



**ERGO LAB™**  
by Greenlee®

# BODY BENEFITS

## EK1240LX – 12-Ton Crimper



EK1240LX

**Rated highest for Force/Effort**  
found best for ease of use  
among 12-Ton crimpers

- **Less muscle activation** in shoulders and arms
- **Higher rated grip** with industry leading single trigger design

### Testing Spotlight

#### Lower Risk of Shoulder Injury

The EK1240LX shows less activation in the Deltoid, Bicep, and Trapezius muscles which leads to a decreased risk of rotator cuff tears and shoulder injury.

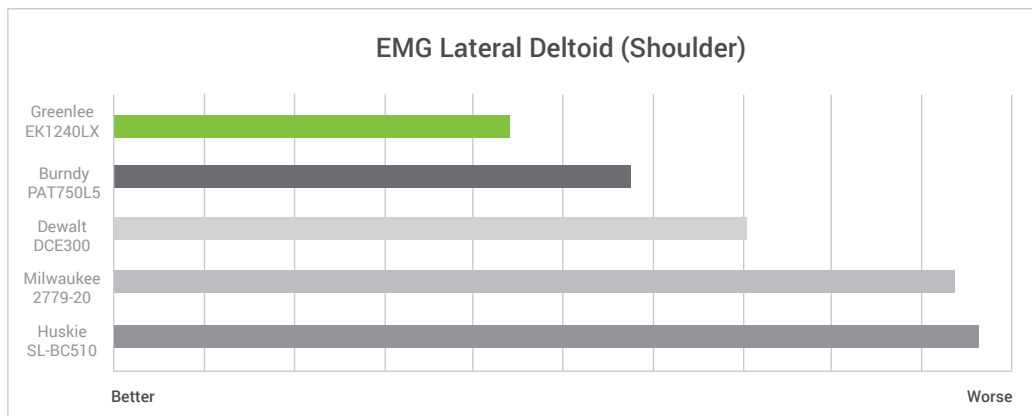


#### Deltoid

- Muscle involved in shoulder motions
- Lower EMG signifies less fatigue and strain

#### Possible Injuries Include:

Muscle tear and speeding onset of osteoarthritis



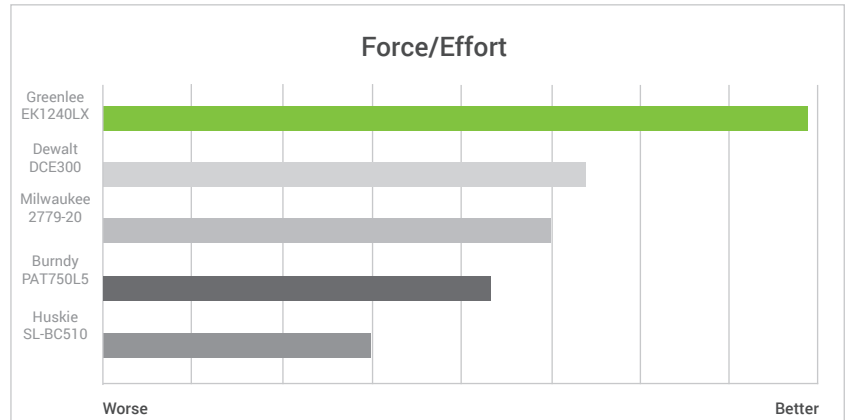
# BODY BENEFITS | Feel the Difference

## EK1240LX SUBJECTIVE TESTING HIGHLIGHTS

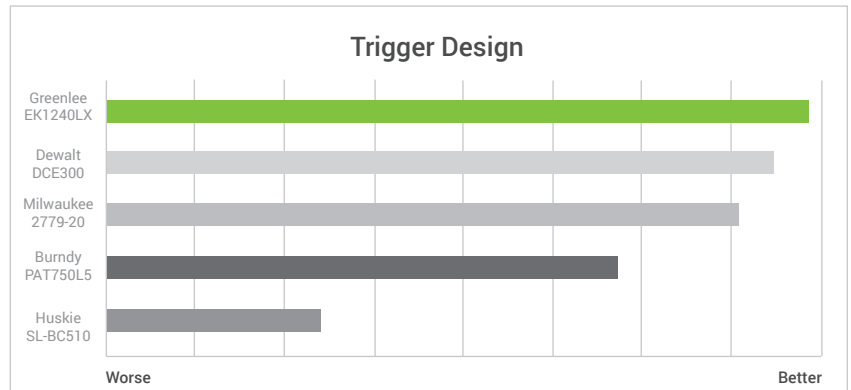
**Survey:** Participants rated the tools in 8 categories on a 10-point scale after using the tools, with 10 being best and 1 being worst. The categories surveyed were:



