

# 2012 MSC HOT PRODUCTS

**THIS YEAR'S HOT PRODUCTS, SELECTED FROM** the NASCC: The Steel Conference exhibit hall, represent the wide range of machinery, technology, tools and other product offerings that service the structural steel industry. A dozen products were picked as standouts by MSC staff and other AISC staff, and many more hold great promise for the future.

Selection was based on manufacturers' descriptions and claims; no product testing or evaluation was performed. This list does not constitute a product endorsement by *Modern Steel Construction* or AISC.

## eSPAN140

The Short Span Steel Bridge Alliance (SSSBA) recently launched eSPAN140, an interactive web-based design tool for short-span steel bridges up to 140 ft. This free tool provides bridge professionals with an all-in-one resource for steel fabrication and erection details including rolled beam, plate girder, corrugated steel pipe and structural plate.

Short-span steel bridges already provide time and cost efficiencies through their ease of installation, use of local crews and light weight, among other factors. The eSPAN140 design tool yields even greater efficiencies because it provides standard designs and details, which help to expedite the overall design of the structure to ultimately reduce the overall project delivery time. In addition, eSPAN140 provides prefabricated element solutions, available from manufacturers throughout the country. All of these solutions are customized based on the user's input for a specified project.

eSPAN140 is available at [www.espan140.com](http://www.espan140.com) and requires just three steps:

1. Users create a free account (this allows the user to save, share and edit all of the input designs for future use).
2. Users input information about a specific project, including span length, number of striped traffic lanes, skew angle and design speed, among other requirements.
3. eSPAN140 then provides a customized "Solutions Book" PDF based on the specific input provided. The Solutions Book includes standard designs and details, plate girder recommendations, rolled beam recommendations, culvert and structural plate options, customized prefabricated manufacturer steel solutions, durability solutions, a listing of key industry contacts and complimentary design support via the newly developed Bridge Technology Center. It also includes design details such as elastomeric bearings, bearing stiffeners, intermediate and end diaphragms and connections and modular bridge and coating systems provided by SSSBA member companies.

**For more information, go to [www.ShortSpanSteelBridges.org](http://www.ShortSpanSteelBridges.org) or contact Dan Snyder at [dsnyder@steel.org](mailto:dsnyder@steel.org).**

## COMSLAB Composite Floor Systems

COMSLAB profile design technology from Bailey delivers composite floor systems for structural steel-framed buildings that require long, clear spans and shallow but solid and stable floor systems. The system is easy to handle and install, and it can be supplied pre-cut or quickly cut on-site to fit challenging floor plans.

**For more information, go to [www.bmp-group.com](http://www.bmp-group.com).**



## Cast ConneX Scorpion Yielding Brace System

The Cast ConneX Scorpion Yielding Brace System (YBS) is a special class of concentrically braced frame. Just as with Special Concentrically Braced Frames (SCBF; AISC) or Moderately Ductile Concentrically Braced Frames (Type-MD CBF; CSA), the centerlines of YBS members meet at a joint intersect at a point to form a complete

vertical truss system that resists lateral forces. YBS have more ductility and energy absorption than SCBF/Type-MD CBF because overall brace buckling and its associated strength degradation are eliminated.

YBS is composed of columns, beams and bracing elements, all of which are subjected primarily to axial forces. Braces of YBS are composed of Cast ConneX Scorpion Yielding Connectors connected to the end of a conventional W-Shape or HSS member. Scorpion Yielding Connectors have specially designed fingers, which are intended to yield under seismic loading to dissipate energy while all other elements of the braced frame remain essentially elastic.

Engineers employing this system select Scorpion Yielding Connectors based on the desired activation load for the brace, and then select a conventional W-Shape or HSS brace element based on capacity design requirements and on the desired axial stiffness of the brace assembly. In doing so, the yield force and elastic stiffness of each brace comprising a YBS can be independently tuned with this system.

YBS was also featured in the February 2012 issue of MSC (visit [www.modernsteel.com](http://www.modernsteel.com)).

