

Today's

October 2024

# Industrial Products & Solutions

*The Complete Purchasing Guide for Today's Industrial Market*

[www.tipsmag.net](http://www.tipsmag.net)

**Metal Supplier  
Boosts Warehouse  
Efficiency with AGVs  
and New Cantilever  
Racking**





# jESCOHYDRATILT™ DUMPERS



## HYDRAULICALLY CONTROLLED HOPPERS

These units are ideal where control of the quantity of material dumped or the rate of discharge is critical. They operate off the hydraulic system of your forklift and come complete with male quick-disconnect hoses for easy attachment to the forklift.

# jESCO® PARTITIONS



## DIAMOND WIRE MESH ENCLOSURES

Send us the footprint of your project and allow our engineers to assist you on your next project!

Division 10 22 13.



## CONVERT YOUR FORKLIFT INTO A WORK PLATFORM!

Available in 40", 72", 96", and 120" lengths.

jESCO® WORK PLATFORM



# jESCOGARD®

## PROTECTIVE GUARD RAILING

These versatile guards act as both a visual and physical barrier to help protect people and property such as aisles, docks, conveyors and other equipment. Bolted rails are designed and tested to stop a 10,000 lbs load impacting at 4 mph from breaking through. Lift-out rails shown. All hardware is included.



Call 800-529-6697  
Visit [www.JescoOnline.com](http://www.JescoOnline.com)

**jESCO**  
— Since 1932 —

Jesco Industries, Inc.  
Ph: 517-542-2903 Fax: 517-542-2501  
PO Box 388 Litchfield, MI 49252-0388



Why Laser Lines and Projected Signs?  
Because, You're Sick of Painting & Taping!

# NEW SOCIAL DISTANCING GOBO Images For LightCop.



**DOCK RIGHT**  
LASER DOCKING TECHNOLOGY  
Dock Right Laser System, Div. of LTBL Tech, LLC  
LOSS PREVENTION FOR THE 21ST CENTURY  
[www.LTBLtech.com](http://www.LTBLtech.com)

**LTBL** TECH "The Original"  
**LIGHTCOP**  
- Loss Prevention For The 21st Century -



[www.LTBLtech.com](http://www.LTBLtech.com)

615.593.0510



TIPS Contents • October 2024

PG 4	Metal Supplier Boosts Warehouse Efficiency with AGVs and New Cantilever Racking
PG 10	100% Inspection Drives Hybrid Bonding to New Heights
PG 16	Ad Index



Pg 4

# Today's Industrial Products & Solutions.

Vol. 24 Issue 10

**PRESIDENT**

Glen Hobson  
205-441-5591  
glen@tipsmag.net

**ASSOCIATE PUBLISHER**

Bart Beason  
205-624-2180  
bart@tipsmag.net

**ADMINISTRATIVE DIRECTOR**

Steven Hobson  
steven@tipsmag.net

**EDITOR**

Brandon Greenhill  
brandon@handfmedia.net

**CREATIVE/ WEB DIRECTOR**

Jacklyn Greenhill  
jacklyn@handfmedia.net



The test tools you need - for the information you require.



From monitoring equipment, tools and test instruments to the need for on-going calibration requirements and the training to understand everything - there is no wonder the maintenance professional is overwhelmed. With the availability of new and upcoming technology, information overload can quickly set in when trying to put together the best maintenance solution. **That's where we come in.** EDE can demystify electrical testing programs, offer support, training programs and the high tech equipment to make your maintenance activities straight forward and motors and generators doing what they are supposed to do - run. We will help you **Find the Way.**



• 970/292-8207 • www.edeinst.com •

P.O. Box 1568 • Pelham, AL 35124  
Phone: 205-441-5591 • Fax: 205-624-2185  
www.tipsmag.net  
info@tipsmag.net



*Today's Industrial Products & Solutions™* is published ten times a year on a monthly basis by Southern Digital Publishing, Inc. *Today's Industrial Products & Solutions™* is distributed free to qualified subscribers. Non-qualified subscription rates are \$57.00 per year in the U.S. and Canada and \$84.00 per year for foreign subscribers (surface mail). U.S. Postage paid at Birmingham, Alabama and additional mailing offices.

