the realization of the entire project, from an extensive design stage over the assembling up to the final delivery, took less than one year, and the outcome is extremely impressive. Each component was developed in cooperation with the Norwegian customer and now meets the exact needs of the market regarding size and function. Goods to be transported can thus have lengths of 15 m as well as widths of up to 4.3 m. Thanks to the incredibly low dead weight of the combination along with a length ranging from 57 m to more than 80 m with trucks, it is the ideal solution for transport operations of electrical transformers and generators; naturally, other types of goods are also easy to transport. Thanks to the hydraulic widening assistance of 2.30 m to 4.30 m, the mechanical locking of the width positions as well as a total lift of 1.68 m the NICOLAS side girder deck guarantees high level of user-friendliness and flexibility.

The Statnett side girder deck is combined with a NICOLAS MDEL-R. This is of particular benefit for customers that are already own such NICOLAS modules; however, other potential customers can also profit from the extraordinary features as the side girder deck can be used with all types of NICOLAS modules. Depending on requirements, the deck can be coupled with 2 x 10 axle lines, 2 x 12 axle lines and 2 x 14 axle lines respectively. The complete set of equipment delivered includes several types of central beams: one set of 12.7 m long beams and another one of 15.5 m. In order to be able to transport very high cargo, NICOLAS has designed some special extension parts which allow the central beams to be transported in a lower position.

During the development of the combination, particular emphasis was put on safety factors which indeed are among the most outstanding characteristics. On the top of the necks, hydraulic tilting, rails and moving floors were mounted. Thus, the operators can move bolsters and necks along in safe conditions. In addition, the two



vehicles makes a convincing case not only in terms of design, but also due to a number of safety features.

high safety and comfort level.

Back in the 1970s Statnett Transport AS acquired their first NICOLAS modular sys-

Dynapac PL350TD Compact Planer

Dynapac's new PL350TD compact planer offers a variety of new technical developments, including the Easy Level leveling system and milling drum technology. It is well suited for milling of joints, flush cutting, removing road markings and other jobs where defective asphalt or concrete surfaces are cut.

The PL350TD mills 35 cm wide to a depth of 10 cm with a cutting diameter of 52 cm. With both a left and right steering angle of 75° and a milling radius of only 10 cm, the PL350TD is specifically designed for flush milling of manhole covers, but it also makes it easy to maneuver in narrow construction sites with little effort.

The front ballast of the Dynapac PL350TD can easily be removed from the machine with a forklift when a job requires less weight. The balanced distribution of weight, provided by the removable ballast,



allows for milling without vibrations. This feature is beneficial when performing sensitive tasks such as demarcation.

Positioning the driver behind the cutting drum permits a clear view of the cutting edge. The driver's placement on the rear platform facilitates faster, safer mounting and dismounting.

Source: Atlas Copco Road Construction Equipment
Dynapac USA
Dynapac AB

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cabins at each end – which can be moved 1 m to the right and left – as well as large front, rear and lateral opening windows, guarantee first-rate visibility during delicate operations. The cabins are equipped for transports at extreme temperatures and each feature excellent insulation along with their own generator.

Two driving positions are located on the right and left side of the cabin. For safety reasons there is no high pressure hydraulic circuit inside the cabin. The NICOLAS side girder deck is also equipped with cameras, air conditioning and other convenient components that contribute equally to a high safety and comfort level. The PowerPackUnits are provided with noise protection (less than 75 dB), which contribute not only to the safety but is also an important economical consideration by allowing driving at night. Other features such as hydraulic tools in order to position the coupling beams, a handling trolley to install the beams around the load or coupling beams are very useful tools to ensure rapid transport and preparation.

The first convoy featuring the 350 t side girder deck in combination with the NICOLAS MDEL-R is took place in October last year. Visitors at this year's Lastbil in Sweden have already had the opportunity to see some of the components that make up the products and to convince themselves of the fruitful cooperation between Statnett Transport AS and the specialist vehicle manufacturer NICOLAS which has set new standards in terms of safety and quality.

With the development of the world's largest side girder deck, the STB 1000 in 2010, the TII Group has now expanded its versatile product range with the new 350 t side girder deck from NICOLAS. Once again, the TII Group has demonstrated its

versatility and innovation, and confirmed its standing as the world market leader in manufacturing heavy-duty transporters.

Statnett Transport AS is the transport division in the Statnett Group, a Norwegian state-owned enterprise responsible for owning, operating and constructing the stem power grid in Norway.

They provide services for the whole transportation process, from planning up to the transportation of the goods to its final destination. Their main duties include

the verification of actual transportation and safety-related issues, as well as the provision of the appropriate permits from the relevant authorities, route inspection and confirmation of weather and driving conditions for the time of transportation. Statnett Transport also takes on a consultation role in the area of heavy and abnormal haulage tasks.

Source: NICOLAS Industrie S.A.S.

 FGN.N828

Major Infrastructure Project in Brisbane

Legacy Way (formerly Northern Link) is a major road tunnel project in Brisbane, Australia. From 2014 on, two parallel road tunnels, approximately 4.6 km long, will connect the Western Freeway in Toowong with the Inner City Bypass (ICB) at Kelvin Grove. BAUER Foundations Australia Pty Ltd, the local subsidiary of BAUER Spezialtiefbau GmbH, has been awarded the piling works for the eastern cut-and-cover structure, as well as vent shafts and the western trough.

The scope of work for stage one comprises the construction of approximately 590 secant piles, 111 soldier piles and bored piles with 900 and 1,200 mm diameters up to 28.5 m in depth. Bauer drilling rigs of the types BG 25 and BG 28 were used as main equipment, employing segmental double wall casing installation technique.

Particularly challenging was the work from an existing flyover at the Inner Northern Bus Way which needed to be modified to suit the future Legacy Way road alignment. The other main challenge faced on site was to overcome the unexpected extreme high strength rock up to 160 MPa. The project duration is split into two stages. Stage one was completed in September 2012.

Source: BAUER Spezialtiefbau GmbH

 FGN.N520



Garbage – It's Everywhere and Everyone's Problem

By Brian Page, CET, OALA, CSLA, GMM III, Molok North America Ltd. and Lisa Thompson, CPT, GMMI Planning Technician, City of Kitchener, Ontario Special Collaboration

Municipalities and property owners will be interested in an alternative to the traditional stand-alone dumpster, the unsightly wooden enclosure or the (more recent) fully enclosed and roofed structure. Deep-collection for waste management is a garbage containment revolution that could drastically improve the way with which garbage is dealt.

In place of ugly containers hidden in the

industrial, institutional, residential applications and parks or public spaces.

The concept of the deep-collection system takes advantage of the laws of nature: earth temperature and gravity. With two thirds of the eight-foot container installed below grade, garbage is kept cool in the summer, virtually eliminating odor; the ground's insulating effect prevents freezing in the winter. The small surface area (relative to the depth of the container) and its cylindrical shape cause the garbage to naturally compact by gravity, increasing the capacity by 1.5 to 2.5 times the container's actual volume. Compaction leads to less frequent pick-ups. As the well is rotation-molded from a single piece of polyethylene plastic, it is entirely leak-proof, so soil and groundwater are

clables, cardboard and even organics and cooking oil.

The City of Kitchener's initial interest in

deep-collection started about 10 years ago in the multi-residential sector, where systems were installed in low rise apartment complexes. Since then, the systems have gained popularity, and now over 80% of site plan applications submitted to the city use deep-collection systems as their preferred choice for waste management. Kitchener planning staff was impressed with this unique solution and has supported this trend by utilizing the deep-collection system at city facilities, parks and recently installed 40 units along King Street

when the downtown area was revitalized.

The aesthetic benefits of these units on the City's main street are many. No longer



back corner of a property, deep-collection systems can be prominently displayed in common areas and incorporated into site design. They can be used for many kinds of developments, including commercial,

protected from contamination.

The units are available in different sizes (in a variety of above-grade finishes to suite any development) for a variety of materials such as mixed waste, recy-

are businesses piling bags of garbage on King Street 7 days a week, but now with the deep-collection units, all waste is conveniently contained in the units. Garbage pick-up has also been reduced from 7 days

a week to 3-4 days a week.

With the increase in public events and festivals in the downtown, the deep-collection units have been able to meet the needs of the event goers without having to place numerous portable garbage cans on the street.

Deep collection units can be located virtually anywhere, resulting in greater flexibility of site plan layout. The space savings versus traditional garbage enclosures can allow for more amenity space or landscaped areas on a site. On small properties they can make it easier to meet regulatory requirements for setback and parking. With the increasing demand for in-fill development on older small properties the deep-collection system can make the difference between being able to redevelop or not.

