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HOW REBAR TYING TECHNOLOGY CONTINUES TO IMPROVE HEALTH & SAFETY MEASURES FOR UNION IRONWORKERS

Max USA Corp.

AIRMATIC
284 Three Tun Rd. Malvern, PA 19355
215.333.5600
infocenter@airmatic.com
airmatic.com

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Executive Overview:

It's no surprise that ironworkers face a multitude of injuries on a regular basis while they are out in the field. From pre-fabrication yards to road and bridge construction, ironworkers perform demanding job site functions that often require repetitive tying motion while positioned in cramped conditions where they overexert their energy for eight or more hour shifts.

Mild injuries such as lower back fatigue to suffering more pressing disorders like musculoskeletal injuries (MSIs) result in incurred costs to contractors such as workers compensation claims, higher insurance rates, and even unforeseeable labor deficiencies as a direct result.

Ironworkers can find some relief with the enhanced development and availability of rebar tying tools in the marketplace.

From handheld operations to stand up rebar tying tools, ironworkers can look at integrating this kind of technology to avoid MSIs and fatigue from the labor-intensive job functions.

While this technology has not yet evolved to perform more complex ties such as saddle ties, these tools are an excellent option to quickly finish tedious snap ties.

How Union Contractors Worked with NIOSH to Develop a Health Hazard Evaluation:

During February 2003, the National Institute for Occupational Safety and Health (NIOSH) received a management request for a Health Hazard Evaluation (HHE) from Genesis Steel Services, Inc. (GSSI).

GSSI requested that NIOSH:

- Evaluate the risk that reinforcing ironworkers have for developing back and hand disorders as a result of hand-tying reinforcement steel on concrete bridge decks and other large concrete slab jobs; and Investigate whether the use of reinforcing steel battery powered tying tools can be an effective intervention for the prevention of work-related musculoskeletal disorders (WMSDs) of the upper limbs and back.

NIOSH Investigator evaluated workers' risk of developing back and wrist disorders associated with tying rebar and the possible benefits of using a battery powered tier (BPT) as a substitute for manual tying to prevent upper extremity and low back musculoskeletal disorders.

- The risk for developing a hand and wrist mus culoskeletal disorder was reduced when the BPT or BPT+E are used.

- Workers supported their upper body weight with their free arm when tying at ground level using the BPT.

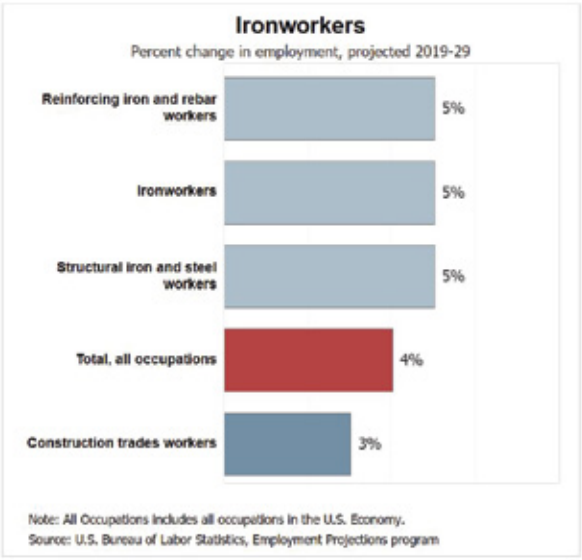
Labor Shortage Challenges:

While the ironworkers are constantly adding new apprentices to local chapters, union contractors are faced with labor shortages, as is the entire construction industry. Contractors can look to educate ironworkers on the use of battery powered rebar tying tools, to help automate a tedious job that allows workers to be more productive. Additionally, Contractors can minimize worker comp cases and decrease business insurance rates by ensuring that each team has access to this technology. By doing so, the risk of injury or long-term strains can be mitigated and alleviate the labor shortages that incur because of it.

"From originally utilizing the RB395 from MAX, we have now upgraded to the RB441T. In my area there has been a shortage of union ironworkers and we can count on the use of these tools - What typically takes eight rodbusters hand tying, we can work with six crew members using the MAX RB441T for the exact same outcome."

- Jim A. Essex, MD Steel Reinforcing Contractor

Overall employment of ironworkers is projected to grow 5% from 2019 to 2029, faster than the average for all other occupations. Steel and reinforced concrete are an important part of commercial and industrial buildings. Any future construction of these structures is expected to require ironworkers. The need to rehabilitate, maintain, or replace an increasing number of older highways and bridges is also expected to lead to employment growth in the industry.



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How Rebar Tying Tools Can Reduce Insurance Policies:

Worker compensation and insurance plans for union contractors provide safeguards from lost wages, medical payments, job site injuries, and more. The fewer claims on a policy the better chances of deductions or maintaining the same cost. One way to ensure fewer job site injuries is with the investment in rebar tying technology.

Progression of Technology & Health Benefits:

The effects of rebar tying by hand, over the course of several years, has its outcome both long and short term on ironworkers' health, as well as its contractors who employ them. Incurred cost of worker comp claims, job site injuries and even third party damages has always been and will continue to drive the cost of insurance policies for contractors.The unallocated costs of project delays, permits, and other factors all fall as a direct result when workers get hurt on the job and need to take time off, which can sometimes turn to longer than anticipated absence of time. Because of this, contractors are faced with looking towards the union for assistance in hopes of experienced ironworkers for replacement crew members.

