

MORE THAN A BOX: THREE KEY CONSIDERATIONS WHEN DESIGNING AN ELECTRICAL ENCLOSURE

June 2020

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The Purchasing Guide for Electrical Contractors

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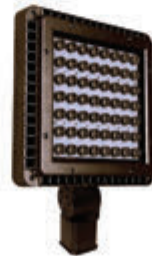
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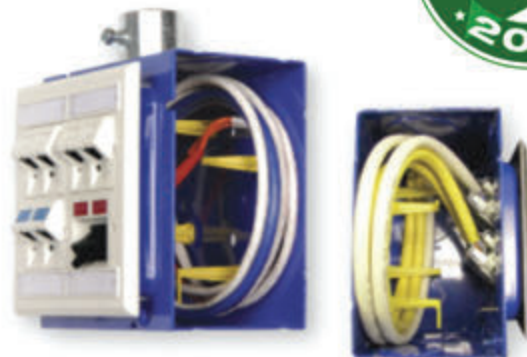


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Electrical Products & Solutions™ is published twelve times a year on a monthly basis by ABD Communications, Inc., 3591 Cahaba Beach Road, Birmingham, Alabama, 35242, USA. *Electrical Products & Solutions™* is distributed free to qualified subscribers. 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.

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POSTMASTER: Send address changes to
ABD Communications, Inc., P.O. Box 382885
Birmingham, Alabama 35238-2885

PRINTED IN THE USA

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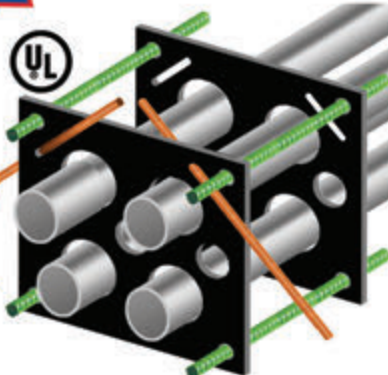


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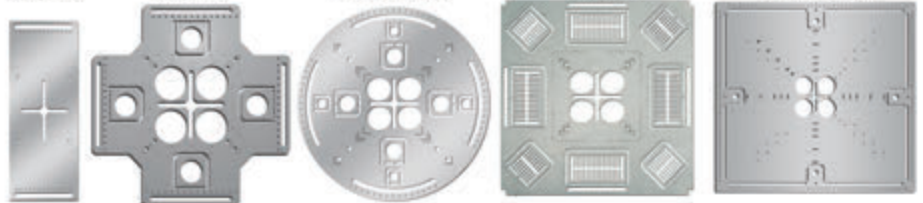
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Generator InterLock Technologies, LLC

Generator InterLock Technologies, LLC, is a small-based company that manufactures and sells its products across the country. The company was founded after Hurricane Isabel hit the east coast in 2003. The product was developed to meet the need for a safe way to use portable generators to power homes in the event of power loss.

The initial inspiration for the product came from a persistent friend of an electrician working for Master Electrical Services. As electrical contractors, they had seen various unsafe and illegal methods that people had used to try to power their houses with their portable generators. The electrician set out to develop a product that would meet National Electrical Code requirements and at the same time be cost effective and convenient for the homeowner. From that original inspiration came a new company: Generator Interlock Technologies or GIT.

The Interlock Kit is a simple safety product that locks out the Main breaker in the existing home panel and allows for the portable generator to power the home through a back feed generator breaker. While many electrical inspectors liked the product; they all agreed that the product would have to be listed to UL standards. After thousands of dollars in fees, rigorous tests, a year of changes and modifications, the Interlock Kit was finally approved for production to be used with panels listed under UL Standard 67.

The company started filling orders in early 2005, using Master Electrical Services as its basis for customer awareness.

Starting with a few kits that fit the most recent Square-D and Cutler Hammer panels, the offerings grew to over 30 different models in less than one year. Generator Interlock Technologies now has kits for panels from 30 years ago to the most current and they continue to add new kits to meet their customer's needs. While contractors in Florida and the North East are the biggest customers, Interlock Kits have been sent throughout the United States and parts of Canada. Whether the power loss is due to coastal hurricanes or from crippling ice storms in the northern , GIT has a kit that will allow customers to keep the power on in their homes.

The Interlock Kits are designed to be installed by licensed electricians and are cost effective for both the customer and the installer. Other products on the market such as generator sub-panels and transfer switches require extensive rewiring of the home panel, often taking the electrical contractor 6 to 8 hours to install. With the Interlock Kit, a qualified electrician can install a complete system in 2 hours or less by simply mounting the correct kit to the face of the panel and wiring a gen-



erator convenience outlet to a breaker installed in the panel.

To use their portable generator, a homeowner plugs an extension cord from their generator to the new generator convenience outlet. He then starts the generator, turns off the main breaker, slides the Interlock Kit, turns on the generator breaker and selects the circuits for use up to the capacity of the generator.

Generator Interlock Technologies' Kit is a defining safety product that has been recognized as a Innovation Award Winner by *Electrical Contracting Products* magazine and one of the Top Products by *Electrical Products and Solutions* magazine.

Generator Interlock Technologies, LLC, has taken a problem of safety and convenience and developed a system to keep danger and expenses to a minimum. Starting with an idea of helping a friend in need, to helping thousands across the country, GIT continues to grow due to its commitment to deliver a quality product. Visit www.interlockkit.com for a complete list of products and details. □

With the Interlock Kit, a qualified electrician can install a complete system in 2 hours or less by simply mounting the correct kit to the face of the panel and wiring a generator convenience outlet to a breaker installed in the panel.

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Protect Yourself

Miller Safety Consultants — *A Leader in Arc Flash Protection*

Vince Miller started Miller Safety Consultants, a veteran owned business in 1999. The goal of the business was to provide cost effective safety consulting, employee training such as: confined space entry, fall protection, electrical safety and provide sales of electrical shock and flash protective equipment and fall protection equipment to businesses in the Washington DC area.

Reliance Industries provided fall protection products and much of the sales and training was on behalf of the supplier. In 2000, the owner decided to retire from his business, and Vince decided to discontinue the fall protection line of his business and concentrate more in the electrical training and products.