Traditional dumpsters are limited in their placement by the way they are emptied, requiring a straight-on approach by a garbage truck, which typically results in additional paved surfaces. The deep-collection unit, on the other hand, uses a reusable lifting bag that's raised by a knuckle boom crane that can reach a wider variety of places. When emptying, the release mechanism on the bottom of the bag is opened, allow the garbage to fall neatly (and cleanly) into the truck and the emptied bag is returned to the unit.

As the units protrude only 90 cm above grade, they are user-friendly and easily accessible by persons with disabilities and children alike.

With evolving municipal garbage and recycling separation requirements, the number of containers required on site has increased. Unfortunately, existing garbage enclosures typically cannot accommodate additional containers resulting in their being placed outside of the original enclosure. In some cases these additional containers are being located in required parking spaces or being placed in landscaped areas, creating unattractive and potentially unsafe sites. Alternatively, additional deep-collection containers have a much smaller footprint and avoid the need for an enclosure, making source separation relatively easy.

With the City's focus on safety, from a Crime Prevention Through Environmental Design (CPTED) perspective, the deep-collection unit is an excellent alternative to traditional garbage enclosures. They can



be prominently displayed on a site serving as an activity generator, creating opportunities for natural surveillance, eliminating the risk of entrapment or ambush and naturally deterring graffiti because of their shape and exterior finish. The units are virtually fire and blast proof, making them an effective tool in the war against terrorism.

From a site design perspective, the deep-collection waste management system can be utilized for most types of development. It is an effective crime prevention tool, pro-

vides both environmental and economic benefits, can be easily installed on virtually any site and is aesthetically pleasing.

Lisa Thompson is a Planning Technician with the City of Kitchener and Brian Page has recently retired from the City of Kitchener as the Supervisor of Site Development.

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Manitowoc and National Crane Help Harness Aquatic Power

MJR Contractors purchased a Manitowoc 12000-1 crawler crane to join other Manitowoc and National Crane machines working at Tullamore Pumping Station and Reservoir in Caledon, Ontario.

Romeo Duarte, vice president of MJR, said the Toronto-based company chose the Manitowoc 12000-1 for its proven reliability, great lifting capacity and extra-long reach.

"The job at Tullamore is fairly large and we needed a crane that could crawl between the pumping station and reservoir to make big lifts," he said. "We are already using a Manitowoc 8500 crawler and are very happy with its performance, so we were confident in the choice to buy another Manitowoc."

MJR bought the Manitowoc 12000-1 to complement the work being performed at the Tullamore jobsite by the Manitowoc 8500. There, the cranes are setting forms and pouring concrete, placing large pipes in the ground and assembling concrete forms, among other duties. MJR also plans to rent the cranes to a structural steel contractor that will be working at the reservoir and pumping station.

The 110 t capacity Manitowoc 12000-1 is suitable for a variety of work sites. It features heavy-lifting power, but in a smaller, easier to set up configuration. The crane can be rigged with up to 70.1 m of main boom, while its jib extension can be rigged up to 82.2 m. At the Tullamore jobsite, the crane is configured with 48.8 m of main boom and 18.3 m of jib.

Both Manitowoc crawlers were sold to MJR by Strongco, an Ontario-based seller and renter of industrial equipment for industries including construction, road building, mining and forestry. Strongco is one of Canada's largest construction equipment distributors with an extensive network of branches across the country and in the northeastern U.S.

Chris Gray, territory manager at Strongco, said MJR came to Manitowoc with a list of needs, all of which are fulfilled by the Manitowoc 12000-1.

"MJR Contractors decision process was made easy due to Manitowoc cranes' proven lifting strength and reliability," he said. "The speedy erection time and ease of transport of the crane were also deter-



mining factors in the purchase, as well as Strongco's extensive product knowledge and Manitowoc Crane Care service."

On site to assist with erecting the new Manitowoc 12000-1 is a National Crane NBT55 boom truck. The NBT55, which will also help load and unload trucks at the jobsite, was provided by Ontario, Canada-based Ward Crane Rental.

The NBT55 is ideal for jobsites where maneuverability is a priority. It is the larg-

est National Crane boom truck, available in 49.9 t and 45.4 t capacities, and comes with either a 31.1 m or 39.0 m four-section, full-power boom. It boasts fully-integrated machine controls and a LMI, a first for the boom truck market.

The \$42.63 million Tullamore Pumping Station and Reservoir project began in the fall of 2011 and was expected to finish December 2012.

Source: The Manitowoc Company, Inc.

BHMA Issues Revisions for 5 Standards

The Builders Hardware Manufacturers Association (BHMA) has announced the publication of five revisions to the ANSI/BHMA Standards. The industry standards recently approved by ANSI (American National Standards Institute) are:

- A156.18 Materials and Finishes
- A156.20 Strap Hinges, Tee Hinges, and Hasps
- A156.24 Delayed Egress Locking Systems
- A156.26 Continuous Hinges
- A156.29 Exit Locks, Exit Alarms, Alarms for Exit Devices

"BHMA rolled out five revised publications in the last quarter of 2012 as the standards completed their revision cycle," said BHMA executive director, Ralph Vasami. "Publishing a revised standard for the industry translates into enhancements to each product's engineering and design. Raising the bar for hardware performance and product life can directly impact the safety and security of the facility – especially the people that occupy it."

ANSI/BHMA Standard A156.18 describes finish test methods and code numbers for finishes on base materials, developed to ensure quality control of the hardware finish.

ANSI/BHMA Standard A156.20 establishes the requirements for Strap Hinges, Tee Hinges, and Hasps. In addition, it specifies performance tests covering operational and strength principles.

ANSI/BHMA Standard A156.24 addresses conventional exit devices or locks causing the doors to remain locked after releasing actuation.

ANSI/BHMA Standard A156.26 sets requirements for architectural continuous hinges used in building construction.

ANSI/BHMA Standard A156.29 addresses the performance of Exit Locks, Exit Alarms and Alarms for Exit Devices.

Source: The Builders Hardware Manufacturers Association

ODOT Doubles Salt Storage Capacity with Fabric Structure

The Tulsa Port of Catoosa has opened a new bulk salt storage facility for the Oklahoma Department of Transportation (ODOT). Erected by Legacy Building Solutions, the massive tension fabric structure provides 45,000 t of storage capacity for roadway deicing salt, nearly doubling ODOT's available storage across the state.

"ODOT will distribute the salt stored at this new location to maintenance distribution sheds ahead of impending snow or ice events during the winter," said Craig Swengle, P.E. and associate vice president for Dewberry Engineers Inc., the primary engineer/architect for public improvements at the Port of Catoosa. "Previously, salt was stored in the open and covered with tarps after being off-loaded from barges. The new building will protect the salt supply from being compromised by wind and precipitation."

Measuring 62 m wide by 122 m long, the structure features 4.9 m cast-in-place concrete walls and a rigid frame roof design

that maximizes the usable interior space. To eliminate corrosion concerns, Legacy Building Solutions installed a PVC tension fabric roof with structural steel frame that peaks to a maximum height of 21.3 m. All of the building's steel, components and hardware are hot dip galvanized.

"Once the general contractor completed the footings and floors, Legacy installed the fabric building very quickly, in about two weeks," said Mr. Swengle. "It was a very positive process with professional communication between Legacy and Dewberry throughout the project."

The new salt storage building is primarily clad with tan fabric, while also incorporating a white skylight to allow sunlight to illuminate the structure's interior. The



building is ventilated with mesh eaves and is designed to withstand winds of 145 km/h and hold snow loads of 97 kg/m².

The Tulsa Port of Catoosa was strategically chosen as the site for the new facility because it allows ODOT to transport salt to the northern part of the state on a barge via inland waterway. This reduces material transportation costs for the taxpayers and provides an avenue to procure extra salt shipments when road deliveries are not feasible.

Source: Legacy Building Solutions

Bobcat Asphalt Preservation Tools

The launch of the new Bobcat® Asphalt Preservation Tools (APT) system provides asphalt paving contractors and government customers with an innovative system that is powered by Bobcat loaders for cost-effective repairs that minimize traffic disruption.

This simple restoration system will be beneficial to asphalt paving contractors and road repair crews at all levels of government for repairing potholes and other surface defects like cracks, deteriorating surfaces, and frost heaves that develop in streets, highways and parking lots. The system also is ideal for reclamation of driveways, trails and golf cart paths.

