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CONTENTS

- 3** The Evolution of Head Protection: From Hard Hats to Safety Helmets
- 7** Going Digital: The Future of Workplace Safety
- 10** Keeping you safe, seen, and comfortable on the job
- 13** 3 Ways to Reduce Construction Risk through Culture Change
- 16** Understanding the New ANSI Standard for Self-Retracting Lifelines
- 19** Increasing Safety on the Jobsite with the MX FUEL™ Equipment System
- 22** 3 Steps for Controlling Hazardous Energy in Construction and Demolition
- 24** The Right Footwear is One of the Best Investments You Can Make

The Evolution of Head Protection: From Hard Hats to Safety Helmets

BY RYAN BARNES, CONTRIBUTOR

Hard hats have been the safety norm for more than 100 years. Invented by Edward W. Bullard in 1919, they were intended primarily to protect workers from falling objects. Although the hard hat served its purpose, it's become antiquated as we now transition to a high-tech safety helmet.

After all, construction sites come with a long list of potential hazards. Whether dropped objects, falls, or material and chemical hazards, there's a potential risk around every corner. The risk and injury most industrial tradespeople face today require protection from more than just a falling object, which is where a hard hat meets its limit.

Today, one of the leading causes of injury and even death on the construction site is from falling, not falling objects. According to OSHA, in 2020 there were 1,008 documented fatal falls in the construction industry, making up 35% of all construction accidents. With more than half of the construction industry working on



After over 100 years, the antiquated hard hat is being replaced with a safer, high-tech solution.

scaffolds, there is a large risk for fall accidents and corresponding traumatic brain injuries (TBIs). These injuries or deaths are preventable, and OSHA even has a “Fall Protection Campaign” to educate the industry of this danger. Now, thanks to new, innovative technologies, workers can be better protected from potentially hazardous encounters on the job site.

More specifically, new types of safety helmets can protect against side-impact head injuries, whereas traditional hard hats do not offer such protection. The side-impact head injuries relating to falls, slips, and trips are among the leading causes of non-illness-related workplace death across all industries, according to the Bureau of Labor Statistics. Most of these slip-, trip-, and fall-related head injuries happen from only six feet or less and represent one of the main reasons that many commercial general contractors are starting to mandate chin straps, along with other certifications and requirements, to ensure compliance with many high-profile job sites. When the helmet is missing a chin strap, like most general hard hats, it’s unlikely the helmet will stay on during a fall, let alone the fact that such helmets don’t have effective side-impact protection.

The Type II Safety Difference

In place of the traditional hard hat, leaders ranging from plant to construction safety officers are considering a new type of head protection – the American

The improved technologies of the Type II safety helmet were born from action sport PPE.



National Standard for Industrial Head Protection (ANSI) Type II safety helmet – with improved technologies born from action sport PPE. The helmets are often referred to as “climbing style” because they’re proven to improve the safety of construction workers and extreme sports enthusiasts alike.

While a Type II safety helmet requires a larger up-front investment compared to traditional hard hats, many organizations are making the switch because they are significantly more effective at protecting the workforce from serious injury or even death – a benefit that certainly

outweighs the increased PPE cost. Other benefits of adopting Type II safety helmets include:

- Less PPE turnover as safety-helmet lifetimes typically outlast that of hard hats thanks to more thoughtful, ruggedized designs
- Overall lower risk of workplace injury due to side-impact safety and chin straps
- Fewer injuries and thus fewer workers' compensation claims
- Reduced liability insurance costs tied to reduced injury risk
- Overall risk reduction for the workplace while helping to promote a culture of safety on the job site
- Fewer injuries resulting in greater worker productivity

Available Safety Features

Type II helmets provide protection from the front, side, and rear, providing 360-degree head protection whether working from heights with all the required fall protection, or primarily on the ground with ladders, lifts, or scaffolding. Also, Type II helmets go beyond the single ring found in hardhats, and often feature advanced technology only found in extreme sports gear. For example, common Type II safety helmet features that make them the ideal head protection tool include:

- **Impact Protection** — Type II helmets include technologies that crumple instantly on impact to absorb maximum force, which protects the skull and brain from direct and angled impacts. This may reduce the risk of suffering a life-changing or life-threatening injury.
- **Helmet Padding** — A replaceable helmet pad system significantly reduces the sharp twisting and compression of the brain during

angled or oblique impacts – the primary cause of concussions. Plus, they are usually more comfortable to wear for long periods of time.

- **Identification Technology** — Should an accident occur, some helmets include an integrated chip based on near-field communication (NFC) technology that stores emergency contacts and critical medical information for first responders to access. This is vital data when seconds matter and for when the helmet can't safely be removed.
- **Modular Rear Brims** — Helmets may come with a slight rear brim designed for rain deflection, or the traditional brim form factor to help protect against outdoor conditions.
- **Four-Point Chin Strap Systems** — Buckle enclosures with an adjustable nylon 4-point strap, commonly found in action sports helmets, allow for maximum adjustability and easy one-handed use with gloves.

The New Standard

The largest commercial general contractors in the U.S. are making strides in adopting these Type II industrial safety helmets. As Type II helmets become the new standard, organizations have a new PPE tool to realize the ultimate goal of safety – to save lives and protect against serious injury within industrial trades.