*Today's Industrial Products & Solutions™* is distributed to qualified owners and managers in the industrial industry. Publisher is not liable for all content (including editorial and illustrations provided by advertisers) of advertisements published and does not accept responsibility for any claims made against the publisher. It is the advertiser's or agency's responsibility to obtain appropriate releases on any item or individuals pictured in an advertisement. Reproduction of this magazine in whole or in part is prohibited without prior written permission from the publisher.

POSTMASTER: Send address changes to  
Southern Digital Publishing, Inc. P.O. Box 1568  
Pelham, AL 35124  
PRINTED IN THE USA

# SAFETY FIRST

# OPTIMIZE YOUR WORKSPACE

Available in both  
**CHAIN & CABLE**  
Configurations



- Customizable height and reach to best fit your space.
- Ergonomic positioning for easy low strain use.
- Create a safe, efficient work environment.



The Sky Hook is your personal safety lifting solution, preventing lifting injuries while saving you both time and money!

## 800-4-SKYHOOK

800-475-9466 • 208-365-5770

[www.skyhookmfr.com](http://www.skyhookmfr.com)







# Metal Supplier Boosts Warehouse Efficiency with AGVs and New Cantilever Racking

*New product depot streamlines Central Steel & Wire's material handling with the use of automated guided vehicles and a unique cantilever rack design that allows for narrower aisles*

When Central Steel & Wire (CS&W), a high-quality metal products and services supplier for a wide range of customers from job shops to large OEMs, decided to move from the Chicago facility that had been its home for 80 years, it envisioned creating a state-of-the-art product depot and service center that used the industry's most efficient material handling technology. It would be a major transformation for CS&W because the company was leaving behind a labor-intensive method of material handling in favor of using automated guided vehicles (AGVs) to move its wide range of metal products.

"For the first time in the metal service center business, we brought in AGVs to replace standard material handling equipment," said Nicole Giesie, vice president of operations at Central Steel & Wire - a member of the Ryerson Family of Companies. "It allowed us to use driverless vehicles to store and pull materials to fulfill customer orders."

#### *New Technology, New Facility*

The greatest benefits from the use of AGVs, however, could only be realized by developing a new facility that incorporated racking with consistent pocket locations, evenly distributed and available throughout the location.

The presence of damaged racking arms in the existing facility would also have reduced the effectiveness of the AGVs, Giesie noted.

While AGVs require a significant investment, there is a substantial payoff in increased material handling ef-



"As a safety professional, you always want your workers to have access to leading edge safety tools that improve safety and focus.

Working with **COOLSHIRT SYSTEMS** over the past two years allowed me to help design a tool **by linemen for linemen.**

The **A.R.C. Hybrid Cooling System** by **COOLSHIRT SYSTEMS** allows linemen to remain more focused and less fatigued by reducing their core body temperature in extreme environments, therefore reducing the possibility of unintended accidents."

**-James "Jim" Bonner**  
Compliance Coordinator- Retired  
Alabama Power



# A.R.C. Hybrid Cooling System

*Complete Arc Rated Portable Cooling Solution*

Developed in conjunction with major power companies for use in extreme heat conditions, the **A.R.C. Hybrid Cooling System** uses liquid cooling to reduce fatigue, injury, and heat stress related illness.

Designed specifically for use by linemen, the **A.R.C. Hybrid Cooling System** features a compact design with a custom woven strap mounting system. The use of S-hooks offers the versatility of mounting inside or outside of the bucket.

Designed with portability in mind, measuring **6" x 6" x 20"** and weighing in at **less than 10 lbs dry**. The unit is entirely self-contained and built to last with a 20,000 hour pump.



A.R.C. Hybrid Cooling System  
2002-0017



**COOLSHIRT**  
TEMPERATURE CONTROLLED GARMENTS

efficiency and accuracy, reduced labor, and decreased damage to racking, equipment and structures. "With AGVs, we were able to utilize our workforce in other value-added tasks rather than just moving metal throughout the facility," Giesie said.

Initial design discussions for the new facility began in August 2021, and included requirements relating to the use of AGVs in a 900,000-square-foot facility that would be developed in southern Chicagoland's Village of University Park.

