# products

#### WELDING AND BOLTING

Company	Products Offered	Product Descriptions
Allsafe Services & Materials Co. www.jpisafety.com 800.428.8185	Nemesis Spectacle	Sleek, sporty style. Soft-touch temples, lightweight construction, and single lens wrap-around protection. Meets ANSI Z87.1+ standards.
	Headturners Safety Caps	Cap to fit your personality including American Flag, American Eagle, NightVi- sion, Mexican Flag, and the Hellraiser. Fully dielectric, non-slotted safety cap with 4 pt ratchet suspension. Meets ANSI Z-89.1-2003 standards.
	Huntsman Solera Auto Darken- ing Welding Helmet	Two inch by 4.25" auto darkening lens with 3.7" by 1.42" viewing area and 10/11 shade. Solar powered dual detector light sensor. Two-year warranty.
Applied Bolting Technology www.appliedbolting.com 800.552.1999	ASTM F959 Direct Tension Indicators (DTIs)	Made for use with A325(M), A490(M), and non-structural applications. DTIs are designed to indicate minimum required bolt tensions regardless of torque. Bolt tension is checked with a feeler gage.
	Squirter DTIs	Made in accordance with ASTM F959. Resolve bolting issues once and for all. All by eye, know the bolts are tight without match-marking, torque wrenches, or feeler gages. Ironworkers know the bolts are tight by squirt alone.
	Field Bolting Technical Services and Training	Start your next job off right with a proactive approach to field bolting. Job site training covers storage, pre-installation verification, installation means, and inspection. Keep bolting off the critical path.
ARCON Welding Equipment www.arconweld.com 888.512.7266	Workhorse MIGweld 300MS	Small footprint makes this 300 amp MIG/stick welder easy to use and store. This rugged 80 lb welder features a popular 14-pin wire feeder connection, five-zone thermal, and guaranteed corrosion protection.
	Workhorse ARCstarter 300ST	Designed for industries where tungsten contamination and RF interference is a concern, this rugged, portable 80 lb welder features a built-in circuit breaker, five-zone thermal, and guaranteed corrosion protection.
	Studhorse 1200DM	Small, 80 lb portable stud welder that can easily weld full-base ¾" fasteners with 1,200 amps. Features pilot-arc, after-burn, and internal circuit breaker, with thermal, corrosion, and low open-circuit voltage protection.
	Workhorse Stick/TIG 300S	Portable and reliable 300 amp stick/lift-start TIG welder features gouging, thermal, and guaranteed corrosion protection. The rugged case weighs 80 lb and its design is ideal for the construction industry.
Bug-O Systems www.bugo.com 800.245.3186	Bug-gy	The Bug-gy fillet welder is designed for making continuous or intermittent stitch welds on fillet, lap, or butt joints. It can be programmed for stitch weld- ing by distance.
	Bug-O Gantry and Side Beam Units	Bug-O Gantry and Side Beam Units are custom-designed assemblies that are used in a variety of applications such as automated seam welding, beam, and stiffener fabrication.
	Uni-Bug III	Uni-Bug III will make continuous or intermittent stitch welds and is designed to run directly on specific steel profiles such as flat bar, angle, channel, I- beams, and bulb flats.
	Mini-Vert	Mini-Vert is a compact battery powered welding travel carriage that will travel and carry a welding gun in flat and vertical positions producing continuous and uniform welds.
ESAB Welding & Cutting Products www.esabna.com 800.ESAB.123	Atom Arc	The original iron powder low-hydrogen covered electrode. Atom Arc® mois- ture-resistant all-position electrodes are known for their tough mechanical properties, crack resistance, consistent quality welds, high operator appeal, and reduced clean-up.
	ESAB 653cvcc	Designed for harsh working environments, this versatile 653 cvcc multi-pro- cess, three-phase power source is designed for heavy-duty industrial DC welding applications, including MIG, flux cored wire, submerged arc and stick electrode welding, and air carbon arc gouging.
	Mobilemaster™ Wire Feeder	Features a completely enclosed impact-resistant case and is able to handle harsh environments such as construction sites, pipelines, shipyards, offshore applications, general fabrication, and mobile welding rigs.
	Coreshield™	Time after time, weld after weld, Coreshield self-shielded flux core wires com- bine exceptional strength, high deposition rates, outstanding arc characteris- tics, and higher welder appeal than any wire in its class.
G.W.Y., Inc. www.gwyinc.com 888.838.6500	Electric and Manual Shear Wrenches for TC Bolts	Electric TC wrenches available in models 6922NB, S60EZA, S80EZA, S90EZ, and S110EZ for the installation of $\%$ " to 1- $\%$ " diameter F1852 and A490 TC bolts. Manual TC wrenches are available in models S20HA and S24HA for the installation of $\%$ " to 1" diameter F1852 and A490 TC bolts.
	Electric Torque Wrenches and Multipliers for Standard Struc- tural Bolts	The STC constant speed, electric torque wrenches are available in models STC5AE, STC7AE, STC 11AE, SR71E, SR121E, and SR211E. Torque multipliers are available in models 8-180PX, 12-350PX, and 12-500PX. The STC tools and torque multipliers will install $\frac{5}{10}$ " A325 to $1-\frac{1}{2}$ " A490 standard hex head structural bolts.
Hobart Brothers www.hobartbrothers.com 937.332.4000	Tri-Mark TM-101 Gas-Shielded Flux Cored Wire	New wire for welding high-strength steel. Designed for A514, A710, and similar HSLA and Q and T steels. Suitable for all-position welding. The TM- 101 offers a combination of exceptionally low temperature impact toughness, along with tensile strengths in the 105,000-115,000 psi range.

