Erectors who have used the CONNECTOR also cite it as a positive step toward reducing owners’ spiraling liability insurance and workers’ comp premiums. Since its market introduction three years ago, The CONNECTOR has been employed on a variety of steel erection field projects without failure or other incident. The device’s innovative design and simple operation have won praise by the erection companies, and in 2002 it was recognized by ENR as one of the Top 25 Construction Innovations.

Recently, the capabilities of the CONNECTOR were expanded to handle steel pipe and placement of steel columns, and the control design was updated for both spool and wireless remote operator controls.

**DBI/SALA®**, a leader in fall-protection and rescue technology, has been protecting workers for more than 30 years. We design and manufacture quality safety equipment exceeding OSHA and ANSI standards, and lead the industry in the development of new products that are engineered to bring complete safety to the worker.

The latest addition is the ExoFit™, a new-generation harness designed from the ground up for maximum comfort and performance! It's based on the concept of a single piece of material constructed in the shape of an “X” that wraps around the worker for no-tangle comfort and wear. The harness is complete with built-in shoulder, back, hip and leg padding, as well as Dri-lex® lining, a three-layer moisture-wicking material that absorbs perspiration, cooling the body. It also features the first and only quick-connect buckles in the fall-protection industry—they snap together and detach with one hand.

DBI/SALA® also introduces the Wrapbox, a new lanyard designed for tieback use, that eliminates the need for anchor straps. The new hook and pistol grip provides one-handed operation and 360-degree protection—5,000 lb. in any direction—to the worker.

Guardian manufactures a complete line of personal fall-arrest and restraint systems, including such products as the Construction TUX vest/harness combo and the Beamer Fall Arrest anchors for structural steel. Anchor points (engineered industrial roof anchors), body wear (harnesses, etc.), and connecting equipment (lanyards, ropes) all provide users with durable, comfortable equipment.

Guardian has improved their CB Series Rooftop Tie-Off Points with new GatorSkin Coating. The CB Series anchors feature a “one base design” for easy installation into wood, metal, or concrete roof substrates. The GatorSkin coating provides better weather protection than galvanizing, powder coating, and zinc plating. Our CB will outlast the life of most roofs!

Variable post heights allow users to run category line systems to keep up to four workers in fall restraint. Guardian’s CB Pass-Thru tops offer continuous access to lifelines without interruption at anchor points, resulting in increased mobility and comfort. All Guardian products meet or exceed OSHA and ANSI requirements.
Saving Lives: Proven methods to eliminate job-site fatalities. This book is a compilation of 89 proven methods to eliminate construction industry fatalities. All of the contributors are seasoned safety and risk-management professionals. Areas covered are falls, electrocution, trenching/excavation, scaffolding and cranes. When implemented, these ideas can save lives on construction job sites. If you are responsible for safety on a job site, you can read the whole book in an hour or two and come away with proven ideas that you can use tomorrow.

PRODUCT CASE STUDY

Lambeau Field, Green Bay, WI

Working between Green Bay Packers’ home games, AISC-member National Riggers and Erectors, Inc. worked on a tightly scheduled expansion project for Lambeau Field in Green Bay, WI. Structural steel was to be erected without interfering with scheduled play, and the stadium’s traditional character was to be maintained. Erected in 1957, Lambeau Field is the longest-tenured National Football League (NFL) stadium. The expansion project adds an upper concourse, more restrooms and concession areas, and roughly 10,000 seats. The $295-million facelift also includes a new five-story atrium to house retail and office spaces, the Packer Hall of Fame and the stadium club. When complete, the upgraded stadium project will preserve the original field while including 71,000 seats and increasing total square footage from 810,430 sq. ft to 1,695,500 sq. ft.

The expansion took place in two phases. Site work and steel erection of the outer structure were completed during the Packers’ 2001 season. A demolition crew removed part of the inner structure afterwards, and sky boxes and an upper concourse were added before the next season.

