

2002

modern Steel construction

HOT PRODUCTS COMPETITION

Technological advances are helping to speed design and construction while reducing costs—and this year's **Hot Product Award Winners** represent the most interesting and useful products introduced for the steel market during the past year.

The categories include coatings, connecting materials, engineering software, fabrication and detailing software, fabrication and erection equipment, and structural products.

Both Honor and Merit awards were presented in several categories. 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.

COATINGS

Honor Award

Sherwin Williams FastClad
DTM/DOT Urethane

The Sherwin-Williams Company
122 Horseshoe Cove
Sumter, SC 29150
Phone/Fax: 803.418.0960
www.Sherwin-Williams.com

While today's typical three-coat paint systems have now solved the durability bugaboo, the next problem to overcome is application speed. Fortunately, FastClad Urethane's revolutionary new formulation has solved the dilemma. Part of the new Expresstech family of coatings specifically formulated and produced for steel fabricators, this totally new Polyaspartic ure-

thane technology reduces the number of coats required for corrosion protection and long-term perfor-



mance. Using FastClad urethane the fabricator can reduce two-coat systems to one and three-coat systems to two—thereby reducing curing and application time. In addition to reducing the number of coats required, FastClad Urethane is one of the fastest non-accelerated urethanes available. FastClad Urethane is set to touch in 30-to-60 minutes and dry-to-handle in 45-to-120 minutes. List price on FastClad Urethane is \$75.00 per gallon and it is available from the Sherwin-Williams Company at any of more than 2,200 locations in the U.S., Canada, and Mexico.

CONNECTING MATERIALS

Honor Award

Dy-Lube™

Dyson Forging Technologies
The Dyson Corporation
53 Freedom Road
Painesville, OH 44077
Ph: 440.946.3500
Ph: 440.352.2700
Fax: 440.352.2700
Email: kwolf@dysoncorp.com
www.dysoncorp.com



Galvanized assemblies in heavy structural applications require Rotational Capacity Testing, which dictates the use of a lubricated nut as specified in ASTM A325/A563 bolt and nut assemblies. Until now, these nuts were supplied with lubricant on all surfaces, resulting in additional paint preparation cost to remove film from the flats and crown of the nut. The Dyson Corporation has developed a low cost process to apply lubricant only to the threads and bearing surface of a nut. The Dy-Lube™ process produces a structural nut that meets the lubrication requirements while also eliminating the need for additional paint preparation.

The Dy-Lube™ process can be applied to all internally threaded fasteners including recessed pin, cap, sleeve and coupling nuts. The Patent Pending Dyson Dy-Lube™ heavy construction nut is available

from stock with a wax and dye film but can also be supplied with Teflon as well as any “custom” lubricants as specified per order requirements.

Merit Award

The Studhorse

ARCON Welding, LLC,
2203 Northwood Drive, #10
Salisbury MD 21801
Ph: 410.572.6000
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sales@arconweld.com
www.arconweld.com

The Studhorse, a 1200 amp stud welder from ARCON Welding, is the first portable inverter drawn arc stud welder in its class capable of welding 5/8” (16 mm) studs at a rate of four to five per minute. At only 80 lbs., the Studhorse is ideally suited to field construction applications where very heavy 100’+ welding cables are dragged from the workplace to the stationary welding power supply. The Studhorse can easily be moved to the workplace and a light power cable can be pulled to the 480V utility outlet or generator source. The Studhorse operates on a 40-amp circuit breaker compared to 60-100 amps for conventional stud welders.



ENGINEERING SOFTWARE

Honor Award

ETABS Version 8

Computers and Structures, Inc.
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Berkeley, CA 94704
Ph: 510.845.2177
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info@csiberkeley.com
www.csiberkeley.com



ETABS version 8 is a remarkable step up for an already high-quality software program. It comprehensively integrates, automates and optimizes the structural analysis and design of multi-story buildings. Using integrated physical object-based modeling concepts, complete structural models can now be created with a significantly reduced number of structural objects when compared to a conventional analytical finite element model, resulting in increased accuracy and productivity. The software is also the first structural package to incorporate a module specifically for the design of staggered truss systems. In addition, new numerical techniques now address issues that structural engineers have struggled with for decades, such as panel-zone deformations and the efficient modeling of floor diaphragms.