At the end of the day, our heads and brains are the most important tools on the job site. Thus, we need to make the effort to protect our most precious asset, to make sure we can show up healthy and safe for the sake of the job and, more importantly, the workers' livelihoods. ■

Ryan Barnes is the Founder and CEO, STUDSON, Inc. (studson.com).



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Going Digital: The Future of Workplace Safety

BY TITO WARREN, CONTRIBUTOR

As employee safety and well-being continue to grow as a focus for companies around the world, having a high-quality safety program is no longer an option – it's a must-have. With a job that is so integral to the success of the organization, safety professionals carry a lot of responsibility. Eliminating inefficient, time-consuming, and costly processes with new digital tools is one avenue of empowering construction safety professionals to strengthen their company's safety culture.

In this article, we'll explore ways to enhance safety programs with digital tools on both the administrative and jobsite sides of the enterprise.

Modernize Your Safety Program

A successful workplace safety program is based on many factors, including employee compliance, risk assessment, and mitigation. However, the administrative tasks related to them have historically been manual, te-

dious, error-prone processes that aren't practical in today's digital world and are less effective when it comes to making informed, real-time decisions that ensure employee safety.

Replacing these tasks with a digital record that provides accurate, real-time data can give safety professionals the information their company needs to better prevent safety incidents. For example, today there are digital program management solutions for employee PPE programs designed to help you maximize employee safety while streamlining administrative responsibilities.

Look for a PPE partner that will be a guide through the outfitting process, working with you to determine your company's needs and help build customized programs to provide PPE that is purpose-built for the environments your workers face.

When looking for an omnichannel partner with strong digital capabilities, consider these factors as must-haves for the enterprise's digital transformation:

Customization: This feature allows for further flexibility for your company and also facilitates the product selection process to ensure compliant products are used. Online solutions for managing, selecting, and customizing safety gear help improve safety outcomes.

Efficiency: Regardless of the products offered, an efficient program should save time for administrators without overcomplicating the process. For instance, if professionals can streamline the process of outfitting employees through an online portal, this can eliminate manual verification and minimize inventory carrying costs.

Accessibility: Your provider should be able to fulfill orders for all your employees regardless of their location. Some companies are implementing best-in-class digital vouchers that enable employees to conve-

Replacing these tasks with a digital record that provides accurate, real-time data can give safety professionals the information their company needs to better prevent safety incidents.

niently redeem PPE as they would like. It's also important to select a partner with strategically located stores, mobile stores, and online ordering, ensuring that PPE solutions and services are available whenever and wherever needed.

Real-Time Data: As safety professionals look to save time and manage efficiencies, the right PPE provider should guarantee they are able to access real-time visibility and control over employee eligibility and safety compliance, including online tracking of employee purchases.

Increase Safety with Wearable Technology

Wearable technologies are on the rise in a wide range of industries, each of which has a variety of safety needs. Whether 5G-connected hardhats, glasses with heads-up displays, sensors embedded in PPE that record personal information like fatigue and heart rate, or jobsite data such as body position and environmental hazards, we've witnessed the innovative ways that PPE can work harder for your employees thanks to digitization.

Early adopters in workplace safety are using AR to overlay digital content onto real-world camera views of physical environments on a jobsite.

These devices provide safety professionals and employees a more comprehensive picture of potentially serious injury and fatality events on a worksite. Wearable technologies can streamline on-site monitoring, enable proactive risk management, and ultimately increase productivity for both safety professionals and their company's employees. The data they provide can be stored and analyzed to support improvement efforts across safety protocols, and alert professionals to issues that may otherwise be difficult to uncover.

Optimize Training with Augmented Reality

Augmented reality (AR) is another digital tool that is becoming increasingly popular for jobsite training in multiple applications. Because of the way it combines a virtual environment with real-world visuals, AR can easily simulate processes used in training with lower time commitment and overhead costs than traditional methods.

Early adopters in workplace safety are using AR to overlay digital content onto real-world camera views of physical environments on a jobsite. This allows employees to interact with spaces and contextual

information about their workspace via smartphones or AR headsets, creating an interactive experience and enabling users to learn safety procedures in real-life situations with far less danger than on-the-job learning. It also allows employees to get comfortable by experiencing the processes rather than merely reading about them in job manuals.

Find Your Digital Safety Partners

Employee safety is the top priority to safety professionals. An efficient and effective workplace safety program is the best way to ensure their well-being, and digital solutions are increasingly integral to program success. Ensure that your company is capitalizing on the latest technological advancements in the safety industry by choosing partners that can provide you with these tools. ■

Tito Warren is the Vice President of Global Sales and Distribution, Red Wing Shoes (redwingshoes.com).

