



# 2006 HOT Products

Machinery, software, tools and supplies are the steel industry's most important accessories—and innovation among these products can mean faster, more cost-effective steel design and construction. This year's Hot Products award winners are just a sample of some of the creative solutions recently introduced for design-

ers, detailers, fabricators, and erectors. Some offer advanced technology; others provide simple and practical applications in response to common problems. But all stand out as novel approaches to on-the-job difficulties.

The number of "Hot Products" awarded was not limited. The awards

are based on descriptions and claims by the manufacturers; no product testing or evaluation was performed. These awards do not constitute a product endorsement by Modern Steel Construction or by AISC. AISC products were not eligible for awards. Only submitted products were considered.

## DLW-300ES Welder/Generator

In a world of rapidly rising fuel costs, Multiquip's DLW-300ES Welder/Generator has become useful as one of the more fuel-efficient models on the market. Its midsize 300-amp welder and 10kW generator – producing 100 percent duty cycle at 280 amps – delivers productivity at half the RPMs, all while using only half the fuel of the previous Multiquip model. The DLW-300ES highlights also include standard features such as multiple electric AC outlets and a brushless alternator design, for greater operator convenience and in order to lower maintenance requirements and costs. A self-priming fuel system for instant restarts and a Kubota engine also come standard.



An increase in efficiency is not to imply a decrease in product capability, however. The DLW-300ES has an arc force dial that allows welding operators to hone the arc to the desired quality, all while lowering noise to a more comfortable level.

**Contact:** Multiquip, Inc., ph. 800.421.1244, [www.multiquip.com](http://www.multiquip.com)

## Esonix UIT PLCO5 System

Esonix UIT is an advanced technology developed by Applied Ultrasonics, featuring a wide range of applications across all types of metals. The PLCO5 System is used in carrying out the Esonix UIT treatment, enhancing product performance characteristics and extending product life through the use of regenerative, high-powered ultrasonics. These characteristics include increased corrosion resistance, restored mechanical properties of degraded material due to corrosion and exfoliation, an increased fatigue life of welded structures, relaxation of residual tensile stresses and resistance to stress corrosion cracking.

Featuring an integrated controller, the PLCO5 system has been designed to automatically self-tune and self-regulate. Light and portable, the system is also capable of capturing quality recording and data analyzing for consistent treatment, eliminating any possible environmental variances. The system has multiple applications, and can be used in various industries, including automotive, aerospace, shipping, rail, highway traffic structures (such as bridges and poles), and heavy equipment manufacturers.



**Contact:** Applied Ultrasonics, ph. 205.503.4909, [www.appliedultrasonics.com](http://www.appliedultrasonics.com)

## Elocone Nut

The Elocone nut was developed as a solution to problems that may occur when short anchor rods are installed without enough projection into base plates. The elongated nut acts as a coupler by interlocking with the anchor rod below the top of the base plate, and serving as a nut above the plate washer.

For strengthening purposes, the tension capacity of an anchor made of steel with a tensile strength of 105 ksi (725 MPa) may be achieved by fastening an Elocone nut to an anchor rod for a length equal to the diameter of the anchor rod.

Fabricated by machining a piece of high strength steel to two different sections, the Elocone nut features an upper section that is similar to a standard nut and rests on the column base plate. Conversely, the lower section has a smaller, smooth diameter and is able to fit in an oversized hole of the base plate, connecting to the anchor rod.



**Contact:** Canam Steel Corporation, ph. 508.238.4500, [www.canam.ws](http://www.canam.ws)

## **Voortman FMS (Flexible Manufacturing System)**

Founded in Holland, with a subsidiary built in Chicago, IL in 2005, Voortman specializes in design and delivery of complete production lines for structural steel fabricators and steel service centers. The Voortman FMS is an advanced system that corrals detailing package data (CAD), purchasing, inventory control, production control, and machine data to a common point. This allows the processing system to be controlled without manual labor, resulting in reduced material handling costs.



First, the saw is loaded and the material is cut to length. Then, after cutting, the transfer tables move

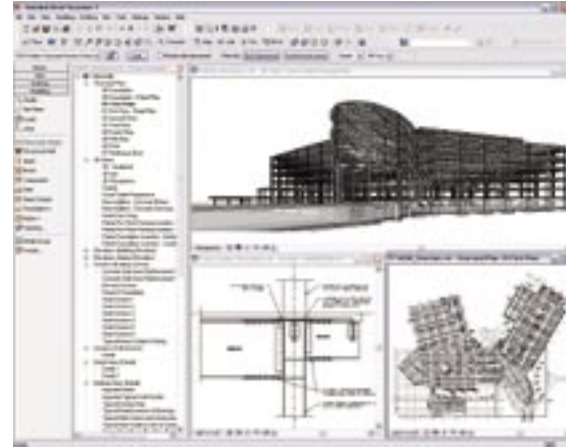
the pieces in sequence to the CNC drill. Drill control is regulated by the saw, which automatically loads the part data into a buffer. The CNC drill then produces the holes, layout marks and piece marks, after which the transfers again move the piece to a coping system, cambering machine or blaster. As the first of its kind for the structural fabricator, the system is capable of running a complete beam processing line with virtually no manual input. Instead, real-time feedback is provided from the machines in order to show the operator where they are in the production process.