#### *18,000 Storage Locations Needed*

The University Park facility would need 18,000 storage locations to accommodate 6,000 product SKUs that have a combined weight of 50 million pounds of carbon steel, stainless steel, aluminum and specialty metals. Space was also needed for value-added work, such as precision cutting and tube laser operations.

For storage of all that metal, CS&W looked at racking manufacturers throughout the U.S., and then selected Steel King Industries, a leading manufacturer of storage rack and material handling products. The two companies had a long-standing relationship, in that CS&W supplies steel for Steel King's products.

"Based on our existing strong relationship with Steel King, its reputation for reliability and for manufacturing extremely durable racking, and its engineering expertise, we found them to have the best solution for our needs," Giesie said.

**Steel King Dealer Fulfilled Project Manager Role**  
Another factor that would work to CS&W's advantage was the involvement of Steel King dealer Container Systems, Inc of suburban Chicago.

"This was an extremely large project for Central Steel & Wire," Giesie said. "We needed a reliable partner to ensure success, and Container Systems proved to be that partner. In a project of this size, there is a lot that can go wrong, dealing with a lot of different contractors, equipment vendors, etc. Having Container Systems involved removed that burden from us, and kept the project moving forward to the point that installation was completed ahead of schedule."

The new facility uses Steel King's I-beam cantilever racking for 1,300 uprights, and guard rail products. I-beam cantilever steel storage racks allow access from both sides. This design saves horizontal space normally lost to rack structure, reduces fork truck damage, and allows for faster load and unload times.

**"PROPPERS"**  
Commercial, Residential, Industrial, Hotel/Motel & Deliveries

- Compact, Lightweight - Only 5 oz.
- Magnitized for Convenient Storage
- Easy To Open, Folds When Not In Use
- Safe, Secure Design, Never Slips Off Hinge

**THE PROPPER**  
Door Stopper

**MADE IN USA**

[WWW.THEPROPPERSHOP.COM](http://WWW.THEPROPPERSHOP.COM)  
[SALES@THEPROPPERSHOP.COM](mailto:SALES@THEPROPPERSHOP.COM)



# REDEFINING COMPREHENSIVE ROOFTOP SAFETY

TURN-KEY SAFETY RAIL SOLUTIONS FROM START TO FINISH  
INSPECT | SPECIFY | BUILD | INSTALL



SRC Mobile Safety Rails set the industry standard for OSHA compliant safety solutions to prevent falls and injury.



PROTECT LIVES.  
BE OSHA COMPLIANT.  
CONTACT US TODAY.



**SafetyRailCompany**  
Fall Protection for Life and Compliance

SAFETYRAILCOMPANY.COM | 888.434.2720



The Steel King I-beam cantilever racking is built for longevity, with structural steel construction and a 50,000 psi minimum yield. A heavy arm connector plate and bolted column-to-base connections adds to durability. Metal services businesses often use I-beam cantilever racking to store items such as pipe, tubing, rolls, steel bars, sheet steel, and structural members.

The cantilever racking is comprised of more than 1,000 double-sided columns, more than 30,000 arms and more than 15,000 linear feet of structural metal for guard rails. "It took 70 truckloads to deliver the racking and guard rail elements – all which came at a pace whereby installers never had to stop their work", noted Mike Scarlati of Container Systems.

"This was a huge order, and what made it work was Steel King's ability to get their product out on time, so installers always had buildable material on hand," said Scarlati.

"The racking system was able to have narrower aisles – and thus have a greater storage density –

through an engineering solution designed by Steel King," said Kurt Larson, the company's regional sales manager for the central U.S. "Our engineers designed notches in rails to guide Combilift AGV vehicles, which meant that more space could be dedicated to racking rather than to aisles."

"The new racking system is allowing CS&W to operate more efficiently and with greater productivity. It also will let the company adjust racking to meet changing needs. In their former facility, the racking elements were all welded, so adjustments could not be made. With our system, they'll be able to reconfigure the racking to accommodate changing storage needs," Larson said.

Metal companies like CS&W that seek to dramatically improve the efficiency of their material handling will benefit from working with experienced partners that can tailor industry best practice solutions to their specific requirements.