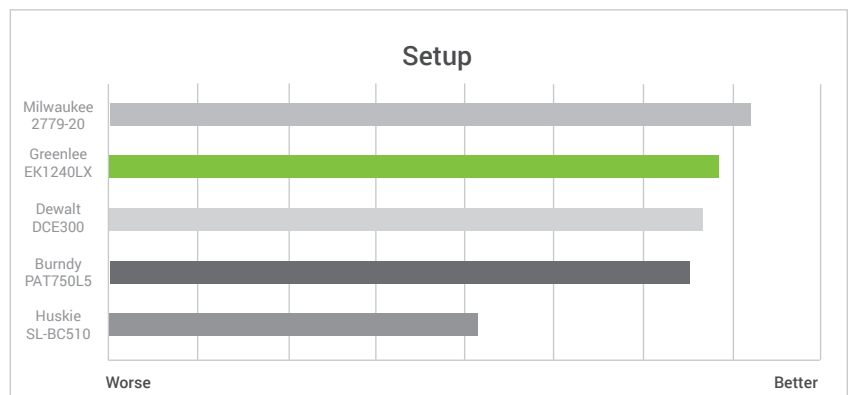
**Force / Effort:** Perception of the force of effort it takes to operate the tool. Linked with reduced fatigue and muscle strain.



**Trigger Design:** Perception of the ease of using the trigger. Linked with reduced risk of tendinitis.



**Setup:** Perception of ease of setting up tool for the job. Linked to productivity.



### Injury Prevention

Reduced strain from improved trigger design and decreased effort to use translates into reduced risk of muscle and tendon injuries.

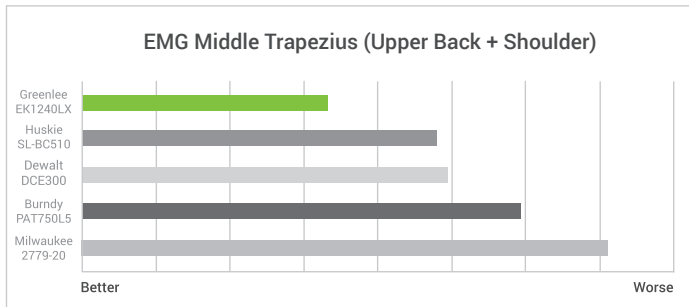
Results determined through testing performed by Iowa State University's ATHENA lab using the Greenlee EK1240LX, Milwaukee 2778-20, Burndy PAT750L5, DeWalt DCE300, and Huskie SL-BC510 on Cu lugs for 500 MCM Cu cable. Results may vary depending on the connector type, work environment, user technique and personal characteristics.



# BODY BENEFITS | Feel the Difference

## EK1240LX OBJECTIVE TESTING HIGHLIGHTS

**Electromyography (or EMG):** Measures the activation of muscles or how hard a muscle is working. For the tool operator this translates to higher EMG = greater effort and strain. Muscle strain leads to fatigue and increased risk of injury.

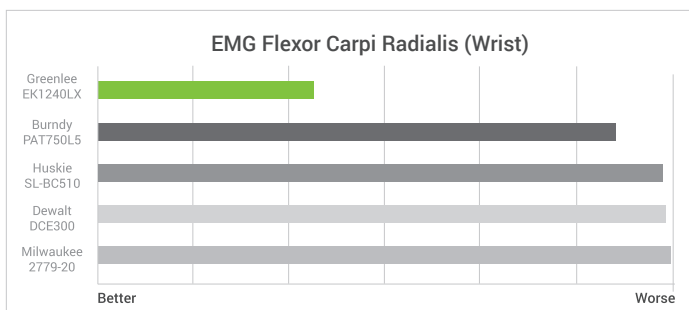
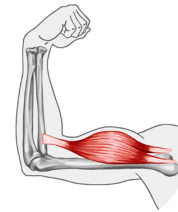


### Biceps Brachii

- Muscle involved in elbow and shoulder motions
- Lower EMG signifies less effort and exertion

### Possible Injuries Include:

Muscle sprain and tendon avulsion

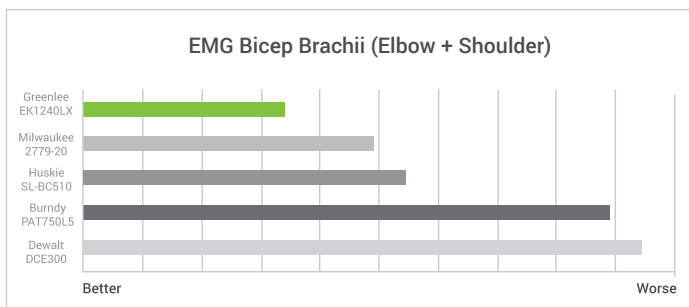


### Flexor Carpi Radialis

- Muscle controls wrist movement and stabilization
- Lower EMG signifies less fatigue and damage