Heavy welding was required to splice the vertical column sections, many of which were up to 3” thick. “Where they join two columns, backing bars were used when possible in lieu of backgouging,” said Jerry Szweda, of National Riggers. Many of the column splice welds took full days to complete.

For these and other heavy welds, National Riggers used Lincoln Electric Co’s 3/32” Lincoln® NR-305 Innershield® self-shielded, flux-cored wire electrode. Equipment included Lincoln Commander™ 500 engine-driven welders and LN-8 wire feeders. Commander performance was enhanced with Lincoln Chopper Technology™, which provided greater control over the DC welding output and facilitated arc starting and stability.

Chief welder Floyd Devoe says the Commanders were consistent when he welded the heavy columns. “You can push a high rate of speed, and it doesn’t fluctuate,” he said. “You don’t get the voltage spikes that cause pin holes. It gives you a steady flow of power.”

For other welds, National Riggers had 16 Lincoln Ranger™ 305G engine-driven welders at the site. Typically, these were used with LN-25 wire feeders and 5/64” Lincoln Innershield NR-203 Nickel(1%) flux-cored wire electrode. Self-shielded Innershield electrodes were suited for drafty, outdoor locations such as the stadium, since no external gas or flux was required.

Dean Droddy, National’s QA & QC manager, says that these two types of wires best fit the needs of the job. “There are all sorts of electrodes we could use, but we found that these two gave us the best production,” he said.

Welding Foreman Ray Grainger added that all welds on the job were in accordance with the AWS D1.1 Structural Welding Code, and all the column splice welds were full penetration and ultrasonically tested (UT). “The typical CJP (complete joint penetration) column splice weld detail was a single-bevel, 45-degree included angle, with a ¼” root opening,” he said.

He says these welds were made with the 3/32” NR-305 Innershield® wire. “It’s hot and fast, and you can deposit a lot of it in a hurry.”

Stick (SMAW) welding also was used to make field adjustments and engineering changes to the steelwork. “For the smaller jobs, it’s faster to just take a SMAW electrode (AWS E7018) and make the weld,” Grainger said. “The Lincoln welders are versatile [and] you can use them for wire or stick.”

Equipment reliability was a big factor in maintaining productivity. The Lincoln engine-driven welders were often used 10 hours per day, six or seven days a week. “They kept going in the heat, the rain, the cold,” Szweda said.
PRODUCT HIGHLIGHTS

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The main product in our line is The Dennington Safety Harness. This harness receives UL certification to the federal OSHA standard 29CFR 1926.502(d). In reviewing this standard, you will see that this harness effectively eliminates six recognized hazards which are present in all fall protection. This harness has three significant advantages that set it apart from all other competition. The “Three Point Balancing System” keeps the worker vertical with the use of a patented shock-absorbing system which provides for shorter fall distance, radically reduces shock to the body and significantly reduces the hazardous slamming effect. The harness provides 5’ of working distance and 6’ of maximum fall descent, and is calibrated for three weight classes for maximum protection of the individual user. You can now perform job duties while remaining in federal compliance and reducing violations of the OSHA standards.

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PRODUCT HIGHLIGHTS

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PAT America is a leading manufacturer of information, monitoring and control systems for mobile construction equipment. PAT America is part of the PAT Group, based in Ettlingen, Germany, and PAT is a subsidiary of Aditron AG (Dusseldorf, Germany), which is a member of the Rheinmetall Technology Group.

PAT America introduces the PAT Alert, a load-motion warning device developed to improve construction site awareness. It provides operators with an audio and visual tool to alert workers on the ground of their activities. The PAT Alert consists of a beacon and controller. The beacon is a compact and durable warning device, which allows operators to alert workers in the immediate area when the load is in motion. The beacon is portable and can be installed quickly and easily on any load. The PAT Alert can be wired to function automatically when the load begins to move, or it can be activated on demand by the operator. The controller’s user-friendly design allows operators to alert workers on the ground with a simple touch of a button, without distracting them from crane operations.

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