Vince had been a distributor for Certified Insulated Products (CIP), a manufacturer of electrical insulated tools and electrical arc flash clothing manufactured by Otex in Rochester, New York. As a distributor, Vince provided sales through his internet website and much through relationships with electrical contractors. His training was a classroom environment and was provided directly to customers but he also taught as a sub-contractor for other safety consulting companies and the

Chesapeake Safety Council in Baltimore, Maryland. In 2005, Vince partnered with Vivid Learning Systems in Cascades, Washington to provide on-line training in safe work practices.

Training in electrical safe work practices is still provided locally in the Washington DC area and as a partner with an electrical engineering firm and online. The training is based on the Occupational Health and Safety Administration (OSHA) standards and the National Fire Protection Association (NFPA) 70E standard.

Miller Safety Consultants is now a distributor for Cementex USA, Burlington, New Jersey, for insulated tools and equipment and clothing from OTEX Protective, Rochester, New York.

The majority of his sales of products are from the web-based store. Cementex is

nationally known for their quality equipment. Otex Protective is becoming more known for their quality clothing. For years, they have manufactured their products under other provider labels. Vince chose to not create his clothing line, but to sell the manufacturer product.

Vince has worked with many electrical company employees to fine-tune the clothing to be more comfortable for the user. Working closely with the manufacturer, they have made slight changes in how the cloth pattern was modified to meet final production. An example is the lightweight 40 Calorie vented hood offered by Otex.

The material is of the latest technology. The vented assembly is constructed for balance on the back of the hardhat and the airflow is 27 CFM to prevent fogging of the face shield and provide cooling to the worker. It took over a year to develop the product with the user prior to having the hood "flash tested". This product is now standard issue with many electrical contractors.

Being a small business and having quality providers has resulted in satisfied customers for Miller Safety Consultants. Being a direct supplier for OTEX Protective, another small business means customized customer needs can be met. □

*For more information, visit
Miller Safety Consultants at:
www.electricalsafety supply.com, email
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Frederik Meijer Gardens & Sculpture Park Finds Power with Wiremold® Ground Boxes



OVER THE LAST TWO DECADES, Frederik Meijer Gardens & Sculpture Park has transformed from a small horticultural society to a world-renowned institution.

“It used to just be a place that you would visit while you were in Grand Rapids,” said Robert Ferguson of Progressive AE in Grand Rapids, Michigan. “Now it’s a destination in and of itself for people traveling from all over the world.”

The facility combines the late Fred Meijer’s love for collecting works of art and his wife Lena’s love of plants and other horticulture. In all, the facility consists of nearly 300 pieces of art and 158 acres of rock landscapes, a waterfall and a variety of exotic plant selections.

Since Meijer Gardens opened in 1995, the number of visitors and members has skyrocketed, and the exhibits and programs have expanded as a result. They now have over 28,000 member families and about 40,000 visiting students from all over the world each year.

With so much growth in such a short amount of time came the need for more space. In 2017, Meijer Gardens announced the multi-phase, \$115 million renovation project that will allow them to bring joy to more visitors, welcome new audiences, educate more people, create new exhibitions and offer new and distinct visual experiences during all four seasons of the year. The renovation plans for an annual guest attendance of 1.2 to 1.5 million.

To plan for the increase in annual attendance, Meijer Gardens needed to add new features, update existing features and incorporate power throughout the facility to support a variety of events and programs.

Renovating for the Future

As a part of the renovation project, Meijer Gardens has already opened a catering kitchen, a transportation center and the Padnos Rooftop Sculpture Garden on top of the new Covenant Learning Center. Still to come is a picnic area with seating for about 240 people next to the revamped amphitheater, which hosts about 39 concerts every summer. Existing buildings and exhibition areas will also be renovated and expanded.

Looking for a way to bring power and connectivity to visitors throughout the gardens and facility, Progressive

AE out of Grand Rapids found a solution with the Wiremold® Ground Box from Legrand.

With a low-profile design, the Legrand Wiremold Ground Box mounts flush with any outdoor ground surface. This allows Meijer Gardens to incor-

porate power throughout the grounds for a variety of events, programs and classroom activities without compromising the beauty of the gardens or the detracting from the artwork.

“A lot of the facilities at the gardens have one use during the day and transform into event centers in the evenings,” Ferguson said. “So the ability to set up light and a PA system and have power throughout the facility led us to recommending the ground box.” (CONTINUED ON PAGE 10)





The ground box has been installed around the outside of the new Covenant Learning Center, in the Padnos Rooftop Sculpture Garden and in the new Cook Transportation Center. They will also be installed in the new picnic area, in the entranceway and throughout the gardens and facilities. Outlets throughout the property will accommodate lighting for events, programs and exhibits.

“One of the biggest advantages of the Legrand Ground Box is the flexibility it provides,” Thompson said. “We can plug in AV devices or speakers for the amphitheater, low-voltage lighting for ticketing or even a Wi-Fi device or a wireless access point. We can plug whatever we need into it and not have to worry about it being damaged by people walking over it.”

Able to Withstand All 4 Seasons

Meijer Gardens’s location along the eastern coast of Lake Michigan subjects



it to lake-effect weather. For this reason, intrusion of water into outdoor power systems is of great concern.

The Legrand Ground Box is safe to use during all seasons. It is built with UV-resistant material

(CONTINUED ON PAGE 12)

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that can stand up to the harshest weather conditions.

“The weather in Grand Rapids isn’t always conducive to these types of products,” Thompson said. “We can get weather from all four seasons in a matter of a few days, but the ground box can stand up to that.”

With its diving bell-inspired design, the ground box is the first outdoor-rated ground box with a NEMA 6P wiring enclosure for wet conditions. In the event of heavy rain or flooding, the wiring enclosure keeps connectivity points safe and dry, even if water gets into the ground box.

With an ANSI/SCTE 77 Tier-5 rating, the ground box can withstand a 5,000-pound load, so any grounds keeping tractors or lawn mowers moving about Meijer Gardens won’t cause any problems.



So far, Progressive AE has been hearing good feedback about the new power solution.

