



Trends in personal protective equipment

PPE MANUFACTURERS DISCUSS NEW TECHNOLOGY, CUSTOMER CONCERNS AND WHAT'S ON THE HORIZON IN THEIR FIELD

By Tracy Haas Depa

Properly working and fitting personal protective equipment is critically important for workers, even if it's meant to be used as the last line of defense. *Safety+Health*, with help from the International Safety Equipment Association, recently asked PPE manufacturers three questions: What PPE trends are happening now, what challenges are your customers reaching out to you with, and what technological innovations are here or on the horizon?

Here are their responses:

1 WHAT RECENT PPE TRENDS HAVE YOU OBSERVED?



Keane

“The most important factor is still choosing the right PPE for the job. An ongoing problem across all industries is that too many injury victims were not wearing the PPE supplied by their employer. The vast majority of reasons why people don't wear PPE can, however, be easily addressed through good product design, the right materials, matching PPE to technical job specifications and informed purchasing decisions. Those designing, producing and purchasing PPE need to understand employees' needs in terms of comfort and well-being, but also the demands of the job and the degree and nature of the hazards faced. One size does not fit all, and worker engagement and involvement during product development is critical.”

– Norman Keane, glove program manager, D3O, Croydon, UK



Franklin Smith

“As manufacturers attempt to help reduce accidents between pedestrians and powered industrial trucks, I have seen a trend of increased use of high-visibility clothing inside the factory. While a safety vest is often the first garment considered,

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safety professionals may also consider garments that integrate high-visibility materials into work uniforms, such as high-visibility T-shirts and rental laundry work shirts. These garments can help reduce entanglement issues sometimes experienced with vests. While an ANSI/ISEA 107 Type R, Class 2 is the most commonly observed, safety professionals may also consider garments meeting the new ANSI/ISEA 107-2015, Type O for off-road use.”

– Shari Franklin Smith, senior technical service specialist – safety and health for food, beverage, agriculture and petrochemicals, 3M Personal Safety Division, 3M, St. Paul, MN



Genzer

“Regulation changes can be especially choppy waters for safety managers to navigate, as new industry standards often can be both complex and indefinite. For example, gloves usually fall under the umbrella of general PPE, and the associated regulations are less stringent and sometimes voluntary – meaning some manufacturers may choose to abide by the new guidelines and some may not. Customers are looking more and more to manufacturers to be proactive in abiding with changing industry standards and provide guidance in selecting products that adhere to regulations while still providing performance and protection.”

– Steve Genzer, president and general manager, Ansell Industrial Solutions Global Business Unit, Ansell, Iselin, NJ



Simmons

“Understanding the needs of the workforce by listening to end users is how manufacturers are developing innovative and technologically advanced products for head and face protection. Listening to what end users are saying and designing products that meet their needs is the No. 1 priority for manufacturers.”

– Stacey Simmons, product manager for industrial head and face protection, Bullard, Cynthia, KY



Taylor

“We continue to receive questions about the appropriate test methods and performance standards for specific end-use applications. This particularly is true for both hand impact and anti-vibration applications in the industrial safety market. The lack of a standards infrastructure in North America for hand impact and anti-vibration applications continues to pose challenges for safety and health professionals with the responsibility for selecting [PPE].”

– Rodney Taylor, sales and marketing manager for industrial PPE, D3O, Croydon, UK

“Many PPE manufacturers’ practices include copying the designs of safety products already on the market and then waging a battle purely on price. However, end users are ‘wising up’ to these practices – knowing oftentimes that ‘you get

what you pay for’ in regard to product quality. The common practices of knocking off an existing product and simply giving it a new name are no longer working.”

– Katie Mielcarek, marketing manager, Gateway Safety Inc., Cleveland

2 WHAT PPE CHALLENGES ARE CUSTOMERS REACHING OUT TO YOU ABOUT?



Janssen

“Companies trying to simplify PPE purchasing often try to find one cut-resistant glove that meets the greatest cut hazard faced in their manufacturing operation. The thought process is that if a glove is designed to prevent cuts with the most significant hazard, it also will protect from the less significant hazards. However, this can lead to noncompliance and injuries that easily could be prevented. An example is using a glove rated to the ANSI A5 cut standard for employees that handle small metal parts or serve in packaging/shipping operations. Such a glove does not offer the necessary dexterity, and often will not be worn when handling tasks that require more ‘feel.’ In these cases, relatively minor cut hazards can become frequent injuries.”

– Nico Janssen, regional business manager, Americas, high protective textiles, DSM Dyneema, Stanley, NC



Bradley

“We are seeing more requests for education and clarification regarding PPE for high-visibility disposable garments. Our global customer base is facing an ‘alphabet soup’ of national and international standards, as well as end-user requirements. As the ANSI/ISEA107 standard was recently updated, our customers are looking to understand if it is relevant to limited-use (disposable) garments. Third-party industries such as insurance companies are establishing new performance criteria and classifications based on the hazard assessment. Additionally, end users continue to modify their specifications. These changes may provide the driving force to develop a new standard for high-visibility disposable garments or modify the current standard during the next revision cycle. Ultimately, this will improve the industry by providing manufacturers with product innovation opportunities while allowing customers a broader selection of the most appropriate PPE to get the job done safely.”