These attachments are designed to perform a 3-step asphalt preservation process that seamlessly fuses recycled asphalt with surrounding asphalt to create a strong and durable bond that outlasts conventional asphalt approaches, because it does not involve cold joints or repeated treatments.

The Bobcat APTs help answer a growing need for eco-friendly restoration processes that will decrease expenses and extend the

life of road and highway repairs.

The APT system consists of an infrared asphalt heater and an asphalt processor that is compatible with 12 approved Bobcat all-wheel steer loaders, skid steer loaders and track loaders. These attachments can be connected to the loader quickly and easily with the Bob-Tach® attachment mounting system, which provides a tight-fit attachment hook-up.

The AH30's three infrared heating elements can heat an asphalt repair area as large as 2.8 m² to 150°C to soften and recycle the asphalt for the milling process.

The AP40 processor can mill existing damaged asphalt material up to 115 cm wide with cutting depths ranging from 4 to 15 cm deep. The unit can process, remix and level the rejuvenated asphalt to the desired depth and prepare it for compaction.

This unique asphalt recycling system saves an average of 60% of the costs associated with other asphalt repair methods. By reducing the consumption of raw materials, the system also eliminates



the purchase, storing and transporting of additional resources. Additionally, the Bobcat asphalt restoration process requires less manpower and less transporting equipment.

The system also works very well when the job requires high maneuverability, as the Bobcat loader and attachments can conduct work within a single lane, minimizing traffic disruption. It is an ideal solution when a smaller repair will answer the need, as opposed to a large asphalt overlay project.

Source: Bobcat Company

The Unveiling of the G&Z S850SL

Guntert & Zimmerman (G&Z) is proud to announce its new S850SL: mid-size slipform paver with swing legs. With the success of the G&Z S600 in the domestic and international markets, the patented AccuSteer and SmartLeg have been made available as options on the G&Z S850 in lieu of the reliable and time-tested QUADRA bolster system.

AccuSteer consists of slew drives that are mounted on top of the crawler track yokes that are used to steer the tracks in lieu of steering cylinders. Its drives are powered with hourglass worm technology to give long life, high accuracy and extremely high maneuverability. AccuSteer allows the operator to independently rotate the tracks almost a full circle, providing exceptional on site maneuverability and rapid swing leg relocation for paving and transport without the need to re-pin steering cylinders.

Working in tandem with AccuSteer, SmartLeg allows the operator to adjust the swing leg angle on the fly while automatically keeping the crawler track straight ahead. This offers a high level of flexibility for the contractor to maneuver around track line obstacles (e.g. fire hydrants, airport runway lights, etc.) without stopping to make a mechanical swing leg adjustment or re-clocking the steering transducer. With SmartLeg, the process for transforming the S850SL into the transport configuration can be semi-automated. This simple process dramatically saves time over other conventional four track slipform pavers. Using the combination of the 90°, AccuSteer and SmartLeg, the four swing bolsters and crawler tracks are semi-automatically walked into the outboard, transport position in approximately 30 minutes.

As G&Z continues to explore ways to increase available paving time and decrease set up time, the S850SL is designed to fulfill the need for a versatile, maneuverable, time saving mid-size paver that has the ability to achieve good smoothness numbers. The S850SL Paver is one of the narrowest profile mid-size pavers on the market. When equipped with special narrow grouser pads, the S850SL can work next to a temporary barrier wall on a companion lane trackline as little as 30 cm



wide with and without a DBI. The S850SL has been engineered to make contractors more productive. The S850SL time saving options provide the contractor with the opportunity for more paving hours in the day and more paving days during the season.

The S850SL is an "all-purpose" mid-size paver. It is ideal for city streets, secondary roads, highway and airport paving, ramps as well as canal lining applications.

The G&Z S850SL features a patented double telescopic tractor frame, access walkway, and hose hinges for a nominal working range of 3.66 m to 7.92 m with up to 2.13 m of telescopic ability per side – the widest range in the industry. With the addition of optional bolt-in tractor frame extensions, the S850SL tractor can extend

up to 12 m. When the tractor frame is equipped with G&Z's patented JC Extender System, major tractor width changes can be done in under one hour. The S850SL is available with G&Z's patented and time saving TeleEnd: Telescopic Paving Kit End Sections which allow hydraulic telescopic ability of 915 mm per end or 1250 mm with the New TeleEndXL. The S850SL can be equipped with a mechanical dowel bar inserter (DBI) and can be supplied with hydraulic or electric poker vibrators. The paving kit, front tie bar inserter and many of the other optional attachments on the S850SL are interchangeable with other G&Z paver models, giving the contractor a more versatile fleet of paving equipment.

Source: Guntert & Zimmerman

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all aspects of the industry **InfraStructures** offers you the **deepest coverage** available to advertise your products and services.

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"Chip" Is Ready to Dig

"Chip", one of the two tunnel boring machines being used to construct the pedestrian walkway to Billy Bishop Toronto City Airport, in Ontario, has been lowered into the tunnel shaft.



The Canadian-made tunnel boring machine joins its twin, "Dale", which is creating the first of seven drift tunnels that will form the walkway's crown. "Chip" was lowered into the shaft on January 10 and has begun boring the second drift tunnel.

"This is an exciting project milestone," said Toronto Port Authority president and CEO Geoffrey Wilson. "The pedestrian walkway will be a first-class piece of infrastructure that will give passengers convenient, predictable and reliable access to Billy Bishop and we're well on course to completing it on time and on budget."

The Toronto Port Authority is building a pedestrian walkway across the Western Gap to Billy Bishop Toronto City Airport (BBTCA) that will allow passengers and airport users an alternative, efficient access point. Billy Bishop will serve more than 2 million passengers in 2012. The airport, which was completed in 1939, provides connections to more than 18 cities in Canada and the U.S..

The new walkway will be completed in Spring 2014 and flanked by a new pavilion



on the mainland and an addition to the airport terminal building on the island.

Source: Toronto Port Authority



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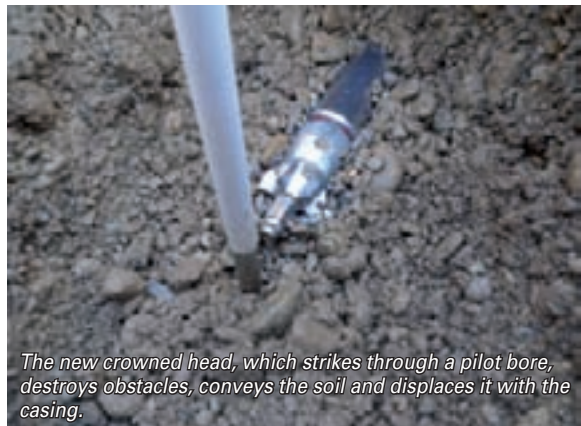
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New Tracto-Technik Products at Bauma

For the 16th time Tracto-Technik will present their complete bore technology spectrum and their latest products at Bauma in Munich.

The GRUNDOMAT soil displacement hammers have been on show since 1970,



The new crowned head, which strikes through a pilot bore, destroys obstacles, conveys the soil and displaces it with the casing.

which are strongly being applied for FTTH house connections. A strong characteristic of the 7th Grundomat N generation is the unusual shape of the head, which is described as a crowned head. This head is unique and guarantees a high penetration force and target precision in stony soils. The GRUNDOMAT N is optionally available with the proven stepped head from the previous generation. A further improvement to this machine is the triple gear control stud. This was designed to react better in alternating soils, therefore the GRUNDOMAT N not only has the reverse gear, but can be switched between two forward gears with different striking frequencies.

The GRUNDODRILL 18 ACS, also known as the Black Mole has been introduced to potential customers last year and has already found wide acceptance. This flexible bore rig is equipped with twin tube drill rods for rock drilling up to 500 mm diameter and 300 m bore lengths, or with the Twin-Drive drill rods for regular bores with drilling fluid up to 600 mm diameter and 400 m bore lengths. The bore length record for rock drilling is currently 270 m. The GRUNDODRILL 18 ACS, with its very high technical standard is equipped with everything you need for an efficient bore operation.

The successor to GRUNDODRILL 15 XP is the GRUNDODRILL 15 XPT. With this rig you can pull in pipes up to 450 mm

diameter. Apart from an improvement and optimization of the performance, the focus was placed on an improvement of the work and operating safety during the development phase.