Continuing the Meijer Legacy

Meijer Gardens is one of the Meijer family’s greatest legacies in the Grand

Rapids area. Fred always wanted the gardens and the sculpture park to be there for kids and adults who want to learn. The renovation project and the Legrand Ground Box ensure that the Meijer Gardens will educate, entertain and delight visitors well into the future. □



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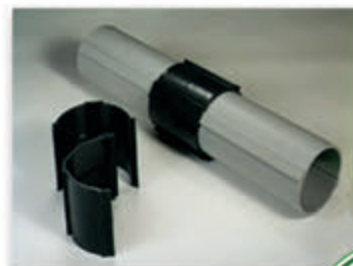


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More than a Box

Three key considerations when designing an electrical enclosure

BY ANDREW KEITH

THERE'S A LOT TO BE LEARNED from the famous fable, The Three Little Pigs. While the tale teaches us to stay wary of menacing wolves, it also reminds us of the importance of a sturdy home. Electrical equipment requires robust protection and a durable enclosure is vital to its safety. Here, Andrew Keith, product development director at power resistor manufacturer Cressall Resistors, explores the top considerations when designing an effective enclosure.

When designing a complex network of electrical components, an enclosure may be something of an afterthought.

After all, it is simply a box that houses electrical components and connections, wiring, machinery controls and related



ANDREW KEITH

equipment — all the important stuff.

However, it is this misconception that leads to failure — especially if important design considerations are forgotten or unfulfilled. Although enclosures can seem like a non-critical element in electrical system design, a failure to secure electrical equipment can result in a build up of moisture or dirt, a drastic change in temperature and poor ventilation.

Keep Your Cool

When designing a heat management system for an enclosure, manufacturers must account for external temperature fluctuations such as solar gain — heat from the sun. In addition, electrical equipment can generate significant heat as a by-product of their operation, known as losses, inside the cabinet. Failing to safely remove these losses will increase the temperature inside the enclosure and could adversely affect its contents.

One remedy is passive cooling. This technique uses the simple principal of convection to distribute heat from a higher temperature area to a lower one. To do this, enclosures must be designed with strategically placed vents that replace hot air inside the enclosure with cooler, external air.

However, the feasibility of passive cooling depends on its environment and the ambient

(CONTINUED ON PAGE 18)



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temperature surrounding the enclosure must remain lower than the air inside it. Additional air filters may also be required to prevent dust or dirt from infiltrating the enclosure. Instead, design engineers may want to opt for active cooling by installing heat exchangers or air conditioners to cool the air inside the enclosure.

A Material Matter

Of the numerous materials available for electrical enclosure construction, each offers its own protective benefits. While painted carbon steel is the most cost-effective metallic choice, it has limited resistance to solvents, alkalis and acids and is thus best suited to indoor applications.

Stainless steel provides a much higher resistance and variants such as grade 316 are specified in industries that require resistance to chemical attack, such as pharmaceutical manufacturing, which must avoid excessive metallic contamination. As the material has better resistance against sulphates, seawater and high temperatures, we recommend this type of steel as the preferred choice for both indoor and outdoor applications.

Away from metals, fiberglass is a

lighter weight choice, making it suitable for wall or pole-mounted installations. As fiberglass is not conductive, any open circuits would stay safely inside the enclosure and wouldn't be transmitted through the material. The conductivity offered by a metallic enclosure enables it to be ground connected to reduce the risk of electrical shock should an exposed conductor come into contact with the enclosure.

Follow the Rules

Many manufacturers design and build enclosures at a central location, such as Cressall's facility in Leicester, before shipping the equipment to the end user. For an enclosure to comply with local guidelines, manufacturers must consider its end destination. Standards typically referenced are the International Electrotechnical Commission (IEC) 60529 Specification for ingress protection (IP) for countries using IEC standards, while the applicable EN standard should be followed for the European market.

Understanding these regulations can be daunting, which is why manufacturers should work alongside their customers to advise on the most effective solution. If

the IP rating is too high, for example, it will place tighter restrictions the openings in the enclosure panel work and restrict ventilation.

Enclosures should only be opened using a key or tool and when all live parts are disconnected. Installing a viewing window reduces the need to access inside the enclosure. Other safety features include interlocking the enclosure door with a disconnecting device to prevent direct human contact with equipment, should the door need to be opened.

The considerations for enclosures extend beyond straw, sticks and bricks. However, if designers are to learn anything from the pigs, it is that we should never underestimate the value of a home's materials. Enclosures may seem like just a box, but they play a vital part in equipment protection and their design needs to be carefully considered. □

***Editor's note:** If you want to ensure you keep up to date with press material, opinion focussed blog content and case studies from Cressall Resistors, you can subscribe to receive the company's Blog posts by e-mail here www.cressall.com/category/blog.*

ABOUT CRESSALL RESISTORS:

The world's foremost power resistor manufacturer, Cressall Resistors, offers an unrivalled combination of experience and expertise as well as the UK's widest range of resistor technologies. Cressall's customers include ABB, Siemens, Areva and Alstom, as well as major utilities such as Northern Powergrid and Western Power Distribution (WPD), EDF and Scottish Power. The company also works with countless smaller specialists such as CP Automation, HMK Automation and Drives and ACE Winches. Indeed, because of the fundamental nature of Cressall's product almost everyone in the electrical industry will have cause to contact the company at some point; making the Leicester based business a bellwether for the health of the sector itself.



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Hy-Brid Lifts Appoints South-Central Territory Manager

Hy-Brid Lifts welcomes Chad Diacek as regional territory manager of the south-central region. Diacek will cover Arkansas, Kansas, Missouri, Oklahoma and Northern Texas. He will provide customer support as well as continue the growth and channel development of Hy-Brid Lifts' line of low-level scissor lifts.

"My expertise is selling state-of-the-art, innovative construction equipment," Diacek said. "I'm looking forward to bringing that experience to the team and the customers of Hy-Brid Lifts."

Diacek has a history of working with rental companies, dealers, and end users across many states, most recently with Cratos (formerly Triple E Equipment). He has worked with major construction and rental firms across the nation, and specifically helped create demand for a new product from 2016-2020.