For more information, call Steel King at (800) 826-0203 or visit them online at [www.steelking.com](http://www.steelking.com) •

SLIP AND FALL PREVENTION!
Since 1993

NEW!



TESTING DYNAMIC COEFFICIENT OF FRICTION (DCOF)

ASM 925

DIGITAL ASM 825A SLIP METER

WET AND DRY TESTING  
CALIBRATES TO ANSI/NFSI B101.1

---

SAFE FLOORS MAY INCREASE PRODUCTIVITY  
AND WILL CERTAINLY REDUCE LOSSES

---

SCOF RESULTS WITH AN EASY-TO-USE  
PORTABLE FLOOR FRICTION TESTER

---

PH: 941-681-2431 | FAX: 941.681.2487

AMERICAN SLIP METER®

WWW.AMERICANSLIPMETER.COM





# Payroll People meet at a Tradeshow

Our payroll takes 2 minutes to prepare and keeps us compliant with the DAVIS BACON ACT

Our payroll takes many hours and 3 people to put together

We get an 80% savings in time and money with compliant client - compared to manually prepared payroll

Compliant client sounds great. My friend's construction company was heavily fined being out of compliant. He might go to jail!

I USE COMPLIANT CLIENT BY EMARS

WE MANUALLY PREPARE PAYROLL

Our payroll is certified, worry Free and very inexpensive plus it is DOL APPROVED

- Encrypted
- Free Demo
- Works with Excel
- 55,000 + Client
- Web Based
- Paperless
- Works with Time Clock

**Compliant**  
**client**  
by eMars

emarsinc.com  
480-595-0466





By Del Williams

## 100% Inspection Drives Hybrid Bonding to New Heights

*Advanced Scanning Acoustic Microscopy equipment detects cracks, voids, and other flaws as small as 5 microns in vertically stacked, hybrid bonded packages. The high-speed metrology tool allows for 100% inspection, speeding manufacturing*

Today, hybrid bonding is transforming the semiconductor industry by facilitating the production of increasingly intricate, efficient, and powerful electronic devices. This advancement is beneficial for artificial intelligence, high-performance computing, and graphics processing units.

The reason hybrid bonding is quickly gaining recognition is due to the enhanced reliability and mechanical strength of its interconnects, as well as the space savings compared to traditional bump-based interconnections. This bonding technique vertically links die-to-wafer (D2W) or wafer-to-wafer (W2W) via closely spaced copper pads, bonding the dielectric and metal bond pads simultaneously in a single bonding step.

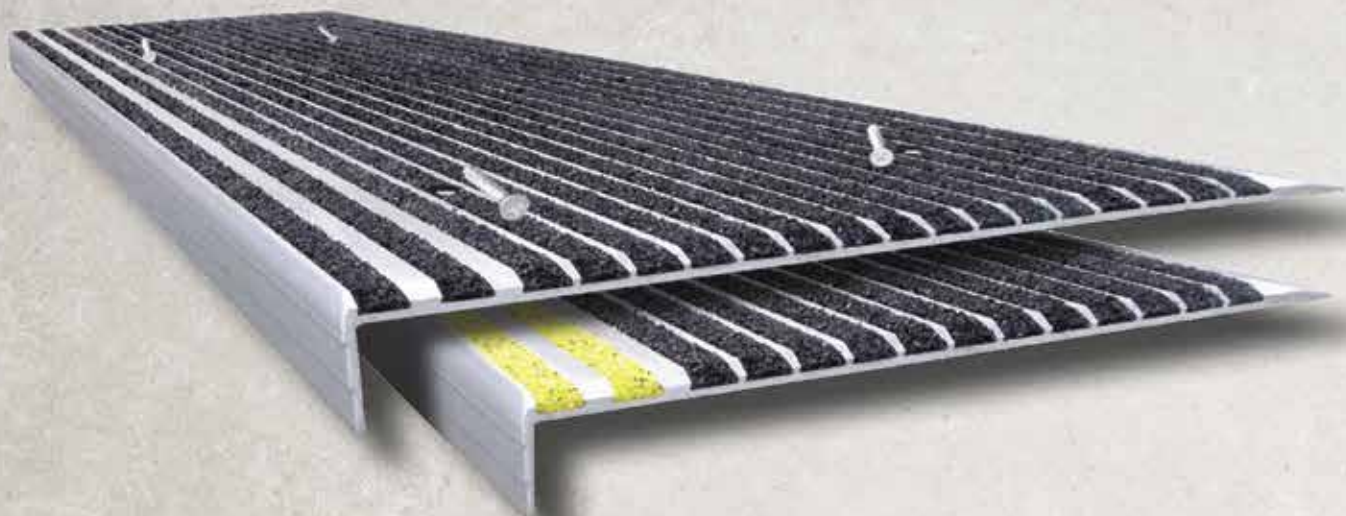
Hybrid bonding offers several significant benefits, including allowing a higher density of interconnections with shorter pitches, and less distances between the layers. These factors improve signal integrity, reduce latency, lower power consumption, and increase data throughput. Furthermore, hybrid bonding facilitates heterogeneous integration, enabling semiconductor companies to merge multiple chiplets with diverse functions, technology nodes, and sizes into a unified package.