Keeping you safe, seen, and comfortable on the job

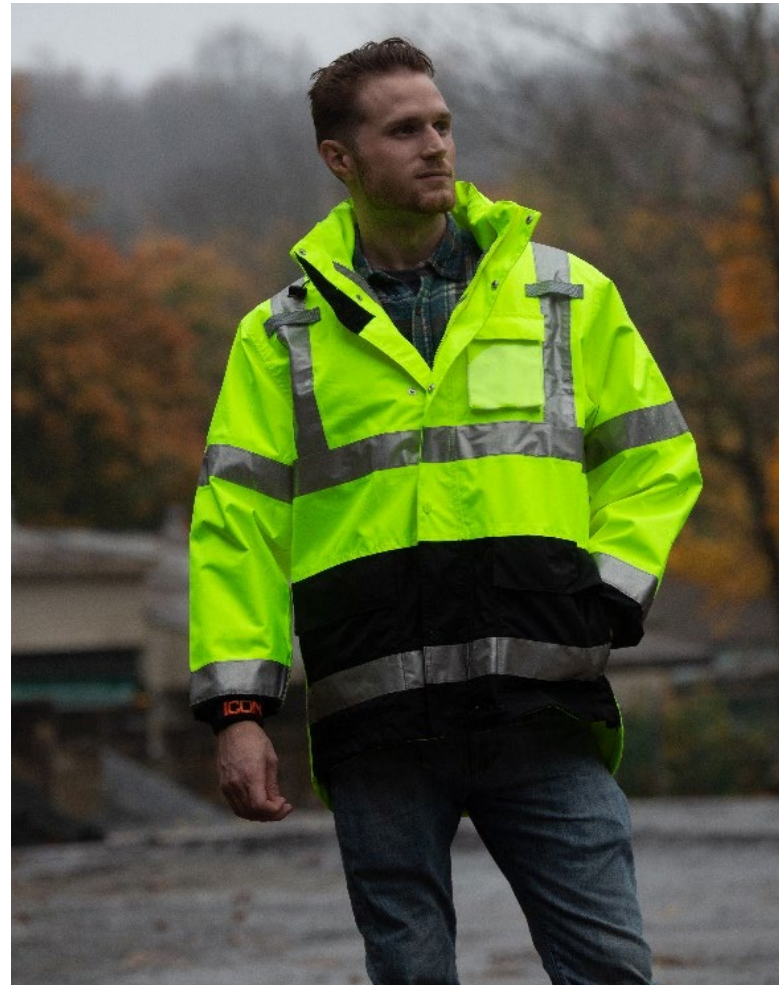
Safety, quality, & comfort

The 3 main approaches in all Tingley gear and our construction picks are no different. We keep people safe so that they can go home at the end of the day (or night, depending on the job). Our quality products are long lasting, so you don't have to worry about them falling apart on you before the end of their lifespan, and anyone who has been on their feet in a grueling 8-12 hour shift knows the importance of comfort in the products they wear.

Construction solutions from Tingley include durable apparel, outerwear, and footwear.

High visibility Class 2 and 3 compliant clothing options are Type R (for on roadway use) and provide fluorescent background material for excellent daytime visibility with 2-inch silver reflective tape that reflects light for 360° nighttime conspicuity.

The Icon jacket is a premium, ANSI 107 compliant jacket that is waterproof, breathable, and comfortable. Made from Polyurethane on 300 denier polyester, it's engineered to provide superior comfort and safety in the toughest work envi-





ronments. The Icon jacket is available in a range of styles and is the star of the versatile SYNC System jacket configuration. Connect any SYNC System liner with the Icon jacket for the ultimate weather, work and play versatility. “Rather than the classic approach to a 3-in-1 style, our SYNC System allows the wearer to select the liner option that best fits their application, creating their own custom insulated jacket,” says Meg Bowser, Tingley’s Product Manager.

Safety toe boots and durable Tingley overshoes are tough enough to endure the elements the construction industry throws. From full features like safety toe (ASTM F2413-18 M/I/C compliant), to functional overshoes that allow the

wearer to use any of their favorite safety footwear.

A full safety boot with several unique features... Tingley’s Calf Relief Expansion (CRE)[™], a steel toe that meets ASTM F2413-18 M/I/C for toe impact and compression (and the boot is electric hazard (EH) rated), 100% waterproof, cleated outsole for good traction, but most importantly, this boot contains a flexible, steel puncture resistant midsole that spans the entire footbed and meets ASTM F2413-18 PR requirements to reduce risks from sharp objects under foot. All puncture injuries are extremely dangerous and cause inherently dirty wounds that can lead to infection or tetanus.

An upgrade to the original Workbrutes PVC overshoe line; improvements were made to the fit, functionality, and styling. “Our customers let us know that our original Workbrutes® needed improvements,” said Robert N. Petersen, Product Director for Tingley, “the Workbrutes G2 fit much better and are incredibly easy to put on.” Workbrutes G2 have wider ball widths, higher toe boxes, and overall larger proportions to better fit the larger types of footwear that are worn by construction workers. Additional improvements include refinements in styling, innovative expansion pleats and unique grips to help making donning easier. ■



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Reduce incidents and increase safety by building a culture of clear, open communication.



3 Ways to Reduce Construction Risk through Culture Change

BY JIM JANQUART, CONTRIBUTOR

It's no surprise that safety continues to be a top priority in the construction industry, with over 200,000 injuries occurring annually. As companies evaluate their safety protocols and training processes, it is equally important they work closely with each stakeholder to build a culture of openness and clear communication that encourages honest evaluation

and accountability regarding the company's safety policies.

Safety protocols can provide team members with a sense of duty. When accidents are reported to the appropriate parties in a forthright and timely manner, there is a greater chance for future incidents to be mitigated or prevented.