"Chad is a well-respected and talented team member, earning awards for top territory manager at his previous job for several years in a row," said Terry Dolan, Hy-Brid Lifts president and CEO. "Our customers will find that he is a hard-working, reliable resource, and we are happy to have him onboard."

Diacek holds a bachelor's degree from the University of Iowa. He is based out of Naperville, Illinois. □

Hy-Brid Lifts welcomes Chad Diacek as regional territory manager of the south-central region.

HY-BRID LIFTS
BY CUSTOM EQUIPMENT LLC



ABOUT HY-BRID LIFTS

Hy-Brid Lifts is a brand of Custom Equipment LLC. Hy-Brid Lifts engineers and manufactures all-purpose lifts in electric self-propelled and push-around models. The low-level lifts offer exceptional capabilities in a heavy-duty but lightweight design, are easy to maneuver and reach working heights up to 25 feet. Contractors and maintenance technicians can use them from start to finish for a wide range of applications in industries as diverse as construction, drywall, electrical, HVAC, painting and plumbing, industrial manufacturing and facility maintenance. For more information: Hy-Brid Lifts, 2647 Highway 175, Richfield, Wis. 53076; 262-644-1300; fax 262-644-1320; sales@hybridlifts.com; www.hybridlifts.com.

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MaxLite Provides LED Bulbs to Food Pantries During COVID-19 Crisis

MaxLite ENERGY STAR certified LED bulbs are being delivered to Massachusetts communities hardest hit by COVID-19 as part of a utility-sponsored program that distributes energy efficient lighting through food pantries.

More than 21,400 MaxLite 9-watt ENERGY STAR certified A-line bulbs are being included in meal kits distributed at 45 food pantries this month in communities such as Lawrence, Methuen, Chelsea, New Bedford, Framingham, and Pittsfield. The distribution is the first phase of a yearlong initiative that will see 240,000 ENERGY STAR certified LED bulbs delivered to Massachusetts and Rhode Island food pantries on behalf of regional utilities that are part of Mass Save and National Grid Rhode Island energy efficiency programs. In addition to meeting the immediate need for household essentials, the ENERGY STAR certified LED bulbs consume up to 90% less energy and last at least 15 times longer than incandescent bulbs, which translates to lower electricity bills for their recipients.

The bulbs are arriving to regional pantries in a 26' trailer donated for use by Mertz Racing, a stock car racing team that competes in Tour-type modified events throughout New England. The team's owner, Stan Mertz of Whitinsville, MA, is MaxLite's vice president of utility and residential programs. With the racing schedule on hold, Mertz has been personally delivering the bulbs across the region.

"MaxLite is pleased to partner with Mass Save and National Grid energy efficiency programs to make energy efficient lighting accessible to all households," Mertz said. "Having to go out to a store to replace a light bulb is one less thing for families to worry about during



Stan Mertz, vice president of utility and residential programs, delivers LED lamps on behalf of MaxLite and Mass Save to the WHEAT Community Services food pantry in Clinton, MA.

the pandemic. As a Massachusetts resident, I am proud to be able to support our region during this difficult time through both MaxLite's utility partnerships and the donation of our Mertz Racing Team trailer."

MaxLite also donated 500 ENERGY STAR certified LED A-line bulbs to Habitat for Humanity of Greater Newark in

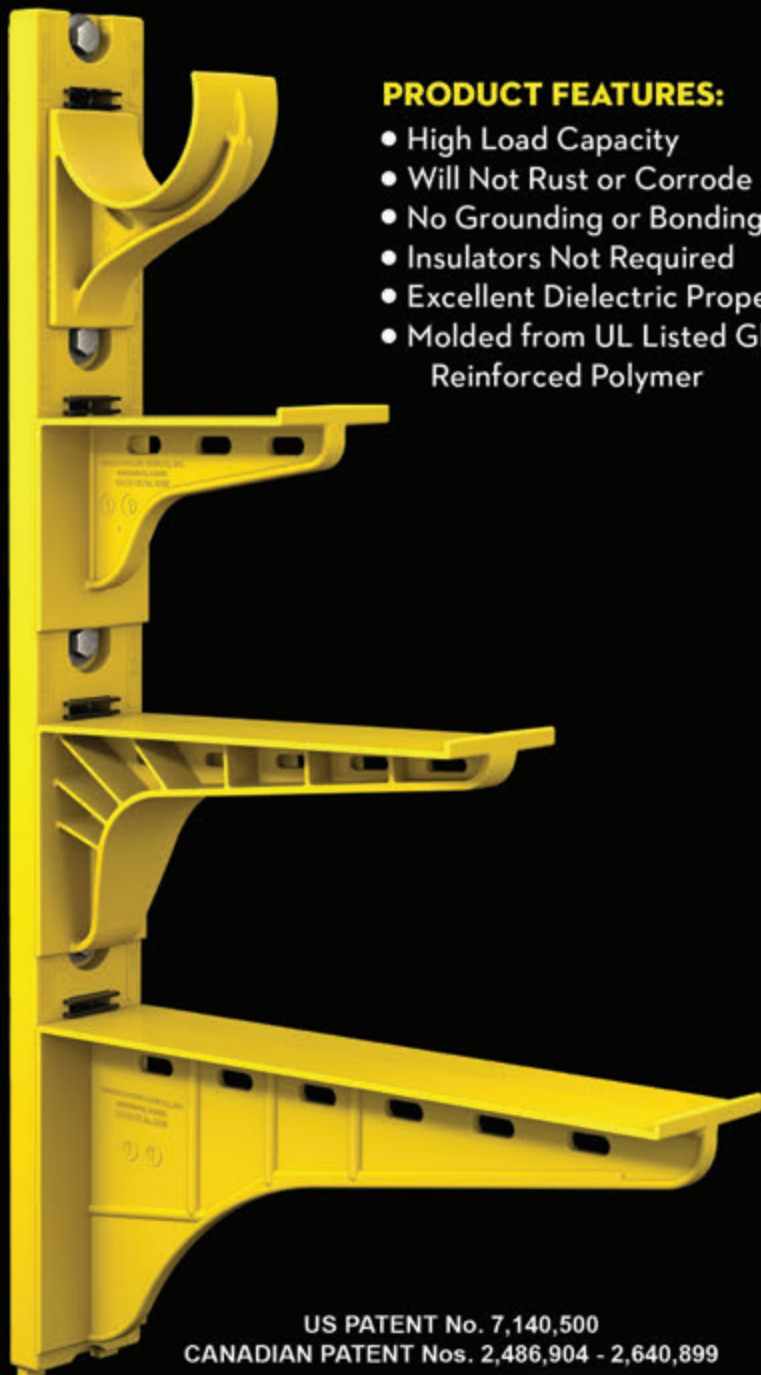
New Jersey. The bulbs were distributed in partnership with the Community Food Bank on May 13 at the South Orange Avenue pantry. MaxLite has been a national partner of Habitat for Humanity since 2013, donating more than \$3 million in lighting products to help create sustainable and affordable housing solutions in the U.S. □