– Alexander Z. Bradley, principal investigator, DuPont Protection Solutions, Richmond, VA



Allen

“As an independent test lab, we have recently started seeing a significant amount of requests for testing of self-retracting lanyards with leading-edge capability to the requirement of ANSI Z359.14.”

– Jason Allen, technical advisor, Intertek, Cortland, NY



Branson

“The uptick in custom-made PPE demand is becoming more and more the norm and, truthfully, it makes a lot of sense. If every application that required PPE could have PPE custom-built specifically for that application, you would have the best protection money could buy. The battle becomes how do you support every product development project your customer brings? Product developers are specialists, and specialists are hard to come by. Even if your resources are not pushed to their limits, you still have the whole ‘supply vs. demand’ thing. Will the market be willing to pay what you will need to support low-volume specialized customer production runs? Finding the balance and managing your customer needs requires an experienced team all working together to advance previous industry boundaries; a trade secret that will be unique to each PPE manufacturer.”

– Dan Branson, product development, Mechanix Wear, Valencia, CA



Rivkin

“Customers continue to face new challenges as the NFPA 70E standard increases in awareness across all industries. One such challenge is recognizing when to purchase new PPE versus having it tested for repeated use. We are regularly asked about testing rubber insulating gloves, how to simplify the process, as well as the financial advantage. Historically, a lot of PPE could be used until it was ‘worn through’ and then disposed. However, standards dictate that for most industries, voltage-rated gloves (used for electrical protection as a component of an arc flash safety kit) cannot be used for more than six months. After that, the option is to either test/recertify or dispose/replace. Knowing when, how and where to test the gloves is not just critical for compliance – it can mean the difference between life and death. Moreover, it can provide considerable cost savings without sacrificing worker safety.”

– Loren Rivkin, executive vice president, Saf-T-Gard International Inc., Northbrook, IL

3 WHAT INNOVATIONS AND TECHNOLOGIES ARE HERE OR ON THE HORIZON?

“Ergonomically designed gloves intended to enhance worker comfort is a current hand protection trend we expect to expand to a growing number of PPE products. Muscle injuries caused by repetitive daily tasks are a leading cause of lost workday injury and illness. Ergonomically designed gloves provide added elements of comfort and flexibility – maximizing worker productivity by minimizing hand fatigue and discomfort.”

– Steve Genzer, president and general manager, Ansell Industrial Solutions Global Business Unit, Ansell, Iselin, NJ

“Innovation is continuing with synthetic fibers that enable development of work gloves, protective sleeves and garments that offer maximum cut protection in thinner, more comfortable and more durable styles. We also are seeing

much greater demand for garments that offer coolness, enhanced comfort, greater durability and more protection for more area of the body.”

– Nico Janssen, regional business manager, Americas, high protective textiles, DSM Dyneema, Stanley, NC



Bozzuto

“In-helmet monitoring and communication devices and modular platforms are going to be the next wave of PPE. The monitoring and communication devices are already here, but are raw in their current state – meaning that they are either bulky, limited in their compatibility and operation, or generally not as reliable as a customer would like.”

– Nick Bozzuto, product manager for respiratory protection, blast and coatings, Bullard, Cynthia, KY



Hoagland

“We are seeing more innovation in arc flash gloves with the ASTM Protector Glove Performance standard for cut-resistant, arc-flash gloves nearing completion. Leather protector gloves haven’t changed much since the 1800s, and they are now poised to make the change that common work gloves have made in the past 25 years with flame-resistant TPRs, cut resistance, puncture resistance, chemical resistance and arc flash ratings.”

– Hugh Hoagland, senior consultant, ArcWear, Louisville, KY

“Full-scale systems testing seems to be the next trend within fall protection as manufacturers respond to end-users who continue to desire systems-based solutions that integrate connecting devices, lanyards, energy absorbers, harnesses, lifelines and anchors. This continued movement in the industry has pushed us to develop a more modular fall protection lab that is capable of doing testing on varying degrees of systems/assemblies.”

– Jason Allen, technical advisor, Intertek, Cortland, NY

“What we are seeing now are nanotechnologies blended into the fibers of the yarns themselves that provide the same levels of protection without the need of blending multiple yarns together. These nanotechnologies can perform just as well as wrapped or twisted engineered yarn, yet are half the weight and last twice as long and are generally more efficient in production.”

– Dan Branson, product development, Mechanix Wear, Valencia, CA

“Technology continues to advance in the form of unique comfort features and improved styles. Safety glasses, for instance, have already evolved from designs that were popular just a few years ago. Manufacturers at the forefront of innovation continue today to work to engineer products that are better than current offerings and more appealing in style – while still safe – for workers.”

– Katie Mielcarek, marketing manager, Gateway Safety Inc., Cleveland