# Worn, Slippery, or Damaged Stairs?

## Renovate with

# STAIRMASTER®

## Anti-Slip Stair Treads



### *#1 in Egress Safety for Over 100 Years!*

- Low cost renovation
- Excellent anti-slip protection
- Withstands heavy traffic
- For indoor or outdoor use
- Quick and easy installation on any existing stair



Also available in NITEGLOW™



PROUDLY MADE  
IN THE USA

## Specify Wooster

*"Make Every Step a Safe One"*

1.800.321.4936

[www.woosterproducts.com](http://www.woosterproducts.com)

[sales@wooster-products.com](mailto:sales@wooster-products.com)



However, to successfully transition to high volume manufacturing with high yields requires advanced metrology tools that can quickly identify defects like cracks and voids within the bonded layers.

“The concept behind three-dimensional advanced packaging is to stack multiple dies or wafers vertically to achieve better performance with lower power requirements, smaller size and lower cost,” says Hari Polu, President of PVA TePla OKOS, a Virginia-based manufacturer of SAM and industrial ultrasonic non-destructive (NDT) systems. The company serves the semiconductor, electronics, aerospace, metal/alloy/composite manufacturing, and end-user markets.

“However, as three-dimensional packages become increasingly complex, so do the challenges in identifying defects within vertically stacked, multiple layers. Now, the focus is shifting to methods of non-destructive testing like Scanning Acoustic Microscopy,” adds Polu.

According to Polu, Scanning Acoustic Microscopy (SAM) is a non-invasive and non-destructive ultra-

sonic testing method that is quickly becoming the preferred technique for testing and failure analysis involving stacked dies or wafers.

SAM utilizes ultrasound waves to non-destructively examine internal structures, interfaces and surfaces of opaque substrates. The resulting acoustic signatures can be constructed into 3-dimensional images that are analyzed to detect and characterize device flaws such as cracks, delamination, inclusions and voids in bonding interfaces, as well as to evaluate soldering and other interface connections.

SAM is already the industry standard for 100% inspection of semiconductor components to identify defects such as voids, cracks, and delamination within microelectronic devices.

Now the technology has been adapted to facilitate 100% inspection of hybrid bonded packages.

“Innovations in the design of wafer chucks, array transducers, and AI-based analysis of inspection data are converging to provide a more robust SAM solution for fabs involved in hybrid bonding,” says Polu.

**Solving the Hybrid Bonding Inspection Challenge**  
With hybrid bonding, various steps must be reliably performed to ensure quality, with any failures resulting in unacceptable defects. The stakes are higher than ever considering that even one bad wafer, die, or interconnection could cause the entire package to be discarded down the line. Sub 10-micron defect detection is the new normal.

The process begins by manufacturing the wafers or dies in a semiconductor fab before the chips are bonded together. Typically, the key process steps include the preparation and creation of the pre-bonding layers, the bonding process itself, the post-bond anneal, and the associated inspection and metrology at each of the steps.