Merit Award

Multiframe

Daystar Software Inc.
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Ph: 816.741.4310
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www.daystarsoftware.com



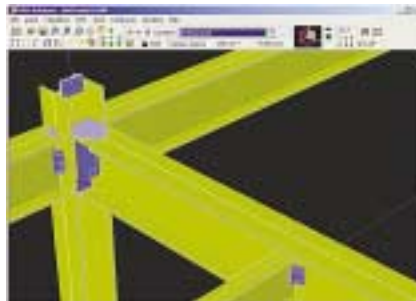
Multiframe version 8.0 is a major upgrade to the Multiframe suite of structural analysis and design software. Multiframe Automation lets engineers write calculations and design procedures in their existing calculation and CAD programs and dynamically link them with the structural design information contained in the 3D structural model inside Multiframe. Multiframe Automation also provides an outstanding level of flexibility for to allow compatibility with various non-structural software, including Excel, Word, MathCad and AutoCad. It can be used for creating structural models, building custom reports or doing detailed design. Version 8.0 of Multiframe also introduces use of OpenGL for 3D rendering, including the ability to slice through a structural model and make transparent those parts of the model that obscure the area of interest. When combined with Multiframe's unique clipping, masking and animation capabilities, complex structural systems can be visualized interactively even for large structures.

Merit Award

RAM Connection

RAM International
5225 Avenida Encinas
Carlsbad, CA 92008
Ph: 800.726.7789
www.ramint.com

RAM Connection is a tool to design, verify or optimize steel shear and moment connections according to ASD or LRFD requirements. RAM's proprietary programming language, Language for Engineering Objects (LEO™), allows engineers to obtain connections that satisfy company standards or individual connection design experience. The software also provides a graphical representation of the connection, which provides a visual check for connection fit-up and clearance concerns.



With RAM Connection, an engineer can:

- Design, verify or optimize steel shear and moment connections including Beam-Column, Beam-Girder, Splice and Bracket Connections
- Design automatically a connection considering forces or member geometry
- Check all aspects of the design of a particular connection
- Obtain comprehensive and summary connection design output
- View results results graphically
- Create a database of connections that meet predefined office or user criteria
- Program custom design rules using LEO™.

FABRICATION AND DETAILING SOFTWARE

Honor Award

Softscan—Bill of Material Scanner Version 1.0

Soft Steel Inc.
7231 Boulder Ave, #226
Highland, CA 92346
Ph: 909.863.9191
Fax: 909.863.9168
sales@softsteelinc.com
www.softsteelinc.com

Softscan saves money and reduces project time by digitally tying together the detailer's bill of materials from his shop drawings with the fabricator's MIS software, thus eliminating the tedious and error-prone task of manually typing the bill of material data into these programs. Softscan is unique in that it reads the drawings directly without AutoCAD being installed and does not impose any restrictions on the detailer. It allows complete downloading of drawings without having to own an expensive detailing or modeling system. However, if the user has such a system, he can now leave the model and finish the drawings in AutoCAD and still provide the complete downloads of the bill of material to MIS packages.

FABRICATION AND ERECTION EQUIPMENT

Merit Award

CAMBCO Hi-Cap

CAMBCO, Inc.
P.O. Box 37305
Houston, TX 77237-7305
Ph: 713.781.9702
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bob@cambcoinc.com
www.cambcoinc.com



The CAMBCO high-capacity cambering machines cold camber wide-flanges and other steel beams. These four new models, 520, 825, 1170 and 1700, provide 25% more cambering power than CAMBCO's standard models. They can be used for cambering smaller beams for buildings or girders for highway bridges, in addition to straightening beams and tees.

Upgrading the hydraulic system and re-designing the supporting framework have increased the cambering capacities of these models by 25% while increasing the cost of the machines by only 12%. The Model 520 will camber a W30x148, Grade 50, and the Model 1700 will camber a W40x397.

Merit Award

PF196 x 72-400 Plasma/Punch Fabricator

Franklin Manufacturing Company, Inc.
P.O. Box 998, Hwy. 243 Industrial
Park
Russellville, AL 35653
Ph: 256.332.6654
Fax: 256.332.0143
fmiinc@fami-solutions.com
www.fmi-solutions.com

The Franklin PF196 x 72-400 Plasma/Punch Fabricator is the largest heavy plate processor manufactured in the U.S. (47,000 lbs.), in addition to being a complete "Heavy" plate processor. The combination of hi-capacity punching, 400-amp cutting, 72" plate capacity, deep marking, triple gag tooling and a powerful PC based CNC control with state-of-the-art nesting capability puts this machine in a class of its own.