**Contact: Voortman USA Corp., ph. 815.935.3010,  
www.voortmancorp.com**

## **Autodesk Revit Structure 3**

Years ago, Autodesk initiated a software industry revolution when they introduced AutoCAD, which enabled drafting on a PC. They continue in this same vein today with their Autodesk Revit Structure 3, a software program specifically designed for building information modeling (BIM). The software integrates a physical model with an independently editable analytical model for building design and analysis.

By using a single building information model and dynamic linking to third-party analysis applications, the program allows structural engineers to coordinate design and documentation. This, in effect, allows planners to focus on one



BIM model that functions within many disciplines, but using a common platform. Revit Structure supports industry-leading formats such as DWG, DXF, IFC, and DWF, as well as object interoperability with popular architectural and mechanical/electrical/plumbing (MEP) engineering design products. The result is structural designs that are more effective and efficient, and that offer more flexibility—and less last-minute headaches—for engineers.

**Contact: Autodesk, Inc., ph. 415.507.5000, www.autodesk.com**

## **Hirschmann Maestro Load-Moment Indicator Upgrade System**

The Hirschmann Electronics Group has sought a way to update the Load-Moment Indicator (LMI) for mobile cranes, and has succeeded. The Maestro Load-Moment Indicator Upgrade System was made specifically to modernize cranes with older PAT DS 350 and DS 150 LMI systems, and can be retrofitted in just four steps. Once loaded, the user-friendly console displays the crane's actual and allowable load, boom length, boom angle, and load radius. The console also contains an integrated bargraph, enabling the operator to quickly check the crane's utilization, as well as alerts the operator of an impending two-block condition. Recalibration is not necessary, which provides crane owners a time- and money-saving solution to equipping their cranes with the latest LMI technology.



**Contact: Hirschmann Automation and Control,  
ph. 717.217.2216, www.hus.hirschmann.com**

## **SuitCase X-TREME 12 VS Portable Wire Feeder**

When working on the job site, one wants a wire feeder that will stand up to harsh conditions. Miller Electric, the world's largest manufacturer of arc welding and cutting equipment, has updated their popular product with the new SuitCase X-TREME 12 VS portable wire feeder. When compared to previous models, it boasts improved short circuit MIG performance, Soft Start run-in control for superior arc starts and an improved contact for a higher duty cycle (425 amps at 60 percent).



The new SuitCase is built to withstand punishing work environments, with a tough, polypropylene case and molded-in slide rails so operators can drag the feeder over the terrain. In addition, the SuitCase X-TREME 12 VS contains SunVision digital meters. Displaying voltage and wire feed speed even when in direct sunlight, it's a feature that is literally easy on the eyes.

**Contact: Miller Electric Manufacturing Co.,  
ph. 920.734.9821, www.millerwelds.com**

### ESAB Avenger HLx

ESAB founder Oscar Kjellberg invented the covered welding electrode in 1908, so it stands to reason that ESAB should be amongst the frontrunners in current welding technology. The new Avenger HLx features ESAB's Hybrid Laser Arc Welding (HLAW), a method that allows for superior weld speeds, weld quality, lower production costs and more versatility. Combining the deep weld penetration and low heat input generally associated with laser welding with energy effi-



ciency and superior gap tolerance, the HLAW can be installed into many types of equipment, including 2D gantry welding systems, 3D robotic systems, and custom automated systems. A far sturdier tool, HLAW features faster welding speeds, slower cooling rates, and a low heat input that reduces plate distortion.

Though the HLAW process has been in use for many years, ESAB's Avenger HLx is unique in that it combines the many processes and creates a single source for all the necessary welding, automation and robotic welding equipment.

**Contact: ESAB Welding and Cutting Products, ph. 843.664.5616, [www.esabna.com](http://www.esabna.com)**

### Tekla Structures

Taking their successful Tekla Xsteel and expanding upon the idea, Tekla Structures (developed in conjunction with Steel Projects, a Ficep group) is the first structural building information modeling (BIM) system that integrates the entire process from conception and design to detailing and construction. The company has taken on layout and outfitting, the most expensive shop fabrication operation. The result is a program that allows CNC information to be read directly from the Tekla Structures 3D model to the fabrication machines, allowing for real-time collaboration between departments and industries.



Ficep has contributed a high-speed, four-sided carbide scribing system to their drilling lines, permitting the writing of characters on the top and bottom of the web as well as on the outside of both flanges. This will allow shop operators to see exactly where to place each detail member on the main body.

**Contact: Tekla, Inc., ph. 770.426.5105, [www.tekla.com](http://www.tekla.com)**

### Peddinghaus Advantage Model PCD 1100 Structural Drill Line

At the February NASCC gathering, over 3,000 convention attendees witnessed the Advantage Model PCD 1100 Structural Drill Line make its debut. The new Advantage Model has outdoor loading and space-saving features, as well as a powerful, multi-spindle technology that's fully programmable. In an effort to increase productivity and efficiency for any fabricator, Peddinghaus has included a number of upgrades in their latest drill line. In addition to the Peddinghaus signature roller feed drive and measuring system, as well as sporting one of the quickest hole producers in the country, the new Advantage features a full 44" wide capacity, capable of handling both large and small projects. Carbide marking with SignoScript technology is also included, to enable identification on all part numbers and secondary operations. Seamless CNC integration ensures that the Advantage's software is compatible with all major software detailing packages and modeling programs.



**Contact: Peddinghaus Corporation, ph. 815.937.3800, [www.peddinghaus.com](http://www.peddinghaus.com)**