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Hilti www.us.hilti.com 800.879.8000	Kwik Bolt 3 Expansion Anchor	Satisfies a range of fastening applications in various environments, with improved wedge design, higher strength base material, and various sizes.
	HDA Heavy-Duty Mechanical Anchor	Ideal for heavy-duty/safety fastening, the HDA through-set and pre-set anchors provide performance similar to cast-in headed studs. The self-undercutting anchor installs in one minute for fast and easy setting operation.
	HSL Heavy-Duty Expansion Anchor	A torque controlled expansion bolt for high performance in static and dynamic load applications, the HSL is available with several bolt head options for flexibility of flush-mounted, low profile applications.
	HIT HY 150 Adhesive Anchor- ing System with HIT TZ Anchor Rods	Together, the HIT HY 150 and HIT TZ help save time and money with no hole cleaning required and 20% less embedment than standard embedded threaded rods.
LeJeune Bolt Company www.lejeunebolt.com 800.872.2658	Stud Welding	Full line inventory of studs and equipment. Headed anchors, shear connec- tors, deformed bar, threaded arc studs—standard and custom, CD studs, Pro-Weld stud welding equipment, parts, and accessories.
	Structural Fasteners	Large, diverse inventory including F1852 (A325) and A490 tension control bolts, A325 and A490 heavy hex bolts, A307 hex bolts, A563 heavy hex nuts, and F436 washers. Finishes include mechanically galvanized, hot-dip galvanized, plain, and Type 3.
	Anchoring Systems	Redhead and Powers mechanical and adhesive anchoring systems. Mechani- cal anchors include wedge, sleeve, HD screw, and drop-in. Adhesive anchors include acrylic, epoxy, hammer-in capsules, dispensing tools, and screens. Threaded rod standard and custom length.
	Tools and Equipment	Complete erector and fabricator tool service. Shear and torqon wrench sales, rental, parts, repair, standard and extended sockets, mag drills and cutters, Skidmore tension calibrators, plates, spacers, fixtures, contractor supplies, and safety equipment.
The Lincoln Electric Company www.lincolnelectric.com 216.481.8100	Excalibur™ Electrode	Designed for all-position welding, Excalibur™ electrodes deliver outstanding operating characteristics, including superior puddle control, excellent arc stability, "hot start" tip, square coating burn-off, and superior tie-in.
	LN-15	A rugged, portable wire feeder available in both across-the-arc and control cable versions—both designed for MIG, pulsed MIG, flux-cored, and metal-cored welding processes.
	UltraCore™ Wire	The UltraCore™ line of gas-shielded, flux-cored wires for mild steel welding delivers smooth and stable arc performance. Each is designed for a particular shielding gas mix, group of welding positions, or industrial applications.
	Vantage® 400	A compact amp welder/generator providing 400 amps of DC welding output as well as 19,000 watts peak of 3-Phase and 12,000 watts peak of 1-Phase AC generator power.
Nelson Stud Welding www.nelsonstudwelding.com 440.329.0475	Long Length Shears and Anchors	Nelson now has capabilities to cold form shear connectors and concrete anchors up to 15" in length beneath the head, eliminating the time and cost of piggybacking shorter studs together.
	Nelson Weld Studs	Nelson produces a wide range of threaded fasteners and customized special fasteners ranging from $^{1}\!$
	Nelware Process Monitor System	System records and holds in storage actual weld parameters for each weld made, including a pass or fail indicator. All data is time and date stamped.
	Nelweld Six Gun Unit	The latest design in the Nelweld family of stud welding equipment allows customers seeking cost savings to boost productivity by expanding the num- ber of operators connected to a single unit.
Nucor Fastener Division www.nucor-fastener.com 260.337.1600	Structural Bolts	Nucor Fastener manufactures high quality ASTM A325 and A490 structural bolts from 100% domestically melted and rolled material with certifications provided from our A2LA accredited laboratory.
	Structural Nuts	Nucor makes ASTM A563 heavy hex structural nuts from ½" to 1" sizes in grades C, C3, DH, DH3 from 100% made-in-the-USA materials.
	Tru-Tension® Structural Fas- teners	Tru-Tension® Fasteners are made to meet dimensional requirements per ASME B18.2.6 and mechanical requirements per ASTM F1852 (A325) or F2280 (A490) specifications in $\frac{5}{2}$ " to $1-\frac{1}{2}$ " diameters.
Portland Bolt and Manufacturing Company, Inc. www.portlandbolt.com 800.547.6758	Structural Bolts	Quick deliveries on standard sized A325 and A490 structural bolts in addition to manufacturing structural bolts in nonstandard sizes.
	Hex Bolts	Standard sized hex bolts, both black and galvanized, in stock. Manufacturing nonstandard anchor bolts in virtually any ASTM specification.
	Anchor Bolts	Headed, bent, and threaded anchor bolts to ASTM standards including F1544, A307, A449, and A354. All operations, including galvanizing, are performed in our 55,000 sq. ft facility.
	Tie Rods	Black, galvanized, and stainless steel tie rod assemblies with clevises and turnbuckles.