The PF196 x 72 is equipped with a massive 400-amp dual gas oxygen plasma system. The 400 amp plasma systems yields cut speeds in 1-1/2" plate up to 55 IPM, while flying through 1/2" plate at 160 IPM.

The plasma-torch is mounted on a true THC-torch height control, which automatically detects the plate thickness and maintains arc voltage during the cutting process.

Merit Award

Peddinghaus AWD 1250 CNC Web Drill

Peddinghaus Corporation
300 North Washington Street
Bradley, IL 60915
Ph: 815.937.3800
Fax: 815.937.4003
www.peddinghaus.com

The AWD-1250 features a 15 horsepower spindle that can drill holes up to 2" in diameter. This large hole size capacity makes this system also ideally suited to process heavy plates. The web drill head can be provided with either a

single spindle or a three-spindle configuration to accommodate either different hole sizes or the ability to switch from a dull drill to a re-sharpened drill without any manual tool change. This drill head features the proprietary Peddinghaus "Smart Spindle Technology" so the cutting tool (twist drill or insert drill) automatically senses the actual top and bottom of the material surface. This feature minimizes the actual drill times, as the drill bit does not waste time drilling air above and below the actual material surface.



The AWD-1250, controlled by a PC based control that operates under a Windows environment, can easily be interfaced into a customer's existing network so the operator can easily access all required programs.

Merit Award

Rapid Ferrule Tool

Stud Welding Associates, Inc.
41515 Schaden Road
Elyria, OH 44035
Ph: 800.874.7860
Fax: 440.324.3301
sblott@studwelding.com
www.studwelding.com

The Rapid Ferrule Tool (RFT) provides an ergonomically correct way for dispensing ceramic ferrules, eliminating "back breaking" bending. The RFT comes in a carrying case and consists of four components: a primary pole with the

ferrule dispensing head, the secondary pole, a ferrule breaker and a deck punch. The secondary pole, screwed into the primary pole like a pool cue, is ready for use.

Pre-wired 50 to a wire for ease of loading and carrying, up to 100 ferrules can be loaded on the pole with 100-200 carried on the applicators shoulders.

The RFT dispenses ferrules up to four times faster than conventional hand methods with substantial cost savings.

The length of the RFT allows an operator to work up to 4' away from the perimeter of a building providing safer working conditions. Additional benefits include the ferrule breaker attachment for breaking ferrules and a deck punch attachment for punching water drain holes in metal deck ensuring a dry welding surface.



STRUCTURAL MATERIALS

Elliptical & half-elliptical tubes

TUBEUROP, Arcelor Tubes, France
825 Third Avenue
New York, NY 10022
Ph: 212.940.8000
Fax: 212.759.4065
Gaxmann@arbedamericas.com
www.tubeurop.com



Elliptical hollow sections open new possibilities to enhance the transparency and elegance of buildings. This unique product offers an elliptical/semi-elliptical cross-section. STRUCTUBE DESIGN represents a complete range of elliptical and semi-elliptical tubes made out of structural steel. The shape-depth ranges from 4.7" to 18.9" (the width being always half the depth), thickness ranges from 0.126" to 0.472" and weight per foot is from 4.74 to 82.65 lbs.

Like other Hollow Structural Sections (HSS), elliptical and semi-elliptical tubes bear vertical, horizontal and shear loads in buildings and other structures and are used in lieu of round, square or rectan-

gular tubes. Moreover, for bending applications, elliptical hollow sections may provide weight savings in the structure. The available steel grade is ASTM A500 and A501 Grade C (46 ksi minimum specified yield strength). Elliptical hollow sections are perfectly suited for finishing and fabrication operations like cutting (also laser and plasma), drilling, bending (hot and cold), welding, galvanizing and painting.

Merit Award

"LS" Roof Deck

United Steel Deck, Inc.
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Summit, NJ 07901
Ph: 908.277.1617
Fax: 908.277.1619
njbsales@bourasind.com
www.njb-united.com

"LS" roof deck is used as underlayment for weather proofing membranes. Its long span capabilities allow it to act as both roof deck and secondary steel. A significant upgrade relative to United Steel Deck's existing Type "H" family of products, it provides self-aligning side laps plus the architectural enhancement of concealed side lap fasteners. The new design also reduces production time. Now offered in thickness from 16 through 10 gage, the maximum available length is 34'. Special finishes are available, and the product comes in galvanized and galvanized plus primer finishes. These structural capabilities lend themselves to the demands of prisons, schools, hotels, etc. and eliminate secondary framing requirements.