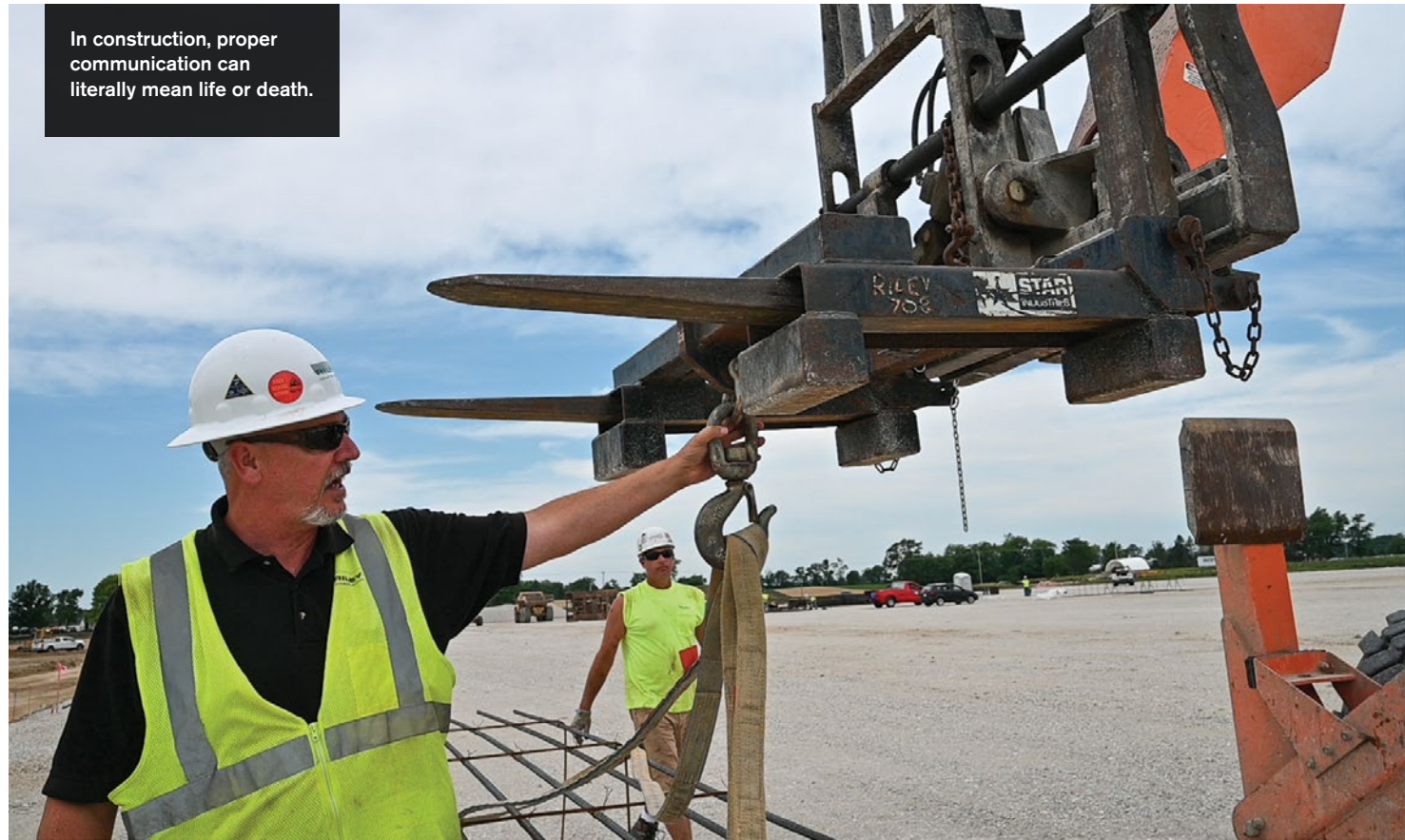
A commitment to safety in construction is crucial. Here are a few ways to revamp your construction company's culture to ensure teamwide engagement when it comes to safety.

1. Predict Safety Issues Before They Arise

According to the U.S. Bureau of Labor Statistics, the construction industry accounted for 46% (over 1,000 workers) of fatal falls, slips, and trips in 2020 — the third highest fatality rate of any industry. This high rate is often attributed to unsafe conditions on the jobsite such as unprotected edges, uneven surfaces, loose materials, or holes in the ground. A productive way to address and lower this incident rate is to build a stronger culture of workplace safety.

A safety-focused culture should include a system of reporting not only accidents and injuries, but also any near misses that occur. Research shows that for every 300 near misses — incidents that do not result in injury or property damage — there is one severe injury. To effectively reduce these numbers, teams must pay closer attention to near miss data that can be used to identify potential hazards. The data can also be used to determine corrective actions such as types of equipment, PPE, and any other specific training needed.

In construction, proper communication can literally mean life or death.



When a dependable reporting strategy — one that is grounded in trust and transparency — is developed, construction workers will feel more secure in sharing close calls or mishaps that occur rather than feeling vulnerable or delinquent. And when accidents are brought to light and evaluated, there are more opportunities to curb them in the future.

2. Emphasize Everyone's Role in a Culture of Safety

Former astronaut and retired U.S. Navy Captain Scott Kelly once said,

“Safety has to be everyone’s responsibility. Everyone needs to know that they are empowered to speak up if there’s an issue.” All construction team members play a significant role in maintaining a safe environment. One way to ensure this happens and keep everyone on the same page is to regularly conduct safety talks. These are informal discussions set up to educate workers and promote awareness of the many risks they face on the job.