**For more information, go to [www.castconnex.com](http://www.castconnex.com) or call 416.806.3521.**

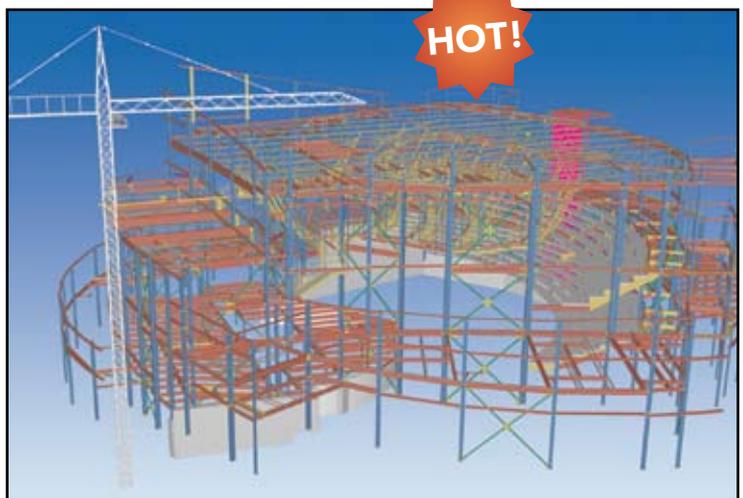


## SDS/2 Erector

With its latest enhancements and additional functionality, Design Data's SDS/2 Erector has become an even more effective and essential BIM-to-field tool than ever before. The software now gives users the ability to create and run pertinent reports; navigate and query the model for data; set member status and color-code the model accordingly; and transfer member status information between the model and a cell phone or tablet, using SDS/2 Mobile.

SDS/2 Erector enables users to add crawler cranes with fixed and luffing jibs, as well as tower cranes. Crane manufacturing data can be added and modified, with the ability to have multiple falls. Single lift, multi-lift and assembly lifts can be evaluated using data that pertains to the specific lift, including the capacity limit, and lines used for the lift can be either user selected or system determined. Crane reports have also been enhanced to include more information about the lifts, with improved filtering options. Also, critical lifts (as per OSHA subpart R) are indicated in the reports and color-coded in the model.

To help avoid site obstructions for crane placements, 2D drawings can be added to the 3D model, and 2D crane placement drawings can be created for the site and for verification purposes. Notes can also be added to the model.



**For more information, go to [www.sds2.com](http://www.sds2.com) or call 800.443.0782.**



## Fabreka Structural Thermal Break Pad/Connection

Fabreka's structural thermal break pad/connection, or thermal insulation material (TIM), is manufactured from a fiberglass-reinforced laminate composite. The properties of this material provide a thermally efficient, energy-saving product for construction that prevents thermal bridging in structural connections. TIM is a load-bearing "thermal break" used between flanged steel connections.

The product's primary benefits include its high load capacity, which maintains structural integrity, and its low thermal conductivity, which reduces heat loss. It also eliminates potential condensation and mold.

TIM material is supplied in sheets or cut to size per customer drawings/specifications and is available in thicknesses of ¼ in., ½ in. and 1 in. It is also supplied as thermal break washers for bolted connections between external and internal steelwork.

For more information, go to [www.fabreka.com](http://www.fabreka.com) or call 781.341.3655.

# SCRIBING EQUIPMENT

## Peddinghaus Peddiwriter

The PeddiWriter from Peddinghaus employs two independent plasma torches to mark detailed layout information onto all four surfaces of any structural profile. Its use allows the top web, bottom web and both flange surfaces to be quickly marked using data that can be gleaned from a DSTV or BIM-type data source.

The unit automatically marks all detail and fit-up data, replacing the tedious, laborious and potentially inaccurate manual method of layout marking with CNC precision. All locations for plate/angle connections, welding, part identification, crane lifting points and more can be processed in a fully CNC method. In addition, by marking on all four sides at once, it eliminates expensive crane lifts.

The unit features advanced surface detection to monitor any inconsistencies due to mill tolerance in the section. This also allows the machine to maintain proper "stand off" distance for the torch, which speeds the operation by eliminating excessive probing.

For more information, go to [www.peddinghaus.com](http://www.peddinghaus.com) or call 815.937.3800.



## Ficep Gemini 36 HD and Excalibur 12

Ficep's new Gemini 36 HD plate processing system is a complete plate solution for fabricators and manufacturers of all sizes. It handles from light to heavy plate for thermal cutting, marking, milling, drilling, tapping, beveling and more, all on one machine.

The Gemini can be furnished with a wide variety of marking devices depending on your needs. Fabrication and bending lines can be indicated with a scribing tool or plasma marking, and identification marks and part numbers for fabrication can be added with a scribing tool, plasma marker or a pin marker.

The new Excalibur 12 CNC Single Spindle Drill for drilling, milling and scribing features an exclusive secondary "X" axis (length axis) with improved accuracy and productivity, as it is not necessary to unclamp, reposition and re-clamp for each "X" axis movement. This capability permits scribing on all four surfaces to eliminate all manual layout, and also provides the ability to generate slotted holes, copes and large holes.

For more information, go to [www.ficepcorp.com](http://www.ficepcorp.com) or call 410.588.5800.





## **PythonX Structural Fabrication System**

Burlington Automation's latest PythonX Structural Fabrication System features two robots, working simultaneously, to process beams, channels, angles, HSS tube and plate. The dual-robot system is capable of cutting holes, copes, slots, bevels and notches, as well as scribing and marking layout marks, letters and numbers on all four sides of a structural member. The main benefits of performing all fabrication operations on one system are the elimination of wasteful material handling of heavy structural steel pieces, faster processing (because cutting and scribing are done all at once) and minimal floor space usage.