About MaxLite: MaxLite has been committed to providing energy-efficient lighting products since 1993. One of the first movers into LED technology in the industry, MaxLite offers an extensive line of quality, certified indoor and outdoor LED lamps and luminaires. A five-time recipient of the ENERGY STAR Partner of the Year Award for its industry leadership, MaxLite continues to be at the forefront of energy-efficient technologies through the innovative research and development capabilities of its teams and facilities in New Jersey, Indiana and California. For more information, call 800-555-5629, email info@maxlite.com or visit www.maxlite.com.

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HDL Arm Lock shown with
RA04 Arm and CR36-B Stanchion



3HDS - 3" throat saddle shown with
a cable secured by cable ties.



RA08 - 8" arm shown with three
cables secured by cable ties.

US PATENT No. 7,140,500
CANADIAN PATENT Nos. 2,486,904 - 2,640,899

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NFPA Technical Committee Meeting Kicked Off Recently; Changes to Nine Standards Being Considered

The 2020 NFPA Technical Meeting, being held in an electronic format this year due to the coronavirus pandemic, started recently and debate will run through June 19. The dedicated landing page for the Technical Meeting is nfpa.org/2020techsession.

The NFPA Board of Directors suspended the NFPA Technical Meeting Convention Rules and approved Temporary NFPA Technical Meeting Convention Rules for 2020 which will apply only for this year's session. The meeting allows NFPA members and the public to express positions on each of the following certified amending motions (CAMs).

- NFPA 1 Fire Code
- NFPA 4 Standard for Integrated Fire Protection and Life Safety System Testing
- NFPA 30 Flammable and Combustible Liquids Code
- NFPA 99 Health Care Facilities Code
- NFPA 101® Life Safety Code®
- NFPA 790 Standard for Competency of Third-Party Field Evaluation Bodies
- NFPA 1006 Standard for Technical Rescue Personnel Professional Qualifications
- NFPA 1500™ Standard on Fire Department Occupational Safety, Health, and Wellness Program
- NFPA 1700 Guide for Structural Fire Fighting

As at all Technical Meetings, each relevant technical committee, correlating committee and authorized maker of a CAM has provided a position statement, which can be reviewed on the digital tech session site. During the Technical Meet-

ing, NFPA Members and the public are encouraged to participate in the debate on each CAM by submitting position statements and acknowledging the name and date stamp being supported or countered. All submitted position statements will be publicly posted as the debate continues. There is no registration or fee required to participate in the electronic debate which runs through Friday, June 19; however, all participants will be prompted to use an existing NFPA profile or create a profile before submitting position statements.

NFPA members (i.e. those who have been an NFPA member since December 21, 2019) who have registered for the electronic 2020 NFPA Technical Meeting will have the opportunity to vote on all CAMs. Registration for voting ends on Wednesday, June 17. Voters will receive instructions on downloading the designated Technical Meeting app, as well as information on how to electronically vote between June 22 and June 26.

On or around June 29, NFPA will publicly post all results at nfpa.org/2020techsession. Any successful CAMs will be forwarded to the responsible committee(s) for ballot (if applicable) and in accordance with the Regulations Governing the Development of NFPA Standards.

For this release and other announcements about NFPA initiatives, research and resources, please visit the NFPA press room.

As we navigate the evolving situation with COVID-19, we remain committed to supporting you with the resources you need to minimize risk and help prevent loss, injuries, and death from fire, electrical, and other hazards. □



About the National Fire Protection Association (NFPA): Founded in 1896, NFPA is a global self-funded nonprofit organization devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. The association delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy; and by partnering with others who share an interest in furthering the NFPA mission. For more information, visit www.nfpa.org. All NFPA codes and standards can be viewed online for free at www.nfpa.org/freeaccess.

Barron Lighting Group Appoints New Director of Life Safety Products

Barron Lighting Group, the parent company to Exitronix life-safety and emergency lighting, Trace-Lite indoor and outdoor commercial and industrial lighting, specialtyLED commercial and decorative lighting, and Growlite indoor and greenhouse horticultural lighting, announces the addition of Tony Campbell to the Barron team as Director of Life Safety Products.

"We are thrilled to have Tony join the Barron family in the newly created role of Director of Life Safety Products," said Heather McCune, Vice President, Sales Operations of Barron Lighting Group. "Tony's extensive background in the lighting industry as well as with brand development, product strategy, product launches, market research, sales and marketing, are sure to be great assets to

Barron, allowing us to continue providing our customers with a comprehensive, value-added offering of life-safety lighting solutions."

Tony will be responsible for organizing and helping facilitate the planning, production, marketing, and other tasks related to the creation and distribution of the Life Safety product family. This includes developing products through market research and combining those findings with general requirements, specifications, timetables, pricing and plans to complete development and marketing strategies.



