

EAR TO THE GROUND

Manufacturers continue to compete to offer the best, safest, and most efficient grounding products to ensure end-users experience no injury or system downtime.

by Kara Bowlin

ROUNDING PRODUCTS ARE essential components of any electrical system, and manufacturers are working to innovate these products to help end-users improve safety and productivity.

Matt Flemming oversees a full range of grounding products as general manager and vice president, nVent ERICO and nVent ERIFLEX. His company supports telecom, utility, oil and gas, petrochemical, industrial, and commercial grounding solutions and must keep up with changing customer needs. "The technology of grounding products has not changed significantly in the past five to 10 years, but there have been

new and emerging markets such as 5G, small cells, renewable energy, and EV charging that require ensuring dependable products that will perform in these new and updated applications," he said. "Our team tracks these market needs to allow us to be a solution provider and partner with our end-users in these critical applications."

Dewayne Boyd, medium-voltage product brand manager for ABB Installation Products, agreed that even grounding products that have been pretty standard for the past

decade still have room for innovation.

"We rely on electricity in nearly every aspect of our lives to keep power safely flowing to homes, cities, and communications and transportation systems," said Boyd. "A top focus of the ABB team has always been to

> improve reliability and help mitigate risk for utility workers maintaining electrical equipment. While some types of grounding elbows have been used in the industry for three-plus decades, we're seeing products and performance evolve."

Boyd described one of ABB's newest products as an example of recent innovation. "We recently introduced a grounding aid device. Not

only is it able to handle higher fault currents than previous products, but also it enables verification that a system is de-energized before maintenance begins, advancing safety for electrical workers who are maintaining electrical equipment," he said.

Stan Szyszko, senior engineering manager of Cable Accessories at ABB Installation Products, agreed that there have been notable advancements in spiking and grounding aid devices, including ABB's grounding aid devices and Elastimold Veri-Spike grounding aid device. "[The device]

consists of a sacrificial cap and a connecting plug that can be installed in place of a basic insulation plug," explained Szyszko. "The sacrificial cap can be cut or spiked and replaced with a grounding ball to properly ground the system."

Szyszko added that ABB has a history of pioneering products such as extended, repair, and jacket seal elbows. "In the past decade, many energy providers have begun using a higher fault current rating on their systems," he said. "To support the increased current rating, spiking aides or sacrificial limbs are being installed to actually cut into a specific product instead of cutting into the cable. ABB created a grounding aid device designed for higher limbs on multiple products to accommodate common interfaces. These are engineered to support the higher fault current, maximize flexibility, and improve reliability and safety."

Responding to Customer Needs

The fact that grounding products are starting to evolve after being a constant for so long shows that manufacturers have been working closely with end-users to identify how and why products need to be improved.

"Our team is really focused on relationships and two-way communication," said Boyd. "We value feedback and encourage customers to proactively share their thoughts and input through various channels, including sales, our product managers, and ABB engineers. It's not uncommon for a partner to come to us looking for a possible solution. They may have a challenge they're experiencing, a rough sketch of an idea, or a followup to a conversation."

Boyd explained that his team regularly seeks input about a new concept or existing product.

"We'll proactively reach out to customers and sales contacts about features and benefits they would like or considerations to make a product



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more robust," he explained. "For instance, we worked with a number of partners on adjustments and testing of the Veri-Spike grounding aid to be sure we were capturing the most important benefits. The product came from hands-on collaboration with end-users and our focus on safety."

Dave Mueller, product manager, electrical and lighting—fittings, plugs, and receptacles, for Emerson Automation Solutions's Appleton Group, added that many end-users are looking for grounding capability to be built into existing products, such as a bushing or a hub.

Flemming noted that innovation for grounding products is driven by reliable product performance and ease of installation. "The increasing cost and value of copper has encouraged exploration of alternative materials and coatings," he said. "Innovation is also being driven by emerging markets or new applications like small cells, 5G, and EV charging."

"Catalysts for grounding and connectivity innovation include enhanced
safety, performance, and reliability,
along with efficiency and speed," said
Szyszko. "Saving time is critical in
resolving an outage when it occurs.
We're also seeing increased use of
underground distribution. Transferring overhead lines to install underground systems requires grounding
products and associated components
and accessories. Utilities are looking
for new connectivity and grounding
methods and materials that make it

faster, easier, and safer to restore power, upgrade their systems, and perform maintenance."

Mueller explained that product developers are always looking for end-user interactions to identify user needs that can't be vocalized in a meeting room setting. "Sometimes the best insights come from observations in the field," he noted. "By asking, 'Why did you do it that way?' or 'Why did you avoid that step due to a space or physical limitation?' developers might be able to provide features that speed up installations or get around physical limitations."

Bowlin is a St. Louis-based freelance writer and publicist. She can be reached at karabowlin@gmail.com.