Safety talks — commonly known as toolbox talks — are not limited to field crews. Office staff, including the estimating department and project managers, should also be involved in weekly talks to learn of any potential safety concerns on the jobsites. These hazards include the OSHA “Focus Four” — fall protection, electrical, struck-by, or caught-in/between — and other potential issues.

Here are a few of the many benefits that result from regular safety talks:

- Estimators can add time or equipment into the bid to promote safety in the construction stage.
- Project managers can partner with field leaders to ensure safety is planned into each activity.
- Field leaders can meet with on-site construction crews weekly to review the safety trends and topics, help identify possible jobsite hazards, and plan upcoming construction activities so they are completed safely, on time, and within budget.

A well-rounded safety culture not only improves internal morale, but also helps boost a construction company’s overall reputation and lower insurance rates. One key metric in this area is a construction company’s experience modification rating (EMR), a number that determines the

likelihood of workers’ compensation claims based on its safety records. The lower the EMR, the lower the company’s insurance premiums. The national average EMR is 1.0; anything less is an indication that the company poses a lower safety risk.

3. Encourage Open Communication Across Construction Teams

In every industry, communication is key. In construction, proper communication can literally mean life or death. Meetings — whether virtual or in-person — should be held on a monthly basis with project managers and field leaders to review any previous safety incidents to help identify hazards and plan for safety and quality concerns.

Encouraged employees offer feedback openly. This feedback truly makes safety an integral part of the company culture, especially when employees see it resulting in changes, both small- and large-scale. Quarterly bulletins and safety alerts should also be created to share information with the greater team to help reduce the risk of hazards on the jobsites. When open communication becomes an accepted norm, safety risks are likely to decline.

A culture embedded in safety is key to reducing risks in the construction industry. Organizations can develop their safety culture through comprehensive safety education and trend analysis, a company-wide sense of empowerment to make changes, as well as advocacy of open communication. When every construction worker makes it home safely each night, the mission has been accomplished. ■

Jim Janquart is a Senior Field Safety Specialist, Riley Construction (riley-con.com).

Understanding the New ANSI Standard for Self-Retracting Lifelines

What's Improved & How to Increase Safety in Your Workplace

BY MICHAEL CAMERON, CONTRIBUTOR

With fall protection being the #1 OSHA violation for more than a decade, it's no surprise that companies continue to invest in equipment and training to keep workers informed on the latest standards and equipped with current products. Falls are the leading cause of death in construction, with OSHA's latest statistics reflecting 351 fatal falls to a lower level out of 1,008 construction fatalities in 2020.

The frequency of fall-related injuries can often be tied to training or adherence to safety-related practices. Safety initiatives and training programs are vital to keeping workers informed, safe on-site, and up-to-date on American National Standards Institute (ANSI) standards – and equipment plays a key part.

Fall protection is required at elevations of six feet or more in the

majority of fall hazards encountered in the construction industry. Safety directors and general contractors rely on industry associations as well as manufacturers to inform them on standard changes and the impact these revisions have on ladders and fall protection equipment.

In June 2021, the ANSI approved Z359.14 for self-retracting lifelines (SRLs), which are used in fall arrest and rescue systems. SRLs are used in several industries across multiple sectors, and these changes will encourage safety directors to update their safety equipment accordingly.

The newly published ANSI standard includes new classifications, increased test weights, performance requirements, and updated labeling requirements to provide users with clear information.

PREVIOUS SPECIFICATIONS (2014)	CURRENT SPECIFICATIONS (2021)
Class A	Class 1
Tested overhead with 282 lb. weight	Tested overhead with 310 lb. weight
Must arrest fall within 24 in.	Must arrest fall within 42 in.
Average force <1,350 lbs.	Average force <1,350 lbs.
Static test weight of 3,000 lbs.	Static test weight of 3,600 lbs.
Class B	Class 2
Tested overhead with 282 lb. weight	Tested overhead with 310 lb. weight
Must arrest fall within 54 in.	Tested foot level with 310 lb. weight
Average force <900 lbs.	Average force <1,350 lbs.
Static test weight of 3,000 lbs.	Static test weight of 3,600 lbs.

Specific Changes to ANSI Code Z359.14

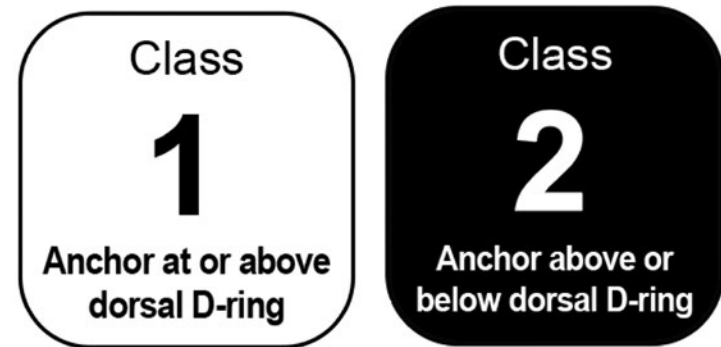
The code changes can be grouped into three main modifications:

1. Class Testing: Class A and Class B have changed to Class 1 and Class 2. Class 1 SRLs are to be anchored at or above the user's dorsal D-Ring. Class 2 SRLs can be anchored above or below the user's dorsal D-Ring down to foot level. The test weight has in-

creased from 282 lbs. to 310 lbs. for both Classes, and the static test load has also increased from 3,000 lbs. to 3,600 lbs. The chart below highlights how the data has changed for the new codes.