In addition to the HDD bore rigs from Tracto-Technik, our partner company Prime Drilling will also be exhibiting their HDD large size bore rigs on the 1,500 m² exhibition booth. Operating companies and users from the domestic field and abroad are in unity: The GRUNDOPIT K Keyhole technology is the key to an economical house connection. The Keyhole is

intended for new installations with a soil displacement hammer, or with a steerable mini-bore rig GRUNDOPIT K and also for the cable pulling device GRUNDOTUGGER. There is a pleasant additional effect for the Keyhole, in avoiding tears and frost damages in the road surface, due to the circular form.

To complete the previous GRUNDOBURST range a new GRUNDOBURST type with 1,900 kN pulling force has been added, for new pipe installations up to Ø 900. This closes the gap between the 1250 G and the 2500 G sizes and has already been successful at several jobsites during its practical test phase.

The new geo-thermal energy bore rig Geodrill 8R is the successor model for the Geodrill 4R and the prototype will be on show at Bauma.



GRUNDOMAT soil displacement hammer

The rig is now swivable from 30° to 95° and therefore not only applicable for slanted bores, but also for vertical bores. Furthermore the Geodrill 8R fulfils further tasks in well building, foundation work and



The new GRUNDODRILL 18 ACS, also known as the Black Mole

anchoring work fields. The motor capacity is 55 kW, additionally the torque was



Working in heavy traffic: GRUNDOBURST 1900 G carrying out a pipe renewal with the bursting method

increased from 2,500 Nm to 8,000 Nm.

Source: Tracto-Technik GmbH & Co. KG

Bauma F5 521/N

Mini-Cranes Offer a New Approach to Material Handling

Maeda Mini-Cranes bring a new dimension to material handling. Small enough to go where no other lifting device can, these units provide up to 20.7 m of lift height with up to 4,900 kg. of lift capacity. Proven by building contractors, crane services, glaziers, plant maintenance departments and other industries, the Maeda units are in compliance with ASME and EPA standards. Four models are sold and serviced in North America by Maeda USA, LLC, based in Houston, Texas.

The ability to be able to enter through doorways provides a unique solution indoors, underground and in confined spaces. These units set-up in extremely tight quarters. Standard features include fully automatic five-section booms, 360° swing, hydraulic disc winch brakes and programmable Moment Limiter Safety System. Ease of operation assures reliable lifting. As is often the case with new innovations, Europe and Asia have embraced the mini-crane concept for more than a

decade. North and South America are discovering these unique lifting devices and sales have increased year after year.

Four models are available including walk-behind and ride-on mini-crawler cranes and a compact telescoping boom crane unit with cab. All models are self-propelled with diesel or gas engines standard and optional electric or LPG power. The smallest MC285-2 model is a slim 76 cm wide when in the travel position and lifts up to 2,816 kg to 8.7 m. The LC785 compact crane with cab has 20.2 m maximum lift height with boom and optional jib. Two other models – MC305-2 and MC405 fill out the line and are ride-along mini-crawler cranes.

Mini-cranes offer lifting solutions in limited access and confined spaces. Applications are unlimited with construction, steel erection, curtain wall installation, aircraft



maintenance and plant maintenance being just a few.

Source: Maeda USA, LLC

K-Tec Earthmovers Achieves ISO 9001:2008 Certification

K-Tec Earthmovers Inc. has announced that the company has achieved ISO 9001:2008 Certification. K-Tec is a worldwide supplier of heavy-duty earthmoving scrapers for the construction, mining, and agricultural industries.

Achieving ISO 9001:2008 Certification is an accomplishment



to recognize total quality management practices throughout the K-Tec organization. Quality testing, standardized processes, and a focus on customer satisfaction are several of the compliances that K-Tec instituted to meet the internationally recognized ISO standard. The achievement of certification is another step for K-Tec to further promote the high-quality scraper product while standing behind a 3-Year Structural Warranty.

"K-Tec has already seen a significant improvement in the quality of product since achieving the highly-regarded ISO standard. We have also noticed a decrease in warranty claims, due to the improved quality control checks within our organization," says general manager, Russ Goossen. The quality standard certification will allow K-Tec Earthmovers Inc. to further advance into international markets to solidify K-Tec as an industry leader in the pull-pan scraper market.

Source: K-Tec Earthmovers Inc.

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ISSA Supports National Pavement Preservation Research Project

With 50 years serving the pavement preservation industry, the International Slurry Surfacing Association (ISSA) is proud to be a supporter of the National Center for Asphalt Technology's (NCAT) Pavement Preservation Effectiveness Study, the 5th cycle of the Pavement Test Track. Performance monitoring of pavement preservation treatments in this cycle of the Pavement Test Track and on 760 m of Lee Road 159 in Alabama will allow researchers to determine the service life extension of various pavement preservation techniques relative to pretreatment condition and explore ways to stretch transportation budgets. Seven state departments of transportation and multiple private sponsors have stepped forward to support the expansion of the scope of this research project to include proactive maintenance methods. These methods include those that ISSA supports, slurry



and microsurfacing, chip sealing and crack treatment, among others and will be used alone or in combination to test several methods in varying circumstances. ISSA is not only donating funding to this project, but the members that drive the association are donating their time, knowledge, expertise and even equipment to help facilitate proper pretreatment to post-treatment condition comparisons.

"This three-year study should be great for the pavement preservation industry," stated Doug Ford, 2012 ISSA president. "It will provide quantified results for each process and insight into the timing and processes that best address each level of deterioration."

Since its creation in 1986, NCAT has sought to be a world leader in hot mix asphalt research, development, technology and education. The 4th cycle of the Pavement Test Track began in August 2009 and was completed 25 months later in September 2011. By design, this cycle took 17 of the over 40, 61-m sections of roadway involved in this project and either reconstructed or rehabilitated each of those sections. Now in the 5th cycle, NCAT has already applied a rejuvenating fog seal to two sections and a triple chip seal, which will be evaluated as an interlayer, to one section of the most recently reconstructed or rehabilitated sections of roadway. Lee Road 159 will be divided into 25, 30.5-m sections that will receive other pavement preservation treatments including various methods of micro surfacing, chip sealing, crack treatment, fog sealing, scrub sealing and fiber mat. The Pavement Test Track and Lee Road 159 will be evaluated on a regular basis over the course of this 3-year study and progress reports will be published periodically.

Founded in 1963, the International Slurry Surfacing Association (ISSA) is a nonprofit association dedicated to the interests, education and success of slurry and micro surfacing, chip sealing and crack treatment professionals and corporations around the world.

Source: International Slurry Surfacing Association



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Video Showcases Precast Concrete Double Tees with Carbon Fiber Grid Reinforcing for Parking Garages

A new video from AltusGroup, a North American network of 14 precast concrete manufacturers dedicated to innovation, is intended to educate parking garage owners and engineers about the use of carbon fiber grid reinforcing in the flange of precast concrete double tees. The video appears on AltusGroup's website and YouTube channel (youtube.com/altusprecast).

The video details the design and production of CarbonCast Double Tees, which use C-GRID carbon fiber grid as flange reinforcement replacing conventional welded wire mesh. Because carbon fiber grid is non-corrosive and four times stronger than steel by weight, AltusGroup precasters can use less concrete cover atop the reinforcing. A typical 100 mm thick flange can be thinned to 89 mm, saving 30 kg/m² in weight and reducing the structure's carbon footprint.

The video also explains how non-corrosive C-GRID can eliminate the cost of adding corrosion-inhibiting admixtures to the concrete or the expense and hassle of applying sealers to the deck surface before commissioning and reapplying them every five years.

Also addressed in the video is how CarbonCast Double Tees can meet ASTM E119 requirements for a one-hour fire rating. Calculations based on ICC codes and accepted design criteria show that, just like steel mesh reinforced tees with the same flange thickness, they can provide a two-hour fire rating.

About AltusGroup



Rotary Lift Spotline™ Laser Spotting Guide Now Available for All Vehicle Lifts

Rotary Lift's Spotline™ laser vehicle spotting guide is immensely popular with technicians who use the company's new Shockwave-equipped lifts. It enables them to quickly and efficiently move vehicles in and out of the bay, saving time on each job and increasing overall productivity.

Now, owners of any brand of vehicle lift can add the benefits of Spotline to the bay, thanks to a new retrofit kit that makes the laser spotting guide compatible with most inground and surface lifts.

"Everyone who has a Shockwave-equipped lift knows how much time the laser saves," says Ron Lainhart, Rotary Lift parts and service manager, "But there are a lot of people who aren't necessarily ready to purchase a new lift who could benefit from being able to spot vehicles

more quickly and accurately. The new Spotline retrofit kit lets customers increase the efficiency of virtually any lift out there."