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St. Louis Screw & Bolt www.stlouisscrewbolt.com 800.237.7059	Heavy Hex Structural Bolts (A325, A490)	St. Louis Screw and Bolt manufactures its own hex bolts and offers direct- from-manufacturer pricing, as well as custom per-job packaging and sequenc- ing. A325-1,-3, A490-1,-3 structural hex bolts in plain, hot-dip galvanized, and other finishes.
	Tension Control Bolts (A325, A490)	One of the nation's largest, fully domestic TC bolt distributors. Offers a full stocking line to support major projects. A325, A490 tension control bolts and tone electric wrenches.
	Anchor Bolts	Custom manufactured, made to order. Labeled with mark numbers for ease of use at the job site. St. Louis Screw and Bolt is proficient at reading and understanding construction drawings and assembling tie rod/clevis/turnbuckle assemblies. F1554 grade 36, 55, and 105 and A449, B7 stainless steel.
	Threaded Rod Products	Direct tension indicating washers.
Superbolt, Inc. www.superbolt.com 412.279.1149	Multi-Jackbolt Tensioners	Patented tensioners, both nut and bolt style. Eliminate unsafe and time-con- suming bolting methods. Only hand tools are required for installation and removal of any size tensioner.
Weldcraft www.weldcraft.com 800.752.7620	CS300 and CS300V TIG Torches	Three-hundred amp air-cooled TIG torches increase portability and maintain high performance for critical applications. They eliminate the need for water-cooling systems and are excellent for field applications.

### product case study

### Miller Electric Manufacturing Company—Ironworkers' Instructor Training Program

MILLER ELECTRIC MANUFACTURING COMPANY PROVID-ED EQUIPMENT AND EXPERTISE TO 650 IRONWORKERS FROM THE UNITED STATES AND CANADA AT THE 21ST IRONWORKERS' INSTRUCTOR TRAINING PROGRAM. The program was held in July 2005 at the University of San Diego and was supported with equipment and application training expertise from Miller and dozens of other companies.

The ironworkers trained on Miller's latest welding technology, including the XMT 350 CC/CV multi-process power source (matched with SuitCase X-Treme 12VS portable feeders) and CST 280 Stick/TIG power source, both in rack configurations. Both incorporate Miller's inverter technology, making them lighter, portable, and more energy efficient, significantly reducing labor costs.

Miller's XMT 350 CC/CV is a 5- to 425-A, multi-process inverter designed to offer improved productivity, flexibility, and weld quality. It provides superior arc characteristics in all processes and features Miller's unique Auto-Line technology.

The CST 280 Stick/TIG welding power source readily lends itself to a rack configuration. It was designed with the construction industry in mind, with its increased welding outputs (5-A to 280-A), lightweight portability, and superior SMAW arc characteristics. The easy-to-operate unit is ideal for stick electrodes up to  $\frac{3}{16}$ " and for TIG welding pipe and plate.

The ironworkers attending the week-long program pass on what they learn later as trainers at ironworker training centers across North America.

"We train the future and Miller has helped us with that for a long time," said Ed Abbott, a manager of the training program and a general organizer with the Ironworkers International Union. "Each year, Miller has new products hitting the market, and each July Miller shows up at the program with the latest technology and training. It keeps our guys on the cutting edge."

> —By Neal Borchert, Business Development Manager Miller Electric Manufacturing Company



A Miller district manager demonstrates TIG techniques using a Dynasty 200 DX, an inverter power source with advanced Squarewave, Auto-Line, and Lift-Arc technologies.