2. Specific Tests for Personal SRLs (SRL-Ps): SRL-Ps now have specific testing requirements. SRL-Ps are statically tested pulling a load of 3,600 lbs. between the two legs. Additionally, the twin leg connector of an SRL-P must withstand a 3,600 lbs. static test. A dynamic test with both legs of the SRL-P connected to the test weight must have a maximum arrest force less than 1,800 lbs. force. Finally, tie-back SRL-P models must withstand a 3,600 lbs. static test after 2,500 cycles of abrasion conditioning.

3. Product Labels and Packaging: Several changes to product labels and packaging will go into effect.



A. Visible "Class" icons must be provided on the SRL label to clearly identify the SRL Class.

WARNING: This Class 2 self-retracting device, when attached to a foot-level anchorage, poses significant risk of injury. The user, the competent person and/or qualified person should all acknowledge that normal use of this device **MAY NOT PREVENT A SERIOUS INJURY.**

Failure to follow all manufacturer's instructions and warnings may result in serious injury or death.

B. Printed warning cards must be included within the product package for all Class 2 SRLs.

ANSI Requirements: Mandates and Implementation Dates

The revised ANSI standard was published and released for use in June of 2021. Like other ANSI Z359 standards, there is a period of time for equipment manufacturers to make changes to products, manuals, and labels according to the new standard. The “effective date” for the new standard was originally established for August 2022, but has changed to February 2023 to allow manufacturers time to make new product modifications as well as enable companies, employers, distributors, and suppliers to roll through their equipment inventory, update training, and make other modifications as needed. With today’s global supply shortages, it’s recommended that companies assess their programs as soon as possible to allow enough time to order and replace equipment as desired.

While this is a newly published standard, it’s important to under-

stand that these standards remain voluntary. ANSI does not require that equipment meeting previous standards be removed from service when a revised or reaffirmed standard is put in place. Revised standards may have new requirements designed to address risk factors and failure mechanisms, but existing equipment can still be used as new models are rolled out.

New and updated standards usually address issues that were not known during previous standard editions and often include products or practices that are already widely accepted. Familiarity with updated standards is encouraged for equipment and practices to remain current within a fall protection program. With this new standard being released, it is an organization’s decision whether to keep existing product in use or remove the products from service. ■

Michael Cameron is a nine-year member of the ANSI Z359 Fall Protection Committee and representative of WernerCo.’s Fall Protection Technical Service team ([wernerco.com](https://www.wernerco.com)).

Increasing Safety on the Jobsite with the MX FUEL™ Equipment System

Milwaukee Tool continues to disrupt the light equipment space with their battery-powered MX FUEL™ Equipment System. The MX FUEL™ Equipment System is compatible with all MX FUEL™ REDLITHIUM™ battery packs, which provide instant power with no gas headaches and requires no regular maintenance, produce less noise, and zero emissions for a safer workspace, indoors or outdoors. Safer and more productive than gas or corded equipment, this innovative system decreases safety concerns from the exposure to emissions and tripping hazards, without sacrificing the performance needed from equipment operators to get the job done.

No Gas Headaches

The MX FUEL™ Equipment System addresses the common hazards and frustrations experienced by operators daily on the jobsite. Enclosed work areas or confined spaces such as tunnels, basements, or areas shelled off with plastic sheeting become hazardous when operating gas-powered equipment. Milwaukee's MX FUEL™ Backpack Concrete Vibrator and MX FUEL™ Vibratory Screed provide no gas headaches by removing gas from the equation, eliminating gas emissions that can be inhaled by the operator or nearby workers.

Battery-powered light equipment eliminates the need to haul gas





cans and maintain gas engines. Priming, choking, and pulling the engine to start is a lengthy and strenuous process, and workers run the risk of flooding the engine and forcing them to restart the process. The Backpack Concrete Vibrator and Vibratory Screed both feature a push-button start, removing the repetitive motions of a pull start and reducing downtime, allowing operators to work more efficiently. Gas-powered equipment is at constant risk of engine failure if the gas and oil are mixed incorrectly or if the engine is not properly maintained. This can be costly for the project and delay the work that needs to get done. All MX FUEL™ REDLITHIUM™ batteries give users the most reliable power for their equipment. Without the need for gas and oil, there is no more need for engine maintenance with Milwaukee's MX FUEL™ solutions, giving workers more confidence in their equipment and more time to consolidate or level concrete.

Eliminating Cords

Slips, trips and falls are very prevalent accidents on jobsites, especially when corded equipment is still found on the jobsite. Cords are tripping hazards and restrict the mobility of the operator. Powered by MX FUEL™ REDLITHIUM™ batteries, the MX FUEL™ Equipment System eliminates the need for corded solutions or extension cords, reducing tripping hazards on site.

The MX FUEL™ Concrete Vibrator features a compact design and has instant power without the need to run extension cords and generators across the jobsite. This means fewer tripping hazards but also greater mobility for the operator when working on walls and columns or on jobsites with uneven terrain. With the addition of the shoulder strap and lanyard, the user has more mobility and additional safety precautions often needed on the site.