The Spotline laser is installed on the top of the lift or elsewhere above the work area. It projects a green laser line directly in the center of the bay. The technician simply

centers the line on the vehicle hood and dash while pulling in for perfect positioning every time. With Spotline, the driver does not have to lean out a window or a door to properly stage the vehicle.

Rotary Lift invented the Spotline motion-activated laser spotting guide and introduced it as part of its Shockwave system in November 2011. Until now, it was only available on Shockwave-equipped two-



post and SmartLift® inground lifts. Spotline uses a Class IIIa laser similar to those in laser pointers.

The Spotline retrofit kit works with two-post and four-post surface lifts, light-duty inground lifts, and heavy-duty parallelogram and scissor lift models. The kit comes complete with a Spotline laser assembly, motion sensor kit, mounting bracket and hardware adaptable to a ceiling, wall or top of a two-post lift. A Rotary Authorized Installer (RAI) can install the kit, or the customer can install it by following the simple instructions provided.

Source: Rotary Lift




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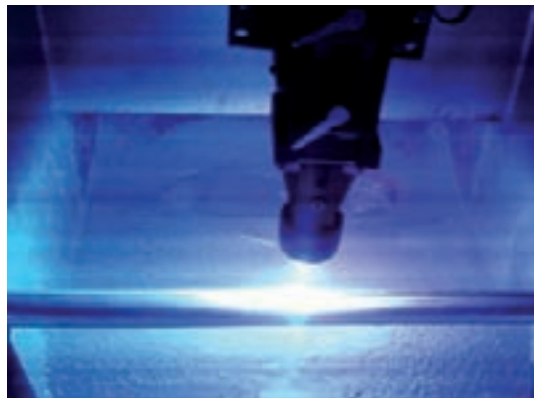




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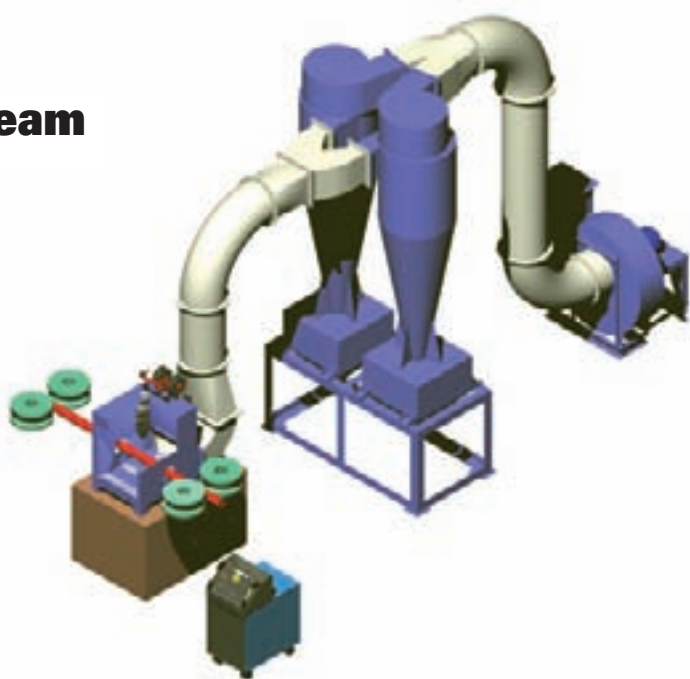
A roll forming machine draws hot or cold rolled steel through successive stations and shapes the material into a



tube. Electric resistance welding closes the seam left by the butted edges. Although no filler metal is added that would change the chemical compositions, the welding process applies temperatures high enough to sacrifice some corrosion resistant properties of the base metal. The process may also vaporize aluminium or galvanized

coatings previously applied to the rolled steel.

The thermal spray process applies coating of zinc to reinstate the corrosion resistance properties of the tubing. Applying the spray while the weld seam is hot assures a metallurgical bond of the sprayed material with the substrate, improves both the deposit efficiency and density of the sprayed material, and allows the coating to blend, thereby helping to hide the weld seam. Arc spray is the most user-friendly and, in terms of operating cost, the least expensive of the thermal or metal spraying processes used for applying metal coatings to base materials. Any electrically



conductive material in wire form can be arc sprayed.

Wire pulling system by DC Motor, fitted in the gun which ensures precision wire feed speed. The wires meet at the head of the gun and melt in the electrical arc. The molten mass is atomized and blown on to the substrate with compressed air. The particles cool to ambient temperature and coalesce into a high quality metal coating.

The distance from the arc to the tube seam is an important measurement on tube mill installations. Standard arc spray air caps provide conical spray patterns. Straight extensions provide elliptical patterns. A small spray width minimizes over-spray and precisely controls material usage.

Installing the arc spray gun in an enclosed box ventilated to a dust collector ensures environmental and personnel safety. Dust, fumes, and overspray must be removed from the spray zone quickly. Over-spray can contain particles of less than 2 microns in size, and can constitute to 4 to 15% of the over-spray by weight. If not properly ventilated, this could cause a hazardous breathing zone or impede mill operations downtime hence efficient dust collection system is necessary.

Metallizing Equipment Co. Pvt. Ltd. (MEC) Have supplied the complete automatic Zn spray coating on tube seam system to several well known tube mills in Indian as well as foreign territories. MEC's manufactured arc spray system is easy to use & maintain a repeatable quality work.

Source: Metallizing Equipment Co. Pvt. Ltd.

New Miller Trailblazer®

Miller Electric Mfg. Co. has introduced the new Trailblazer series of engine-driven welder/generators. Built for general construction, structural steel, maintenance and repair, mobile fabrication, and farm and ranch applications, the new Trailblazer welder/generators offer a number of industry-first technologies designed to reduce fuel use, extend runtimes, reduce noise, and provide a smaller and lighter footprint for ease of mobility and more space on work trucks.

Smart-Cor technology provides independent weld and generator power, ensuring no interaction between the welding arc and jobsite tools such as grinders and chop saws. Auto-Speed technology automatically adjusts the engine speed to run at lower speeds determined by the load applied to the machine.

The Trailblazer 275 and 325 can be equipped with Excel™ power and Electronic Fuel Injection (EFI). Excel power is a new and exclusive technology from Miller that allows users to run most jobsite tools at idle speed (2,400 rpm) – saving fuel and reducing noise. With Excel power, users get 2,400 W of pure 120 V, 60-hz generator power (completely separate from the machine's standard generator power). EFI optimizes the air/fuel ratio for reduced fuel consumption, longer runtimes, fewer emissions and superior performance compared to carbureted models.

Each Trailblazer welder/generator has also been fully optimized for truck integration with a shorter and lighter design.

Source: Miller Electric Mfg. Co.



New Electronic Controls For Parker's P1/PD Series Piston Pumps

Parker Hannifin Corporation announces the introduction of a complete new line of electronic controls that enable users to optimize hydraulic performance and efficiency in a wide range of mobile and industrial open circuit applications. P1/PD series pumps with these Parker-developed electronic controls are available with or without a programmed electronic unit (ECU). Basic functions include fan control, proportional displacement and pressure controls, and overcenter capability for energy recovery applications.

Designs without the ECU are available with either displacement default position and with (or without) displacement sensor or hydro-mechanical pressure limiter. All include a directional proportional valve. Control logic is customer-programmed and can be integrated using the machine's existing ECU.

Designs with the programmed ECU feature graphical user interface (GUI) soft-

ware, allowing the user to easily set up pump-specific parameters; adjust parameters for machine behavior if needed; set up data log, monitor pump, wiring and system status; and calibrate system sensor. The ECU is J1939 CANBUS compatible (pump command can be analog or CANBUS). With these controls the pump includes the displacement sensor and electronic valves as well as pressure sensor if pressure control is selected.

Equipped with electronic controls, which are fully compatible with IQAN ECU, Parker P1/PD series pumps become intelligent hydraulic components. Parker's IQAN software and MDL display modules make it possible for system designers to integrate all control systems into one including pump, sensors, throttle and engine. They



allow OEMs to improve machine operation by optimizing the hydraulic performance as well as reduce fuel consumption and emissions by ensuring that the exact amount of hydraulic power is supplied when needed.

P1/PD series pumps are used worldwide in a broad range of applications including: concrete pumpers, oilfield power units, mining haul trucks, horizontal drillers, construction and forestry equipment, military transport vehicles, water jet cutters, plastic extrusion machines, head presses and injection molders, among many others.