"Hand tying rebar takes a toll on the human body, especially when working 10-hour shifts 5 or even 6 days a week. Having the ability to provide our union ironworkers rebar tying tools has allowed us to work faster over the course of the day, with less impact on the crew's body, and even avoid any carpel tunnel cases on our job sites. Since we added the MAX TwinTier tools amongst our crew we have seen greater productivity and faster times on the job.

The ties are more reliable, tighter and each spool is giving us 220 ties compared to 120 like other models, which allow our ironworkers more time tying and less time changing our spools."

- Adrian C. Chicago, IL Steel Reinforcing Contractor

By providing ironworkers the tools necessary to perform their jobs efficiently and safely, they can work without the concern of injury or fatigue after several hours of hand tying. Contractors can equate this cost against insurance claims and even calculate project costs by measuring each spool/ties needed to carry out the job.

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Key Takeaways on Why Contractors Should Look to Rebar Tying Technology:

Contractors can budget projects at different phases with cost/ time calculations that factor each ironworke paired with a rebar tying tool, and the B.O.M. needed to carry out the job.

The MAX TwinTier's wire bendin mechanism creates a low profile tie that bends at the edges as opposed to the wide loop tie most rebar guns carry out that can pose a snagging hazard in the field.

Because rebar tying tools are extremely user-friendly, ironworkers will enjoy the immense health benefits

Rebar tying technology efficiently automates each tie to use as much wire needed for the specific rebar combination, which eliminates wasted material and saves on wire costs.

Rebar tying technology is constantly evolving and the MAX RB401T-E TwinTier, is proof. Iron-workers now

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Maintaining Productivity & Enhancing Ironworker Safety:

“The use of MAX battery powered rebar tying tools has improved productivity for some types of rebar installations, especially bridge decks and large flat rebar reinforced slabs. Productivity is important, but the benefits of reduced wear and tear on the ironworkers back, hands, and wrist are paramount. Fewer injuries results in a more lucrative career and a better quality of life for our reinforcing ironworker members.”

Michael T. Relyin
Director Department of Reinforcing Iron Workers

Delivering Support to Contractors & Union Ironworkers:

“MAX USA Corp. has a very experienced team to help reinforcing steel contractors and field workforces. Its marketing strategy has included participating in Iron Worker programs and voluntarily conducting training sessions during Local Union Apprenticeship classes. These have been exceptional. Further, MAX representatives have actively participated in meetings of reinforcing steel contractors to demonstrate the potential cost and safety advantages of its equipment.” Fred H. Codding, Executive Vice President National Association of Reinforcing Steel Contractors (NARSC)

Delivering reliable & safe Operations in the field

To help overcome and efficiently adapt to these new challenges, MAX USA, Corp. is working with contractors and developers to sustain core business functions, in the field, by deploying the TwinTier as an enhancement to rebar tying operations. Designed with a dual wire feeding mechanism and a tying speed of approx. a ½ second per tie, the TwinTier is finding its way onto more road, bridge, tilt-up, and pre-fabrication job sites, to help sustain safe operating conditions for both ironworkers and contractors alike.

TWINTIER

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Long-Term Safety Benefits – By incorporating rebar tying tools into daily operations, ironworkers can avoid the stressful hand and wrist activity that can lead to tendonitis, carpal tunnel syndrome, and other MSIs which often require ironworkers to take time off from the job.

Promotes Social Distancing – The use of battery powered rebar tying tool helps promote social distancing guidelines since less ironworkers are needed to complete the tying work. This frees up others on the crew to focus on other job site activities.

Minimal Job Site Training Required – Contractors can confidently and safely allow entry-level union ironworkers on job sites with the use of rebar tying tools. The tools require minimal training and automate the tying action within 1/2 a second per tie. Less time training and supervising allow for faster rebar tying, while working ahead of the project schedule.

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The **MATERIALS MANAGEMENT GROUP** provides products and services to industries that convey, store, transport, and process powders and bulk solids from aggregates, cement, and chemicals to foods, grains, metals, power generation, and waste water treatment applications;

The **SERVICE GROUP** provides fabrication, installation, and maintenance services to improve bulk materials handling efficiency; mechanical clean-out services for silos and hoppers to eliminate material flow problems; and shop repair/rebuilding and modifications services of products sold by the Company.

The **TOOL GROUP** provides power tools, personal protective equipment, materials-handling equipment, shop equipment and MRO supplies used for production, fabrication, assembly, metal removal, maintenance, and storage in manufacturing, construction, utility, and commercial applications.

Our Customers tell us that by choosing AIRMATIC to solve their problems, they gain increased productivity, decreased costs, and a safer, cleaner work environment.

MAX® USA CORP, located in Long Island, NY, is the distribution arm in North, Central, and South America of MAX CO LTD, which is headquartered in Tokyo, Japan. MAX is a leading international manufacturer of construction tools and office products. With more than 65-years of manufacturing experience, MAX has been developing innovative, state-of-the-art products that set the industry standards for quality and reliability.

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