The Final Say

Milwaukee's continued investment into the MX FUEL™ Equipment System is demonstrated by its major expansion to come in 2023. Most recently, Milwaukee® announced eight new solutions engineered to revolutionize the light equipment market, including the Plate Compactor for site preparation, the Walk-Behind Power Trowels for concrete finishing, the Green Concrete Saw for cutting control joints, the Core Rig for coring, and higher capacity batteries and charger. Each will increase performance and productivity and enhance jobsite safety through the removal of frustrations and limitations of gas and power cords. To learn more about the MX FUEL™ Equipment System, visit <https://www.milwaukeetool.com/Innovations/MX-FUEL> ■



EQUIPMENT SYSTEM™

**70 YDS³
PER CHARGE,
1-1/2" HEAD, 7' WHIP**

**ALL MX FUEL™ BATTERIES FIT
ALL MX FUEL™ EQUIPMENT**



3 Steps for Controlling Hazardous Energy in Construction and Demolition

Of the many risks and hazards in construction and demolition work, hazardous energy is one that often gets overlooked. Hazardous energy sources in these environments can be wide and varied, including electrical conductors, power tools, pipelines, conveyor belts and rotating shafts.

Keeping these three points in mind can help you protect construction and demolition workers from exposure to hazardous energy.

1. Plan Ahead

In many cases, the hazardous energy sources on construction and demolition sites are not directly related to the work being performed. That's why

preplanning is crucial to identify any hazardous energy sources present at the site before work begins so that they can be properly mitigated.

Hazardous energy sources that may be on or around the job site include overhead power lines or underground utilities that are near the construction work being performed. Concrete-encased electrical duct banks can be struck by construction excavation activities and may also be located within buildings scheduled for demolition.

2. Establish Control Procedures

Once you've identified the types of hazardous energy present, focus on

implementing the proper energy isolation controls.

In addition to the hazardous energy sources that exist in and around the job site, contractors will use various energy sources, such as temporary power, throughout the project. In such cases, using ground fault circuit interrupters (GFCIs) will cut power in the event that the energized equipment connected to it has a short circuit.

While GFCIs are not allowed to be used for energy isolation, they can supplement recognized energy control procedures, such as locking out circuit breakers and safely removing fuses.

Regardless of the source of hazardous energy, it's important to remember that the steps of energy isolation must proceed in a systematic and logical sequence. Furthermore, hazardous energy control should include verification procedures to ensure that equipment has been deenergized and isolated.

3. Educate Your Workers

After you've identified sources of hazardous energy and determined which control measures will be used, you must ensure your workforce understands the risks associated with those hazards and how they can safely perform their duties on a project.

For instance, workers who operate on hydraulic pressurized systems or pressurized hydraulic lines should know that if those systems are not properly deenergized, pressurized fluid may get injected into someone's skin. In the event of such an incident, workers must know to seek immediate medical attention because such an injury could lead to amputation of a limb.

Training can involve elements such as toolbox talks or other focused hands-on or classroom training where hazards are communicated to

workers along with detailed discussion of procedures and precautions. Furthermore, you must plan for adequate supervision to verify that the training was effective and that workers are applying the skills and knowledge they learned in the field.

It's important to remember that workers may encounter hazardous energy in situations beyond construction or demolition activities, such as during installation or adjusting activities, inspection operations, cleaning operations and servicing and maintenance. Therefore, all involved must be diligent about understanding the hazards present and ensuring that equipment is properly deenergized.

These steps can help construction and demolition companies plan properly and implement procedures to protect construction and demolition workers from hazardous energy sources. ■

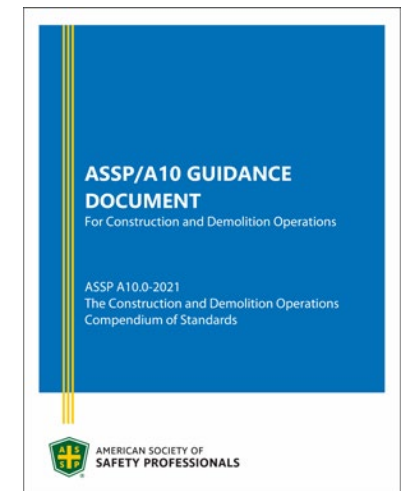
*The **ANSI/ASSP A10.44-2020***

standard provides a framework for the sequential steps of hazardous energy isolation and can aid construction companies in developing their own energy control procedures.

*Learn more about ANSI/ASSP A10 Construction and Demolition safety standards in the ASSP A10 Guidance Document. **Download now***

ASSP's Construction Safety Toolbox provides free resources and the expert support you need to reduce worker injuries and improve productivity.

Learn more



The Right Footwear is One of the Best Investments You Can Make

As a worker in the construction industry, you are faced with harsh weather conditions, varying surface conditions and hazardous materials. Your work means a lot of physical movement and the possibility that you might slip, trip, fall or have sharp objects and nasty chemicals to contend with.

To do your best work, you need the best work boots. Boots that protect you against every hazard in every challenge you face. Boots that prevent your feet from getting tired, wet or cold. How safe and comfortable are your feet?

Good waterproof boots are a basic requirement for you. Dunlop® offers a wide range of high-quality boots to meet your needs. Boots that are stylish too?, we have you covered.