### Possible Injuries Include:

Carpal Tunnel Syndrome and tendonitis

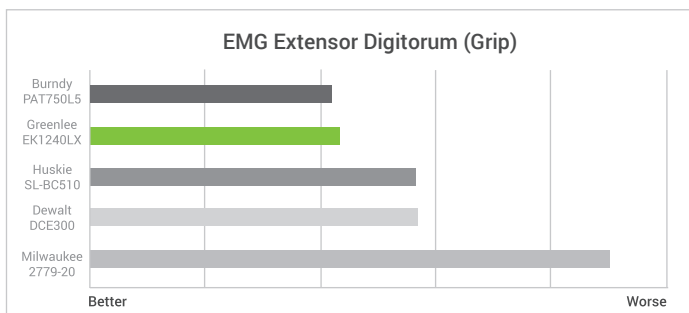


### Middle Trapezius

- Muscle stabilizes of shoulder during use
- Lower EMG signifies less muscle use and fatigue

### Possible Injuries Include:

Back sprain, rotator cuff tear, and arm weakness



### Extensor Digitorum

- One of the muscles involved in the grip of the tools
- Lower EMG signifies less muscle strain

### Possible Injuries Include:

Trigger finger and tendinitis



# UNDERSTANDING THE TRUE IMPACT OF POOR ERGONOMICS

## ERGONOMIC INJURIES ARE THE MOST COMMON TYPE OF INJURY REQUIRING DAYS AWAY FROM WORK.<sup>1\*</sup>

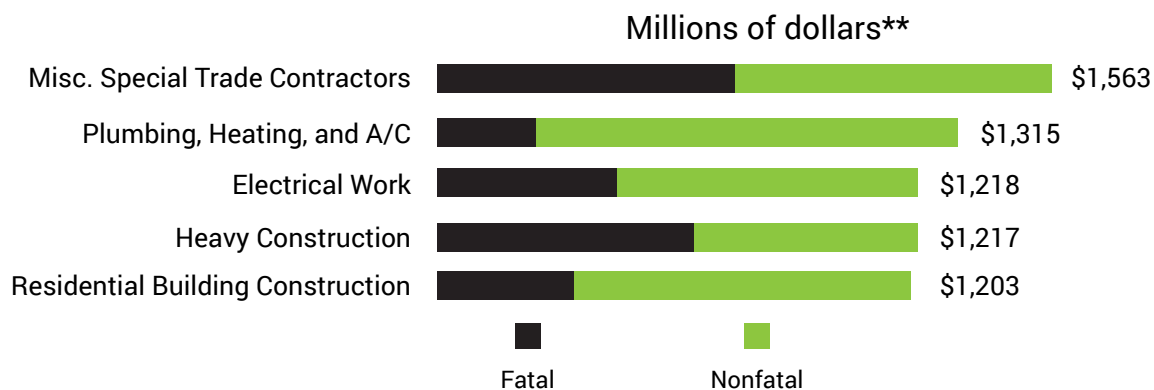
**\$100,397**

Repetitive motion injuries had an average total cost (direct medical and non-direct) per injury, which require days away from work. The non-direct costs are typically larger and are driven by days away from work.

**\$56,309**

Average total cost for all injuries (direct medical and non-direct) of nonfatal injury requiring days away from work for Electrical work per injury.

## ESTIMATED COSTS OF WORK-RELATED INJURIES BY CONSTRUCTION INDUSTRY



\*Total cost numbers are underestimates calculated by applying inflation from 2002 dollars to obtained from (study) to 2016 dollars.

\*\*2002 dollars

The study did not include time spent in light duty work as an additional cost (even though the worker is not yet able to return to work tasks) or self-employed construction workers (they were not captured by the cost assessment methods the study used).

The study also relies heavily on worker's compensation to provide information for the costs of injuries even though workers compensation reimbursement rates vary from state to state becoming another source for underestimating the true cost of injury.

The medical cost associated with these injuries are also pre-Affordable Care Act are likely underestimates even with the adjustments for inflation.

1 - Waehrer G, et al. "Costs of Occupational Injuries in Construction in the United States", *Accid Anal Prev.* 2007 November ; 39(6): 1258-1266

2 - 2017 Liberty Mutual Workplace Safety Index

3 - Electronic Library of Construction Occupational Safety & Health. "The Construction Chart Book 4th Edition." Section 48: Costs of Work-related Injuries and Illnesses in Construction.

4 - American Society of Safety Engineers. "BoSC article 6." Return on Investment (ROI) for Safety, Health, and Environmental (SH&E) Management Program.

\*Musculoskeletal disorders

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