Tony Campbell

Before joining Barron, Tony spent over 29 years in the lighting industry, 12 of which he worked at Hubbell Lighting, Inc. in the roles of Vice

President, Brand Management and Director, Brand Management. Prior to his time with Hubbell Lighting, Inc., Tony worked at Acuity Brands, Inc., Devine Lighting, and H.E. Williams. Additional roles Tony has held in the lighting industry include Chairman of the Emergency Lighting Section for the National Electrical Manufacturers Association as well

as Associate for the Illuminating Engineering Society of North America. Tony has a Bachelor of Science (BS) in Business Management from Park University in Kansas City, MO. □



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AEMC® Introduces two NEW Portable Hand-Held Ground Resistance Testers, Models 6422 and 6424

These new Ground Resistance testers are both economical and feature rich. They are ideal for testing commercial, residential, and light industrial grounding systems. Their innovative design simplifies the process and provides reliable results eliminating confusion in setting it up correctly. A simple one button connect-press-read operation is all that is needed. The Model 6424 is capable of storing and calculating the measurements from the simplified 62% test method and displaying the average and % deviation which is important in determining correct spacing for the test.



Features:

- 2 Point & 3 Point testing; measures continuity, bonding, and ground resistance
- Automatic verification of the injector auxiliary rod connection
- Automatic test frequency adjustment
- One shot and continuous test modes
- Test button turns from red to green when the measurement is complete
- Automatic measurement hold
- Measure voltage up to 600V AC/DC
- Large backlit LCD display
- Stores the 52, 62 and 72% measurements (Model 6424)
- Measures AC Current from 0.5 to 60 Amps AC (Model 6424)

Applications:

- Ground rod and small ground grid resistance measurement
- Stray and hazardous voltage detection
- Leakage current detection
- Bond and continuity resistance checking

**For more information, visit
www.aemc.com**

AFC Cable Systems® Barrel Pack System Simplifies Transport of Cable on Jobsites

The Barrel Pack System packaging solution from AFC Cable Systems® allows for easy transport of large cable quantities and reduces scrap on jobsites. Its 75-gallon fiber barrel design simplifies cable handling with an easy pull and a lever-locking steel band lid. Each metal clad barrel is 43" high with a 23" diameter and can hold up to 400 lbs.

This system can be combined with accessories including the Barrel Pay-Off Tripod and Harper Barrel Truck. The omni-directional Pay-Off Tripod mounts the Barrel Pack System to guide the cable without needing to rotate the direction of the pull. Once finished on the jobsite, the tripod can be manually collapsed for storage.

The Harper Barrel Truck can be used to transport the cable barrels to different locations on the jobsite. Designed for barrels up to 48" high, the barrel trucks are equipped with a footrest for positioning under barrels and a sliding chime hook that can be adjusted and replaced for steel and fiber barrels.



**For more information, visit
www.afcweb.com**

Printed and Laser Engraved Wallplates

Kolbi Pipe Marker Company, a mechanical and electrical identification manufacturer based out of Arlington Heights, Illinois, now has a complete product line for printed and laser engraved wallplates. With more and more large projects, such as Hospitals, Universities, and Government jobs, specifying a permanent text to identify power supply and other critical information on wallplates, Kolbi is your best option for a wide variety of material, text options and quick turnaround times.

Here at Kolbi, we utilize the latest laser etching and digital printing technologies so that your wallplates meet your job's spec, get to you right away (most orders ship in 1-2 business days), and look great for years after installation.

Kolbi is one of the few manufacturers that offers digitally printed options. Unlike traditionally engraved wallplates. Digitally printed plates can be quickly manufactured at a cost that will not break your identification budget. Also, with the digitally printed option, you now can choose from a wide variety of text fonts, text sizes, line options, and colors.

**For more information, email
sales@kolbipipemarkers.com
Printedwallplates.com coming soon!**



Platinum Tools® Adds WarriorWrap® Professional Specialty Tape to Product Line

The WarriorWrap® Line Includes High Performance Tapes for Nearly Any Electrical Application

Platinum Tools®, the leader in solutions for the preparation, installation, hand termination, and testing of wire and cable, is proud to announce it has added NSI Industries complete WarriorWrap® line of electrical tape to its product offering.

"The WarriorWrap line is extensive," explained David Johny, Platinum Tools general manager. "To start, we will focus on the three grades of electrical tape that are the foundation of the program."

The Premium collection, which exceeds the current industry-leading product specifications for strength by 24 percent, elongation by 34 percent, and adhesion by up to 39 percent, is designed for applications where superior resistance to temperatures, UV, and flame are needed. The Select family is for primary insulation applications and cable bundling, and the General line is for temporary indoor environments and cable marking. All three performance grades of Premium, Select, and General vinyl electrical tape are available in black and 11 popular colors.

The WarriorWrap Specialty Tape line has been designed to outperform all other tapes in the market today and is one of the most comprehensive in the industry, satisfying every professional taping need for contractors and electricians. The line offers 36 tapes including high-voltage and rubber lined and linerless splicing tapes, mastic tapes, glass cloth tapes, corrosion protection tapes, and tapes for harness wrapping, shielding, electrical filling, friction, and fire-retardant arc proofing.

**For more information, visit
www.platinumtools.com**



Condux Tesmec Offers Uvderground Puller in Track Mounted Configuration

The PM1450 hydraulic puller from Condux Tesmec is ideal for a wide range of underground pulling applications including power transmission and distribution cable installation, telecom and fiber. The unit is now available in as a track mounted model. The integrated track mount provides operators the ability to maneuver the unit in tight working conditions and easily position the puller for optimum pulling performance. Further, the tracks create less ground disturbance and allow the unit to work in wet, sandy or muddy soils. The PM1450 comes standard in a DOT-certified trailer mount configuration.



With over 10 tons (100 kN) of pulling force, the PM1450 features a new digital interface with a 7-inch color display and integrated pull and speed recorder. A radio remote control provides total user machine control while integrating with the new digital HMI providing automatic power management and full safety controls. Bull-wheel grooves on the PM1450 are made from heat-treated steel.

The Condux Tesmec line of hydraulic pullers, tensioners, puller-tensioners and stringing blocks represents the safest and most reliable equipment in the power transmission and distribution industry.

**For more information, visit
www.conduxtesmec.com**

Unjacketed Flexible Stainless Steel Conduit - Type SSL

ELECTRI-FLEX COMPANY offers Type SSL, an unjacketed stainless steel, corrosion-resistant, flexible electrical conduit. This conduit type is extra flexible for tight bend applications, provides high mechanical strength, and is constructed of Type 304L stainless steel, making it an ideal solution for corrosive atmospheres.