Source: Parker Hannifin Corporation

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Highspeed Trenchless Installation of Pipes and Cables in Open Terrains

*Dr. Ing. Hubert Müller,
Frank Föckersperger GmbH
Special Collaboration*

unit can exceed 5,000 m with only a small start and construction pit being required for setting up and aligning the plow. The pulling winch, having a pulling force up to 160 t with a winch rope of up to 130 m length, is mounted on an all-terrain vehicle and applies tension automatically at the target point. The plow unit with the plow blade is mounted on a specially designed tire-mounted vehicle with hydraulic height and track gauge adjustment functions. These functions enable application of the system even on

Application of modern plowing technology results in time and cost savings on construction projects

Especially in rural areas open trench installation is needlessly laborious and often not cost effective. Since 1971, manufacturing company Frank Föckersperger GmbH from Aurachtal in Germany has offered a fundamental new development in installation methods which has been continuously advanced and improved ever since. The technique is the so-called "Pipe and Cable Plow" technique. By using a cable-pulled special plow system, pipes and cables are buried directly into the ground. The technique offers a way to place power and broadband cables over long distances as well as water and gas pipes up to Ø 355 mm (in soft soils up to Ø 450 mm).

The plowing technique has been shown to be exceptionally efficient, time saving and environmentally-sound as no trenches have to be dug with only the plow trace having to be evened out. Daily performance (meters installed) with a plowing

uneven terrain and for crossing beneath small water obstacles. The plow blade is precisely hydraulically adjustable in height so that the plowing/installation depth can be adapted steplessly to the ground conditions encountered.

The most spectacular application made

(rocket) so it can be pulled into the void this rocket is generating. The expansion body establishes voids reaching a maximal size of 500 mm in diameter. Therefore, PE pipes up to Ø 355 mm and cast iron pipes



The SPIDER F 210 CAB for installing pipes and cables up to Ø 355 mm

(cement-mortar coating) up to Ø 200 mm can be pulled in. With the help of the chute mounted to the expansion body, additional cables and warning tapes can be installed. The 300 m-long pipe string is laid out behind the launch pit and pulled in by the Rocket Plow. The tractive forces affecting



Schematic illustration of the Pipe and Cable Plow technique

so far using the "Pipe and Cable Plow" was the installation of a 5 km-long water pipeline through mud flats on the North Sea coast, in Germany, to provide drinking water facilities for the 1,200 inhabitants of the island of Pellworm. (<http://www.infrastructures.com/0704/tracto.htm>)

Unlike the "Pipe and Cable Plow", the Rocket Plow® (designed and patented by Frank Föckersperger) has the pipe mounted directly to the expansion body

the pipe are monitored using a measuring device.

An impressive example of the Rocket Plow's capabilities was the installation of a new drinking water pipeline on behalf of the water authorities of Bautzen between the communities of Bornitz and Radibor in Germany. The pipeline Ø 315 mm SDR 11 was installed in single sections of approx 250 m length, consisting of 12 m long pipe segments which were butt-welded together

on site, The first section was pulled in in only 32 minutes, pulling in of the complete pipeline over 1,000 m length took only 8 hours altogether.

The soil-mechanics processes that occur during plowing have been examined as part of a government-funded research-project with participation of the University of the Federal Armed Forces in Neubiberg, Germany; the engineering office Stein & Partner and Frank Föckersperger GmbH, manufacturer of the plowing system. These tests showed that pipes and cables are subjected to less strain when plowed into the ground than when using common open trench methods, as the soil is subjected to minimum interference during the installation process.

The plowing technique can be applied in non-cohesive and cohesive loose soils. Since 1971 the company Frank Föckersperger has successfully plowed in some 70,000 km of pipes and cables. This degree of experience, as well as the theoretical and experimental research that has been undertaken over the past 40 years, has firmly established the viability of the




technique.

Since 2003 the plowing technique has been accepted in the respective German ATV and DVGW standards which regulate application range, requirements and quality control.

This now means that a highly economic, environmentally sound and versatile technique, which guarantees minimal interference of the soil, is available to users

and contractors.

Föckersperger develops and manufactures the machine technology solely in-house. Within Germany, five different plow systems are provided as a service including operating personnel. Outside of Germany the plows are sold to civil engineering companies.

Source: Frank Föckersperger GmbH
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Hard Rock / Ore Truck Bodies Maximize Payload, Minimize Maintenance

Philippi-Hagenbuch (PHIL) takes hauling hard rock and ore to an innovative new level with its HiVol® Hard Rock / Ore Bodies.

Designed with the hard rock and ore mining industry in mind, PHIL engineered its special Hard Rock / Ore bodies to easily handle highly abrasive material while minimizing carryback and maintenance requirements. The unique, reduced-weight design also keeps operators comfortable while allowing trucks to haul at maximum capacities.

PHIL customizes every HiVol truck body to the individual mine's specifications. The custom design approach provides each operation with the highest possible payload, longest lifespan and best possible long-term return on investment.

To ensure the body will fit a company's application and specifications precisely, PHIL's engineers work closely with mining customers in identifying key factors that will impact the design of the truck body. Those factors may include density and cohesive qualities of the material, height and width restrictions, loading equipment and climate conditions. In addition, PHIL applies its proprietary Load Profiling™ process in examining the natural angle of repose, or how the material lays once it is dumped into the body, to maximize its payload capacity and reduce potential for material to fall out of the body.

Once it has identified all the key factors, PHIL begins the engineering process. As with all of its products, the company's engineers focus on a proprietary process for all HiVol bodies that removes unnecessary steel and, as a result, unnecessary weight. By doing so, they are able to add features, such as greater width and the most substantial floor bolster system available; all based on PHIL standards that have been refined over five decades. The combined design aspects contribute to greater capacity to equal fully utilized Gross Vehicle Weights (GVW).

The innovation continues within the load containing portion of HiVol Hard Rock / Ore bodies with patent-pending hydrophobic steel liners in the front corners and the front third of the body slope, along with a high-abrasion liner in the rear third of the floor. The liners provide ultimate durability against abrasive materials while ensuring as much hauled material as possible leaves the body during dumping. Often, the ore and soil mixed payload becomes muddy and sticky, and it tends to form a bridge across the front of the truck body. Traditionally, that has left valuable and costly material behind. As the name suggests,



hydrophobic materials repel moisture. PHIL strategically places this unique steel in key parts of the truck body – areas where carryback begins – greatly reducing the likelihood that materials will be able to build up.

A substantial taper of the body from the front to the back also decreases wear and carryback potential on the body sides. Because the body is narrower at the front than at the back, material releases immediately as it begins to dump and slides straight out of the body without abrading the sides. By constructing the body in a manner that reduces wear to the sides, Philippi-Hagenbuch is able to cut weight from the sides of the body and use the extra weight capacity to reinforce other areas of the truck body that generally receive the most wear.

Reinforced body side top rails are half sections of rounded pipe that tie the inside steel plate to the outside plate at the top and cover the gap between them.

They provide added reinforcement to the sides of the truck body and eliminate the potential for material to build up within the sidewalls. With outside steel plates that taper inward near the top, the top rails also provide a compressive effect. In other words, they provide added strength to the body walls to protect their integrity in the unlikely event that they are struck by a loading tool.

In addition, steel bolsters that run from side to side under the body floor double the size of the "sweet spot," the area that can handle the greatest material impact, within the center floor section. The patent pending bolster design runs through the frame rails, which run from front to back and tie the floor together more substantially than any other floor in the industry. The floors in all PHIL custom bodies create a super structure that will not buckle under the immense weight of the mined materials. At the same time it keeps payload at a maximum capacity.

PHIL also incorporates specially sourced 450 Brinell steel throughout every HiVol body. This unique steel contains less carbon than most 450 Brinell steel being used in truck bodies today. The lower the carbon level, the less likely it is that the steel will become brittle and crack in cold weather conditions. As a result, the steel in PHIL bodies is able to handle intense environments and require little maintenance, even after hundreds of thousands of tons hauled.

In addition, HiVols are wider than other bodies and have a lower center of gravity, with a third of the weight over the front axle and two-thirds over the back. The combination delivers several benefits.

First, it allows for even and well-balanced weight distribution across the entire bed of the truck body. Improved weight distribution benefits truck body and tire life by eliminating the potential for greater weight wearing on specific areas. With the weight more equally distributed across all of the tires themselves, the potential for uneven wear is also greatly reduced. Finally – and most importantly – the near perfect weight distribution provides a smoother, safer ride for the driver.