Your work means a lot of physical movement all day, every day. You walk, lean, bend, stretch and squat on varying surfaces and in varying weather conditions, asking a lot of your body and your feet. Your footwear should be lightweight and flexible with a good fit, that will keep





your feet warm and dry. Giving you the comfort you need to get the job done well.

You want your boots to give you safety and comfort, but you want them to look great as well. Dunlop® boots are designed to impress, they reflect the innovation contained within, and are known for their modern look and feel.

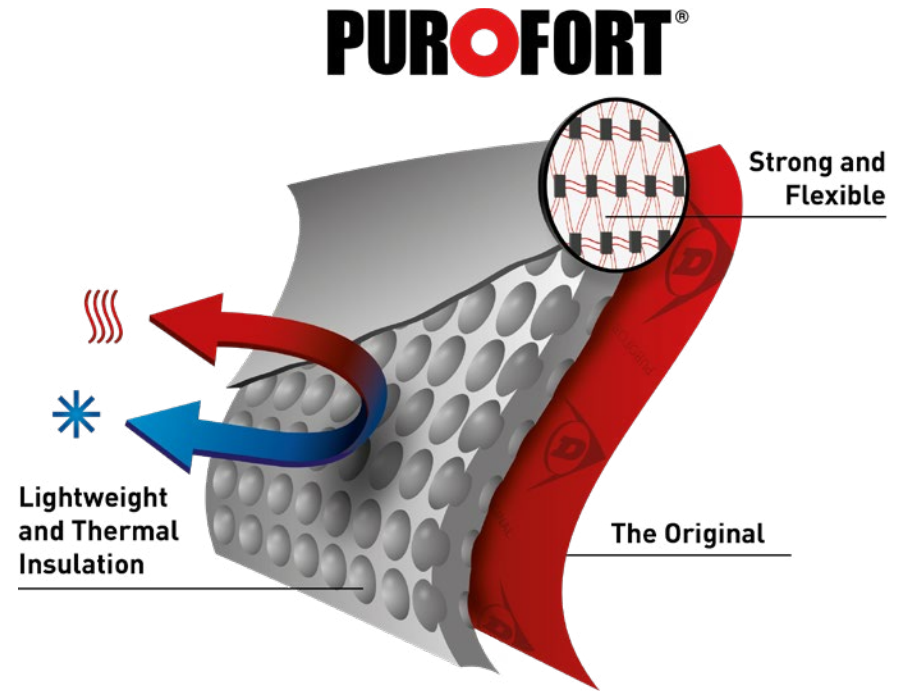
Their design also makes them very easy to clean and care for.

Your day to day work is never the same and you're exposed to many different hazards. Chemicals might impact you, heavy objects may drop, sharp objects may protrude and you may slip on wet, muddy or uneven terrain. Your boots should protect you against every hazard and every specific challenge you face.

Meet all the challenges of the job site with Dunlop Purofort®.

Purofort is the unique Dunlop material with millions of air pockets that are evenly distributed in a cross-linked structure. This creates a lightweight, thermally insulating material that is exceptionally strong and flexible, guaranteeing you superior performance.

Are you a contractor employing workers? Then you probably know that the right protection means higher productivity thanks to greater worker wellbeing and more comfortable and surefooted workers, as well as cost savings due to lower health & safety related costs. Protecting



your workers with the right footwear is one of the best investments you can make.

Looking for individualized custom comfort? Together with orthopedic specialists, we've developed the first insoles with arch support, certified for Dunlop® Purofort® boots.

Premium Insoles offer you; optimal arch support, better shock absorption, faster moisture absorption and superior footbed cushioning.

To learn more about how the right footwear for the work makes all the difference on your job site visit: www.dunlopboots.com or contact your preferred footwear PPE distributor. ■

DUNLOP *RIGPRO*

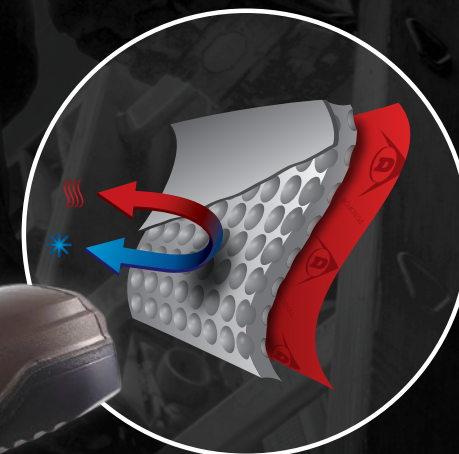
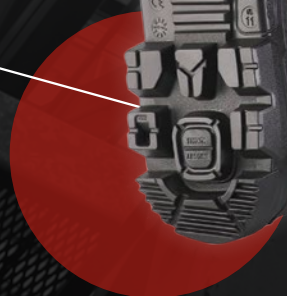
SCAN
TO LEARN MORE



Fit perfected
with Dunlop's innovative
Snug-fit construction to eliminate
heel slippage



**ASTM Slip Resistant
Professional outsole**
designed for excellent grip
at the jobsite



Lightweight and flexible Purofort
helps keep your feet fresh until the job is done

DUNLOP
PROTECTIVE FOOTWEAR

Dunlop. Care beyond Safety.