The benefit of utilizing a stainless steel flexible conduit is it provides exceptional resistance to corrosive atmospheres, such as chemical processing, water treatment plants, and other specialty applications where standard plated steel may not be adequate. Other applications could include food processing, pharmaceutical, marine & coastal, petrochemical facilities, pulp & paper mills, telecommunications, instrumentation & security, medical instruments, sensors, thermal couplers, laser equipment cables, process & control instrumentation, measuring & controlling devices, analytical instruments, fiber optics, and more.



Electri-Flex Company provides five varieties of jacketed, stainless steel, flexible conduits, and one unjacketed conduit. These types provide a broad array of variations

including: Food Grade/NSF Certified, Industrial Grade, Halogen-Free, Low Fire Hazard, and Extreme High/Low Temperature varieties.

Electri-Flex Company, a leader in electrical conduit design and manufacture for 65 years, produces Liquatite®, the most diverse line of liquidtight flexible electrical conduit in the industry. The company offers custom design, cutting, engineering, quality assurance and testing capabilities.

**For more information, visit
www.electriflex.com**



Dialight Improves Upon Versatile LED Area Light Fixture with Most Installation Flexibility for the Heavy Industrial Market

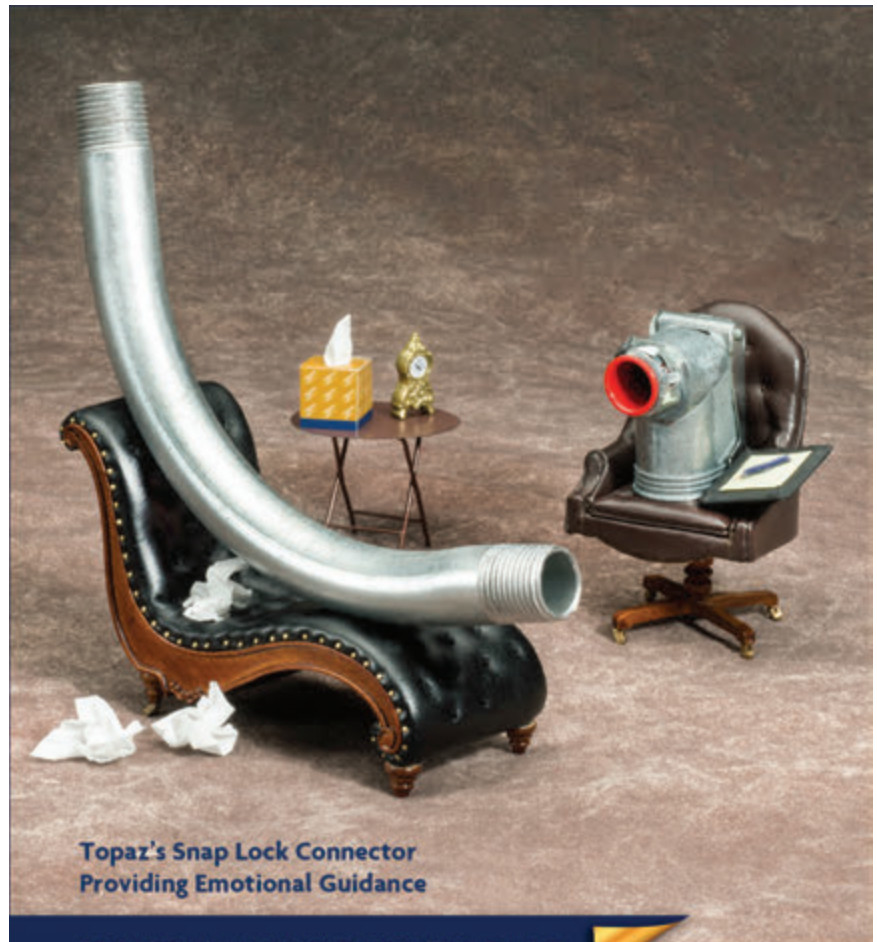
Dialight, the global leader in hazardous and industrial LED lighting innovation, today announced the availability of new upgrades to the Vigilant® and SafeSite® Area Light. The new Universal Mounting Adapter (UMA) sold as an accessory allows the greatest stock flexibility ever offered to distributors by Dialight for oil and gas, petrochemical, mining, manufacturing and heavy industrial applications..

Offering unparalleled ease of installation and significant time and cost savings, distributors and customers can now configure stock on-site using the UMA with the base Area Light model. Making an upgrade from virtually any existing system fast and simple, users can choose from one of 5 mounting brackets, including Wall mount, 45° wall mount, 45° stanchion mount, Conveyor mount (horizontal pole), and the newly released ceiling mount. Alternatively, choose one of Dialight's full suite of retrofit adapter kits for existing products including: Eaton's Crouse-Hinds –™Champ®; GE Lighting Solutions – Filtr-Gard; Holophane Petrolux® II, III; Thomas & Betts Hazlux®; Appleton® Mercmaster III; Appleton® Mercmaster II; and the Killark® Certilite® & Certilite®V.

The Vigilant and SafeSite Area Lights offer high efficiency, stainless steel hardware - including secondary retention tabs for added installation security - and up to 143 lumens per watt, with 3,000 up to 9,000 lumen models available. Each fixture includes a single, purpose built, in-house designed, driver and are fully potted and sealed for increased ingress protection and vibration resistance. The Area Lights are rated to IP66, 67, 69 and NEMA 4X ingress protection. The area light's light-weight design, small size, long-life performance, and convenient installation make it the ideal solution for virtually any indoor or outdoor industrial application.

Vigilant and SafeSite Area Lights carry Dialight's Industry-Leading 10 year warranty. DLC premium options are available.