Customizing each HiVol body to the

mine's specifications increases loading safety and greatly reduces the potential for loading damage. PHIL designs each body to ensure the width is correctly paired with the loading tool. This provides for the lowest possible loading height and allows the shovel to get closer to the floor of the body, nearly eliminating the chances that loading equipment will damage the sides. It also translates to less vibration to the truck driver and less impact within the truck body when material is loaded.

In addition, the HiVol is constructed to ensure that the tail of the truck body has ample clearance at full dump. Taking berm height requirements into consideration, PHIL engineers its bodies so they do not fall below the center of the wheels, or the height of the berm, at full dump. This helps eliminate tail damage from dumping into a pile.


PHIL's patent-pending Body Lifting System also contributes to easy maintenance and installation of its truck bodies. The system builds four removable free-floating lifting eyes made of 450 Brinell steel for temporary integration into the floor of the




truck body. This compares to traditional bodies, which place lifting eyes on the body sides and pull in on them when the body is being lifted. During installation or removal of a body, the 10-inch diameter lifting hole covers are removed and operators can attach rigging to the eyes that are inserted from beneath the body. The lifting eyes integrate into the floor support structure, so there is no stress placed on the body's sides, increasing their

life. Lower lifting points also mean bodies do not need to be lifted as high during removal, which results in the ability to remove or install a body within most mine maintenance shops. This provides greater efficiency and enhances safety for personnel during installation and removal. Worker safety is further increased as lifting straps can be hooked from the truck floor rather than from the high sides of the body.


Source: Philippi-Hagenbuch, Inc.




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Stertil-Koni Delivers Industry First Hydraulic Self-regenerating Lifts to New GO Transit Facility

Stertil-Koni, the leader in heavy duty vehicle lifts, recently announced that it has delivered cutting edge mobile column lifts and in-ground vehicle service lifts to the new GO Transit East Regional Bus Maintenance and Storage Facility in Oshawa, a city of approximately 150,000 people located 60 km east of Toronto, Ontario.

In fulfilling the contract, Stertil-Koni 's distributor serving the eastern region of Canada, Novaquip, delivered 7 sets of the Stertil-Koni EARTH LIFT (consisting of 6 mobile columns per set) and 9 in-ground piston lifts. To help fulfill stated requirements by GO Transit to "have minimal impacts on the natural environment," the highly regarded EARTH LIFT was selected.

"EARTH LIFT is the first hydraulic green mobile column lift in the industry. Its columns are made with components that are 98% recyclable and the Active Energy Retrieval System (AERS) allows operators to achieve 35% more lifting cycles at maximum lifting load," noted Dr. Jean DellAmore, president of Stertil-Koni. "In

addition, the on-screen display highlights the AERS system, enabling the operator to see savings in real-time. EARTH LIFT also uses a closed hydraulic system that contains bio-degradable oil and the batteries are 100% recyclable. A set of 4 EARTH LIFT mobile columns has a lifting capacity of 49,000 kg. and for added safety the equipment is third-party tested and validated by ALI/ETL-Intertek.

The new GO Transit class "A" facility is designed to achieve a Silver Certification from LEED (Leadership in Energy and Environmental Design) and will provide a broad range of bus maintenance operations including a repair shop, storage, a bus wash, indoor fueling and a body shop.

GO transit, a division of Metrolinx, is the regional public transit service for the Greater Toronto and Hamilton areas. GO Transit carries 62 million passengers



a year and is dedicated to providing its passengers with safe, fast, reliable and comfortable service to downtown Toronto and other urban centers.

Source: Stertil-Koni USA, Inc.

PALFINGER Launches Mobile App

After relaunching its web pages, PALFINGER has launched its first mobile application. The dealer and service partner search, which is already available online, is now accessible via mobile phone. From now on, customers can search for PALFINGER dealers and service partners in their areas. The app automatically detects the user's location and shows the distances to the individual sales and service support points. There is also the option to display a map view via Google Maps. The search results not only provide the user with all contact information for the dealer or service partner, but can also be saved directly to the smartphone.

In addition to the mobile dealer and service partner search, the app also offers an FAQ section for tail lifts. This provides answers to questions about ordering spare parts, the online shop and warranty.

The app can be downloaded free of charge from the Apple App Store for iPhones and from the Google Play Store for Androids.

Source: PALFINGER AG

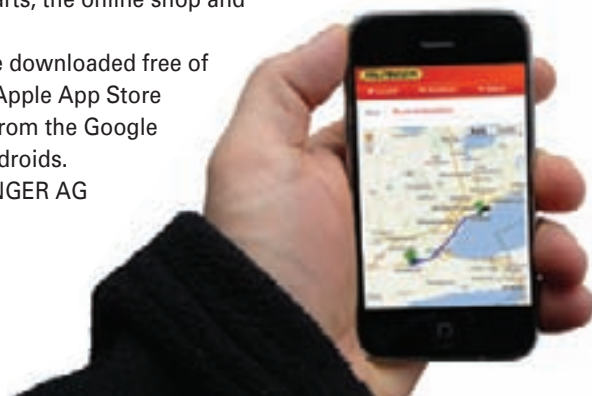


Plate Shrinkage in Tall Wood Buildings

As wood-framed buildings are going higher, with more builders considering wood in 4, 5 and even 6 story buildings, builders have to consider the effect of moisture changes on wood.

Laminated Strand Lumber (LSL) can significantly reduce plate shrinkage in taller buildings. LP Building Products has released an infographic detailing the effects of shrinkage and the benefits of using LSL to help mitigate wall movement.

Source: Louisiana-Pacific Corporation



IMT Introduces New Models

Iowa Mold Tooling Co., Inc. introduces new 40 tm and 50 tm models to its lineup of truck-mounted articulating cranes. Featuring excellent lift-to-weight ratios, long-reach capabilities and minimized space requirements, the cranes provide customers with powerful, flexible new options to meet their specific application needs.

The 40/275 crane provides a maximum lifting capacity of 8,630 kg, while the 50/345 model delivers a maximum lifting capacity of 10,360 kg. The 40/275 and 50/345 models can be equipped with up to 8 hydraulic extensions for maximum horizontal reaches of 21.3 m and 21.4 m, respectively. The minimized dimensions and lower weight of these cranes allow for additional truck configuration possibilities and increased payload.

The 40/275 and 50/345 models feature ultra-high tensile steel that provides lower weight, high lift capacity at long reaches and increased payload capabilities. The mounting space required has been reduced to 1,148 mm and 1,198 mm, respectively,

expanding truck configuration possibilities.

The 40/275 and 50/345 cranes feature a dual power plus link arm system (DL), which is well suited for long reaches and lifting in high positions with demanding equipment (such as fly-jib and winch). In addition, the DL system provides precise and regular movements in the entire working area while offering the best lifting capacities under almost any working conditions.

Another feature of the 40/275 and 50/345 models is "over-bending", which means the working area between the main boom and the outer boom is no less than 195°. Over-bending offers greater flexibility when working through narrow passages and under overhead obstructions, the



ability to lift maximum loads in all boom positions, and a lower total height when the crane is stowed on the truck body.

A key safety feature standard on all IMT articulating crane models is the RCL (rated capacity limiter) system. It monitors the crane's load moment, operation and function. In an overload situation, the system warns the operator and interrupts the distribution of oil for crane functions, while allowing functions that reduce load moment to remain operational.

Source: Iowa Mold Tooling Co., Inc.,

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Hilti TE 2-A18 Compact and TE 2-A18 Rotary Hammer Drills

Contractors have tried cordless tools for drilling in concrete and rejected them because they do not perform like corded tools. Hilti cordless tools are designed to perform at or above that of a corded tool. The TE 2-A18 compact rotary tool is the first compact SDS plus tool on the market that drills like a corded tool. Both models have high efficiency motors that deliver more work per charge and are lightweight and comparable to the weight of the corded Hilti TE 2 Rotary Hammer Drill. And, include a LED light so you can drill right where you need to.

These tools are ideal tool for drilling anchor holes or through holes in concrete, brick and block with an optimum drilling diameter range of 5 mm to 9.5 mm (3/16" to 3/8").

The unparalleled Hilti CPC battery technology protects the battery, switch and motor for increased durability and longer battery life. These new cordless rotary hammers come standard with a high-efficiency motor for longer tool life and productivity, as well as a drop-resistant ultramide housing to achieve maximum protection of the tool's vital components. With the purchase of a TE 2-A18 Compact or TE 2-A18 Rotary Hammer Drill, Hilti provides professionals unlimited battery replacements for two years under Hilti's Lifetime Service, a unique service agreement that includes two years of no-cost coverage (Some limitations apply).