“With conventional SAM techniques, wafers were held horizontally in a chuck and processed in a water medium, and this occasionally could lead to water ingress, trapping water, which could cause significant issues in the next step of assembly. By re-designing the chuck in a vertical orientation, we can use gravity to eliminate any concern over water

**Get Cool!**

**Extend transformer life!**

**Increase transformer capacity up to 166%!**

- expert technical assistance
- low sound levels
- energy-efficient motors
- large inventory
- one-piece cast aluminum blades
- galvanized or stainless steel guards

**KRENZ-VENT**  
quality engineered, performance tested

P.O. Box 187 Germantown, Wisconsin 53022 262.255.2318 [www.krenzvent.com](http://www.krenzvent.com)

# REDEFINING COMPREHENSIVE ROOFTOP SAFETY

TURN-KEY SAFETY RAIL SOLUTIONS FROM START TO FINISH  
INSPECT | SPECIFY | BUILD | INSTALL



SRC Mobile Safety Rails set the industry standard for OSHA compliant safety solutions to prevent falls and injury.



PROTECT LIVES.  
BE OSHA COMPLIANT.  
CONTACT US TODAY.



**SafetyRailCompany**  
Fall Protection for Life and Compliance

SAFETYRAILCOMPANY.COM | 888.434.2720



ingress, along with other water management technologies,” says Polu.

Scanning acoustic microscopy works by directing focused sound from a transducer at a small point on a target object. The sound hitting the object is either scattered, absorbed, reflected, or transmitted. By detecting the direction of scattered pulses as well as the “time of flight,” the presence of a boundary or object can be determined as well as its distance.

To produce an image, samples are scanned point by point and line by line. Scanning modes range from single layer views to tray scans and cross-sections. Multi-layer scans can include up to 50 independent layers. Depth-specific information can be extracted and applied to create two- and three-dimensional images. The images are then analyzed to detect and characterize flaws such as cracks, delamination, and voids.

According to Polu, advancements in AI-based analysis of the data collected from SAM inspection of wafer-to-wafer hybrid bonding will further automate quality assurance and increase fab production.

“When fabs take advantage of the higher level of failure detection and analysis, the production yield and overall reliability of high-performance chips improve significantly,” says Polu. “Every fab will eventually move towards this level of failure analysis because of the level of detection and precision required for hybrid bonding.”

Hybrid bonding represents a significant advancement in chip packaging technology, offering numerous benefits that enhance performance, efficiency, and scalability of semiconductor devices.

Scanning Acoustic Microscopy stands ready to deliver 100% non-destructive inspection of vertically stacked and bonded die-to-wafer (D2W) or wafer-to-wafer (W2W) packages at extremely high speeds to help facilitate the adoption of this technology.

For more information, contact PVA TePla OKOS at [info@okos.com](mailto:info@okos.com) or visit [www.okos.com](http://www.okos.com). PVA TePla OKOS is a wholly owned subsidiary of PVA TePla AG, Germany

[www.okos.com](http://www.okos.com) •



Line Guard | Pole Guard | BirdBloc  
**Learn More at [CritterGuard.org](http://CritterGuard.org)**





# ESSEX STRUCTURAL STEEL CO., INC.

## Pre-Engineered Buildings Built to Withstand The Rugged Northeast Winters

- Commercial, Industrial and Agricultural Buildings Built to Satisfy Your Building Needs
  - Pre-Engineered Steel Packages
  - Pre-Engineered Post Frame Packages
    - Mini Storage Buildings



*Call For a Quote On  
Your Next Project*

***We Manufacture 26 & 29 ga.  
Steel Roofing & Siding***



# STRUCTURAL STEEL CO., INC.



607 Rt. 13 S, Cortland, NY 13045

**National: 1-800-323-7739**



(607) 753-9384 • Fax: (607) 753-6272 • [www.essexsteel.com](http://www.essexsteel.com)