**For more information, visit
www.dialight.com**



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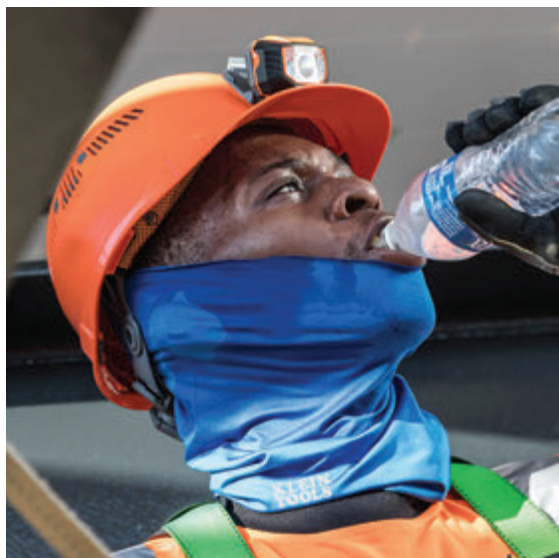
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Klein Tools® Adds Neck and Face Band to Line of Cooling Products

Klein Tools, for professionals since 1857, introduces a new addition to its line of cooling gear, the Neck and Face Cooling Band, to keep trade professionals cool and comfortable on the jobsite all summer.

- Neck and Face Cooling Band (Cat. No. 60439)
- Cooling Band is made with super evaporative cooling performance knit fabric
- Anti-odor treatment for long lasting freshness
- Seamless, moisture-wicking fabric can be worn wet or dry
- When wet, cooling is immediate and can last for hours
- UPF 50+ protection from harmful UV rays
- Can be worn by itself or under a hard hat
- One size fits most
- Reflective accents
- Machine washable
- 92% Polyester, 8% Spandex



“As we approach the summer months and hotter temperatures, many projects require working outside, with increased exposure to heat and sunlight,” says Craig Fransen, senior product manager at Klein Tools. “Klein Tools’ latest addition to our line of cooling products gives trade professionals the versatility that they need, offering cooling and UV face protection, as well as a multitude of ways to be worn depending on the needs of the user.”

For more information, visit
www.kleintools.com



Easily Manage Tool & Equipment Inventory with Milwaukee Tool's New One-Key™ Asset ID Tags

Milwaukee Tool continues to expand ONE-KEY™, the industry's largest and most robust asset management platform and tracking and security network, with the introduction of Asset ID Tags. ONE-KEY™ Asset ID Tags allow users to easily manage their tool and equipment inventories. Scanning these durable tags with any camera-equipped mobile device automatically records time and location information within the ONE-KEY™ app, providing users with instant documentation as assets are transferred between jobsites and users.



“Since first launched in 2016, ONE-KEY™ has grown to be the industry's largest tool and equipment tracking network. With more than 40 connected solutions and counting, we continue to pioneer the evolution of smart tools and equipment. However, many of our users want to be able to take advantage of the ONE-KEY™ inventory management platform even with tools and equipment that are not Bluetooth™ enabled. The TICK™ will remain the ideal Bluetooth™ tracker for larger equipment while these new Asset ID Tags will be a perfect fit for smaller equipment and tools, and for users who don't require the advanced capabilities of TICK™,” said Andrew Lambert, Group Product Manager for Milwaukee Tool.

The Asset ID Tags can be affixed to non-ONE-KEY™ compatible assets to better track movement and flow across jobsites and crews. Using any smart mobile device with an integrated camera and the ONE-KEY™ app installed, users can simply scan the Tags to record time and location data.

Available in both small (0.69" x 1") and large (1.5" x 2"), the Tags come in sets of up to 200 that are designed to adhere to either plastic or metal surfaces. The Tags made for plastic surfaces, such as power tools, are made with Velvet Lexan, while the Tags made for metal surfaces, such as hand tools, are made with anodized aluminum.

Fully embodying the Milwaukee promise of “Nothing but HEAVY DUTY,” each Tag is built to withstand the harshest jobsite conditions, with resistance to water and chemical exposure, fade-protection from UV light, scratch-resistance, and can maintain adhesion through significant fluctuations in temperature.

For more information, visit
<https://onekey.milwaukeeetool.com>

Rocket Rack releases Rocket Rod

NSF certified All thread rod with FDA-compliant encasement for clean, professional hygienic installations

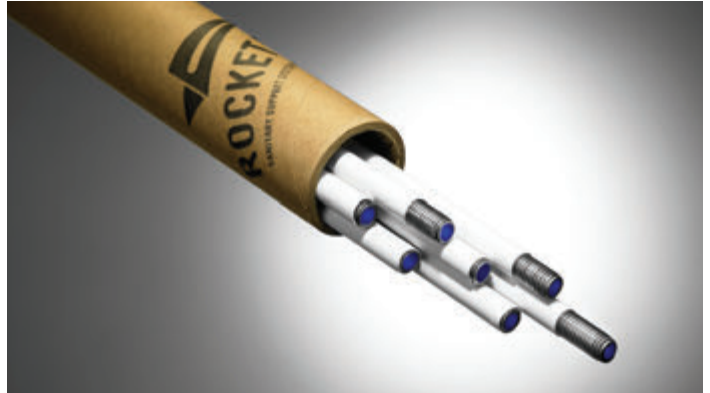
Rocket Rack, a unit of Robroy Industries and manufacturer of sanitary support system for electrical and mechanical installations, has released Rocket Rod all thread rod with FDA-compliant encasement for supporting or fastening in applications where hygienic installation is desired or required. NSF certified to NSF standard 14159-1 provides evidence of compliance to the rigors of the NSF standard, successful completion of product review and testing, and continuous compliance through periodic audits, providing installers and facility owners peace of mind.

Rocket Rod is available in 3/8", 1/2", 5/8" & 3/4" diameter rod in zinc-plated steel or 304 stainless materials and 6' and 12' lengths to meet the needs of a broad range of hygienic fastening or support applications.

Ideal for use in regulated facilities where hygiene and avoidance of exposed threads is desired. Typical applications include use in food & beverage facilities, pharmaceuticals, and process plants.

Installation is quick and easy. The installer simply cuts the Rocket Rod to length, if necessary. Then, using a utility knife, strips away the required amount of FDA-compliant encasement to reveal the precise amount of threads needed for installation.

No on-site threading of rod saves time and substantially reduces the danger of product contamination, while increasing on-the-job safety. Rocket Rod is available from factory stock.



**For more information, visit
www.rocket-rack.com**



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