Source: Hilti, Inc.



Appointments

Iowa Mold Tooling Co. Inc. (IMT) is proud to announce that **Glen Ashdown** has been hired as the company's new senior chief engineer. He brings with him more than 20 years of experience in the design, manufacturing and product support of large mobile equipment.

In his new role, Mr. Ashdown will be responsible for leading the IMT engineering team and helping drive new product development for the company's line of material-handling equipment and commercial vehicles. In addition, he will work to strengthen current product support efforts to ensure IMT customers continue to realize superior customer service.

Prior to joining IMT, Glen Ashdown had worked with mobile equipment manufacturers including Pierce Manufacturing, American LaFrance and Western Star, where he held a variety of engineering roles. In addition to his engineering experience, Mr. Ashdown also has several years of experience managing heavy construction equipment fleets, which affords him with a unique perspective of the IMT customer needs.

"IMT has a strong history of innovation derived from outstanding people, and I hope to strengthen that tradition," said Mr. Ashdown.

Glen Ashdown earned a degree in mechanical engineering from the University of Saskatchewan.

Source: Iowa Mold Tooling Co., Inc.



Constantino Lannes, president of **Sennebogen LLC**, announced the appointment of **Ryan Zenor** as Regional Sales manager for its northeastern sales territories of North America.

Mr. Zenor will work closely with Sennebogen distributors and customers in the New England states and in the eastern provinces of Canada, from Manitoba to Nova Scotia. He has completed several weeks of orientation at the Sennebogen training center in Stanley, North Carolina.

Source: Sennebogen LLC



Veolia Environmental Services North America (VESNA) recently announced the appointment of **Jeff Adix** as president and CEO of the organization. He replaces Richard Burke, who left the company to serve as president of Advanced Disposal Services (ADS), which acquired the assets of Veolia ES Solid Waste.

As president and CEO of VESNA, Mr. Adix will be responsible for the overall performance, growth and operations of the company, which include the collection, treatment and recycling of hazardous wastes and turn-key industrial cleaning and maintenance. He brings a unique perspective to his new role, having previously worked for Veolia from 2000 to 2009. During this time, he served as a member of VESNA's Executive Committee and held senior management roles of increasing responsibility, including senior vice president of Support Services and CFO for the company's former solid waste business.

Most recently, Mr. Adix served as vice president of Audit Advisory Services for ManpowerGroup. Prior to this role, he was an executive vice president with Manpower Group's Right Management business, with global responsibility for both financial management and strategic planning. Mr. Adix also brings international acquisition, joint venture and strategic development experience to Veolia, gained from time with S.C. Johnson.

Jeff Adix began his career with Arthur Andersen in Milwaukee, Wisconsin. He remains a Certified Public Accountant and earned an MBA from the University of Wisconsin-Milwaukee, along with an undergraduate degree in business administration from Drake University.

Source: Veolia Environmental Services North America



Strongco Corporation is pleased to announce the appointment of **Stephen Slama** to the role of vice president, Multiline and **Oliver Nachevski** to the role of general manager, CASE.

"I am pleased to welcome Stephen and Oliver to the Strongco senior management team," said Robert Dryburgh, president and CEO of Strongco. "We are delighted to bring these two high-calibre leaders on board who have both the collective skills and experience that will help drive the Company forward and demonstrate our commitment to offering quality products and superior service to our customers."

As head of the Multiline team in Canada, Mr. Slama is an invaluable addition to the senior executive team. He brings extensive experience and industry knowledge to his new role. Prior to joining Strongco, he was vice president of Mining for Canada at Sandvik. He held multiple roles at Sandvik and has also worked in the natural resources sector as the Business Development manager for AMEC Americas Limited.

Oliver Nachevski has been promoted to general manager, CASE where he will lead the activities of that business unit. Formerly director, Dealer Management System Implementation leading Strongco's new computer system implementation initiative, he has been with the Company since 1996 when he joined as controller, Western Division.

Source: Strongco Corporation

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Operator Features Make Crack Sealing Elementary

For 2013 Cimline has taken the best features of 3 models and combined them into the crack sealer that made them famous – the Magma – now in its 4th generation.

The Gen IV Magma is available in 3 sizes: 567, 870, and 1552 l. It incorporates operator features for efficient crack sealing with very little effort. Choose the AutoStart and operators are informed of ready-to-seal status with 3 green lights. Digital flow control provides smooth, even material flow no matter what sealing tip is required. A new “no drip” ergonomic sealant wand features a special ball valve to eliminate drips between crack sealing. Add the optional air compressor with hose reel and the Gen IV becomes a crack cleaning/crack sealing system with one-pass efficiency. Easy to read gauges and digital control for all functions make the Magma Gen IV a user-friendly tool for pavement preservation crews.

Hose technology has been addressed with an efficient carrier to reduce operator fatigue. Operators work safer and more efficiently when they are farther from the machine due to the Magma’s boom placement. An expanded work zone is created and more square feet of coverage is provided. Heated and non-heated hoses are available as well as a dual hose option

for maximum performance.


Cimline’s signature features have been retained on the Gen IV Magma, including the low-profile design that makes loading sealant blocks a no-reach, no-stress task. No-splash doors prevent accidents on the job when sealant is loaded into the oil-jacketed kettle. An efficient burner keeps sealant at optimum temperatures while reducing diesel fuel consumption. The hydraulically-actuated auger/agitator assures even sealant mixing and temperature stratification. Cimline’s sealant recirculation ensures fast heat-up and quick recovery times. The external material pump promotes easy maintenance and operates at less than 25 rpm to virtually eliminate back pressure and packing leakage while extending pump service life.

Maintenance has been addressed for maximum uptime with easy burner access and a non-submerged material pump so



no entry is required into the melter tank. Spin-on oil and burner filters with shut-off valves reduce fuel spills. Easy engine access is assured without removing an enclosure and a management system protects the engine from low fluid damage.

Community-friendly features have been addressed with the standard After Burn[®] that reduces smoke from melting sealant by up to 20%. An optional After Burn 2[®] actively cleans emissions by up to 95% with less smoke and fumes.

Source: Cimline Pavement Maintenance Group  2545

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Accessories Machinery Ltd Phone: 1-800-461-1979



1997 JOHNSTON 605 vacuum sweeper, single sweep right side, mounted on Ford cab over chassis. Stock: A41005 Price: \$24,500
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Agenda

The Rental Show

February 10 - 13, 2013
Las Vegas, NV USA

NASTT's No-Dig Show

March 3 - 7, 2013
Sacramento, CA USA

2013 World of Asphalt Show & Conference and AGG1

March 19 - 21, 2013
San Antonio, TX USA

Brazil Road Expo 2013

March 19 - 21, 2013
São Paulo, Brazil

48th AQTR Annual Convention

March 25 - 27, 2013
Montreal, QC Canada

bauma 2013

April 15 - 21, 2013
Munich, Germany

National Heavy Equipment Show

April 18 - 19, 2013
Mississauga, ON Canada

4th AQEI's Annual Convention

April 18 - 19, 2013
Québec City, QC Canada

WASSER BERLIN INTERNATIONAL

April 23 - 26, 2013
Berlin, Germany

Canada North Resources Expo

May 31 - June 1, 2013
Prince George, BC Canada

Road & Traffic Azerbaijan / Transcaspien 2013

June 13 - 15, 2013
Baku, Azerbaijan

Concrete Show China

June 26 - 28, 2013
Shanghai, China

ISARC 2013 - 30th International Symposium on Automation and Robotics in Construction & 23rd World Mining Congress & Expo

August 11 - 15, 2013
Montreal, QC Canada

bauma Africa 2013

September 18 - 21, 2013
Johannesburg, South Africa

International Construction and Utility Equipment Exposition (ICUEE)

October 1 - 3, 2013
Louisville, KY USA

MS AFRICA & MIDDLE EAST, The International Trade Fair for Stone Design, Technology, Earthmoving and Building Machinery

December 9 - 13, 2013
Cairo, Egypt

INTERMAT Middle East

January 20 - 22, 2014
Abu Dhabi, United Arab Emirates

Asphaltica in Verona / Samoter

February 27 - March 2, 2014
Verona, Italy

CONEXPO-CON/AGG and IFPE expositions

March 4 - 8, 2014
Las Vegas, NV USA

SMOPyC 2014 International Show of Public Works, Construction And Mining Machinery

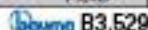
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