# Ad Index

Company	Pg.	Website
American Slip Meter	8	<a href="http://www.americanslipmeter.com">www.americanslipmeter.com</a>
Coolshirt	5	<a href="http://www.coolshirt.com">www.coolshirt.com</a>
Critter Guard	14	<a href="http://www.critterguard.org">www.critterguard.org</a>
EDE	2	<a href="http://www.edeinst.com">www.edeinst.com</a>
eMars Inc	9	<a href="http://www.emarsinc.com">www.emarsinc.com</a>
Essex Steel	15	<a href="http://www.essexsteel.com">www.essexsteel.com</a>
Jesco	IFC	<a href="http://www.jescoonline.com">www.jescoonline.com</a>
Krenz Vent	12	<a href="http://www.krenzvent.com">www.krenzvent.com</a>
LTBL Tech	1, BC	<a href="http://www.ltbltech.com">www.ltbltech.com</a>
Propper Stopper	6	<a href="http://www.propperstopper.com">www.propperstopper.com</a>
Rhino Switchboard Mats	IBC	<a href="http://www.rhinoswitchboardmats.com">www.rhinoswitchboardmats.com</a>
Safety Rail Co	7, 13	<a href="http://www.safetyrailcompany.com">www.safetyrailcompany.com</a>
Sky Hook	3	<a href="http://www.skyhook.com">www.skyhook.com</a>
Wooster	11	<a href="http://www.woosterproducts.com">www.woosterproducts.com</a>
Working Concepts	24	<a href="http://www.safeworker.com">www.safeworker.com</a>

**Work shouldn't hurt.**

**SOFT KNEES®**  
No-Strap Knee Pads

**STOP a LADDER®**  
Another fine **ergoKNEEL** product  
[www.ergokneel.com](http://www.ergokneel.com)

**NEW SIZE**

**888-456-3372 • [www.safeworker.com](http://www.safeworker.com) • [info@safeworker.com](mailto:info@safeworker.com)**



# RHINO

## SWITCHBOARD MATS

### FUSEBOX SAFETY MAT™

#### *Rhino Switchboard Mats For The "If" in Life.*

Easily carried to job or construction sites, Fusebox Safety Mat™ by Rhino provides portable insulation when working in close proximity to exposed energized equipment. around substations, transformers, switches, electrical panels, or high-voltage equipment. Fusebox Safety Mat™ should be used in any area where Health and safety risk assessment shows a possibility of high-voltage shock.

#### *Safety Focused. Results Driven*

Rubber-insulating gloves, insulated hand tools, and switchboard-insulating mats are vital components of a successful PPE system. All should be used in conjunction with engineering safeguards and associated work practices.

#### *Quality You Can Count On*

All are tested to ASTM D178/ANSI J6.7 specifications with

certification printed on the back.

Two sizes available 2ft X 3ft and 3ft X 3ft.

Two thicknesses 1/2" and 1/4"

Available at most Electrical and

Safety Supply Houses,

ask for Rhino Fusebox Safety Mat™,

Home Depot online or

contact us at

713-228-5543 / Info@rhinomats.com

[www.rhinoswitchboardmats.com](http://www.rhinoswitchboardmats.com)

**Extreme-Duty Series Class 4**  
1/2" thick Corrugated Surface  
Test Voltage 50,000 VAC  
Proof Test 40,000 VAC  
Recommended 36,000 VAC



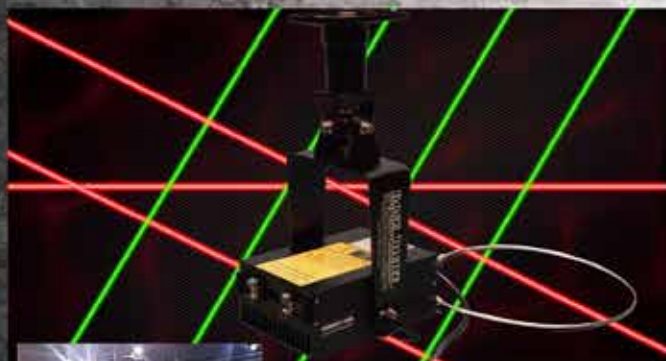
**Heavy-Duty Series Class 2**  
1/4" thick Diamond Surface  
Test Voltage 30,000 VAC  
Proof Test 20,000 VAC  
Recommended 17,000 VAC





Why Laser Lines and Projected Signs?  
Because, You're Sick of Painting & Taping!

# NEW SOCIAL DISTANCING GOBO Images For LightCop.



[www.LTBLtech.com](http://www.LTBLtech.com)

615.593.0510