**For more information, go to [www.pythonx.com](http://www.pythonx.com) or call 519.571.4445.**

## **CRII Versatile Coping Robot**

Daito's next-generation Versascope robot provides coping, marking and cutting capabilities all in one machine. It processes bolt holes, slots, flange thinning, weld preps and more in structural steel fabrication operations, and ensures accuracy and straight cuts by automatically compensating 4° for the natural taper of plasma.

The robot incorporates a new design and includes the Pinch Roller and Push Bar Hybrid System for fast and accurate material positioning, as well as the option of a line discharge and lift-and-carry transfer system.

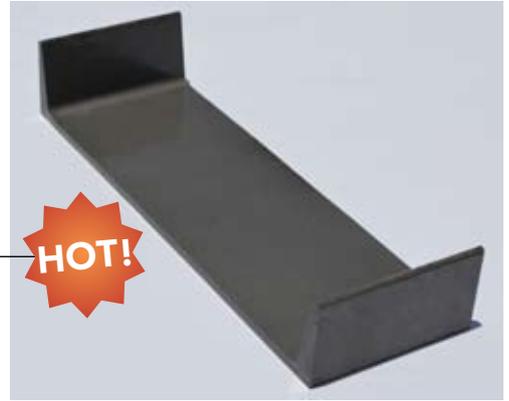
**For more information, go to [www.daito-cr2.com](http://www.daito-cr2.com) or call 847.437.6788.**



# BIGGER AND BETTER

## Gerda MC12x14.3 Channel Stair Stringer Channels

The MC12x14.3 Stair Stringer Channels are produced at Gerda's steel mill in Calvert City, Ky., and are used primarily in the manufacture of stair frames. The section is lighter and takes up less floor space than the C12x20.7 option, while providing flange dimensions often needed in stair framing applications but not available in the lighter MC12x10.6. The product is less expensive for the customer since it weighs less and has a slimmer profile that allows for more available space within the stair opening. This profile offers a flange width of 2 1/8 in., allowing for a railing post to be fully welded all around and/or the use of a 3/4-in. rod in the flange. It also has a large section modulus of 12.7 in<sup>3</sup>, resulting in more versatility in stair width and length and more strength to meet today's load requirements, as compared to the MC12x10.6. The steel is made to conform to ASTM A36 and is also available in other structural grades on an inquiry basis. With the objective of becoming the supplier of choice for customers in the sector, the continued development of the Stair Stringer Channels exemplifies Gerda's capacity to send innovative products to the marketplace.



For more information, visit [www.gerdau.com/longsteel](http://www.gerdau.com/longsteel) or call Gerda at 800.237.0230.



## HOT! ArcelorMittal's New Wide-Flange Shapes

ArcelorMittal offers the largest range of shapes in the world, including seven new wide-flange sections and 10 new equal leg angles, all of which are now included in ASTM A6-12.

The W14x808 and 873; W36x723, 802, 853 and 925; and W40x655 can replace expensive and complicated built-up sections, especially when ordered in high-strength A913 steel grades (65 and 70), saving both time and money. These new sizes are perfect for gravity columns of tall and super-tall buildings, as well as long-span trusses.

The 10-in. and 12-in. equal leg "L" shapes are principally aimed for transmission line and lattice wind towers, and can achieve significant cost savings on fabrication and erection. Increasing rotor shaft height significantly increases wind energy efficiency and by using truss pylons, wind towers can be built higher and more economically as compared to tubular towers. Reducing the overall weight of the structure will also improve logistics and transportation costs.

For more information, go to [www.arcelormittal.com/sections](http://www.arcelormittal.com/sections) or call 312.899.3960.

## Atlas Jumbo HSS

Atlas Tube, a division of JMC Steel Group, has partnered with Nippon Steel and Sumikin Metal Products Co., Ltd. (NSMP) and Mitsui and Co. Ltd. to supply "jumbo" hollow structural sections (HSS) to the North American market. The jumbo sizes, which were not originally available in North America, range from 18-in. square to 22-in. square and up to 0.875 in. in wall thickness. Atlas Tube is marketing and distributing these jumbo HSS products throughout North America.

Typically used in vertical column and diagonal bracing applications and as members of large, long-span trusses, the jumbo HSS sections offer an alternative to open sections and built-up, welded box sections used in structures with a high load demand.

"As an engineer, you want all the tools at your disposal to effectively solve design challenges in a cost-effective and timely manner," says Bradlee Fletcher, a structural engineer with Atlas Tube. "Readily available jumbo HSS will be another option for engineers to do just that, especially for structures with large load demands, such as ones in high seismic areas."

The jumbo sizes are available from Atlas' Chicago facility.

For more information, visit [www.atlastube.com](http://www.atlastube.com) or call 800.733.5683.

