THE 2020 COMPLIANCE ISSUE

Sponsored by:

Respirator Fit-Testing Methods (ANSI/AIHA/ASSP Z88.10-2010)

"A standard for addressing the proper way to carry out fit-testing was long overdue and has been immensely helpful to the field of respiratory protection. At OHD, we commend those who further our mission of protecting the world's workforce." —Dr. Stephanie Lynch, Ph.D., OHD, LLP, Product Manger, *Occupational Health Dynamics (OHD), 205-980-0180, www.ohdusa.com*

Important to Know:

There are numerous factors that could potentially diminish the effectiveness and fit of a respirator. These include:

- Weight gain or loss
- Dental work or facial surgery
- Significant scarring in areas where seal meets skin
- Wearer discomfort
- Facial hair or certain hair styles
- Cosmetics or facial jewelry
- Glasses or protective eyewear
- Do not perform fit-testing if any foreign material, like gels or creams, are present between the sealing surfaces of the face and the respirator
- PPE must not interfere with respirator sealing surfaces and must be worn during fit-testing

In addition, there are some other conditions that can adversely affect fit. These include possible facial feature interference, such as hollow temples, exceedingly protruding cheekbones, deep skin creases, absence of teeth or dentures, or facial injury including mouth or facial swelling.

If dentures are worn during respirator use, dentures should be worn during fit-testing. If dentures are not worn during respirator use, then dentures should not be worn during fit testing.

Photo courtesy OHD

Standard Requirements:

Developed by ANSI, with content provided by the American Society of Safety Professionals (ASSP), guideline Z88.10-2010 provides respiratory protection program managers (RPPM) with clear, consistent guidance on respirator fit-testing and the components required of an effective respiratory protection program. Included in the guide are instructions on how to avoid interference of PPE; it also provides detailed information on face pieces, including their selection, and other considerations for effective fit-testing. Z88.10 was last updated in 2010.

Fit-testing is a protocol used to evaluate sealing surface leakage of a specific, tight-fitting respirator while it is being worn. Individuals do not have to be issued the same respirator that they are fit-tested with, as long as they are issued a respirator that is the same make, model, style, size and material of respirator with which they are fit-tested. There are two categories of respirator fit-testing, which include qualitative and quantitative fit-testing methods.

Standard Z88.10 provides in-depth requirements for training fit-test operators; it also includes a large section entitled "General Considerations," which covers in detail the important considerations for performing all respirator fit-testing protocols.

Clause 6 of the General Considerations section includes medical evaluation and pre-fit test training (such as how to put on the respirator without assistance). Z88.10 recommends using a mirror to see how to position and adjust the respirator, for example. Also in this section are guidelines on how to inspect the respirator and how to accomplish user seal checks.

Increase Your Knowledge:

- Copies of the standard can be purchased online, at the ANSI Webstore: https://bit.ly/2PKVCqb

WMHS

Did You Know?

Qualitative fit-testing is a pass/fail test that uses the wearer's sense of taste or smell, or his reaction to an irritant, in order to detect leakage into the respirator facepiece. Whether or not a worker needs a full-face respirator or a half-mask respirator depends on the Assigned Protection Factor (APF). The APF is a number that describes the level of protection that a respirator can be expected to provide—if used properly.

Yearly fit-testing is now required. According to OSHA, an employer that performed fit-testing every two years reported 7% of their employees switched to different respirator sizes and/or models each time they were tested. OSHA considered this 7% measurement to be unacceptable and adopted the policy to require annual fit-testing and training.

Staying in compliance when it comes to your fit test program is vital for the safety and well-being of your employees.

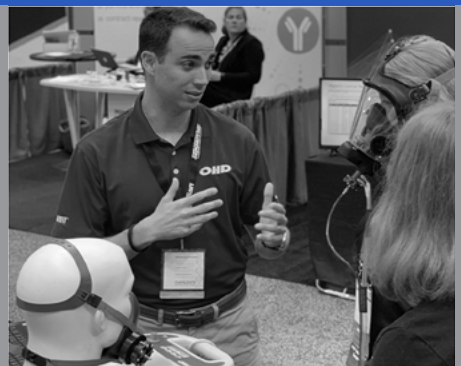
The OHD Quantifit®

Still the fastest and most accurate fit test machine on the market.

Sales@OHDGLOBAL.com

Contact Us: +1 205.980.0180

www.OHDGLOBAL.com



OHD

OSHA 1910: 1200—HazCom Standard

"OSHA's Hazard Communication Standard was aligned with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) in order to improve the safety and health of workers that handle or are exposed to hazardous chemicals. Ensuring that hazardous chemicals are labeled properly is an important component of creating a safe work environment and staying compliant with OSHA." *Avery Products Corporation, industrial@avery.com, www.avery.com/industrial*

Important to Know:

As of June 2016, the Hazard Communication Standard (HCS) required employers to have an updated, alternative workplace labeling and hazard communication program in effect and to provide additional employee training for newly identified physical or health hazards. These were considered significant changes to the standard.

Major changes to the Hazard Communication Standard:

- ✓ Hazard classification: Provides specific criteria for classification of health and physical hazards, as well as classification of mixtures.
- ✓ Labels: Chemical manufacturers and importers are required to provide a label that includes a harmonized signal word, pictogram and hazard statement for each hazard class and category. Precautionary statements must also be provided.
- ✓ Safety Data Sheets: Must have a specified 16-section format.
- ✓ Information and training: Employers are required to train workers on the labels elements and safety data sheets to facilitate recognition and understanding.

Standard Requirements:

- Chemical manufacturers and importers are to evaluate the hazards of the chemicals they produce or import, and prepare labels and safety data sheets to convey the hazard information to their downstream customers;

- All employers with hazardous chemicals in their workplaces must have labels and safety data sheets for their exposed workers and train them to handle the chemicals appropriately.

- The OSHA Hazard Communication Standard is composed of five key elements:
  1. Materials Inventory: A list of the hazardous materials present in your work area.
  2. Material Safety Data Sheets: A detailed description of each hazardous material listed in the Materials Inventory.
  3. Labeling: Containers of hazardous materials must have labels which identify the material and warn of its potential hazard to employees.
  4. Training: All employees must be trained to identify and work safely with hazardous materials.
  5. Written Program: A written program must be developed which ties all of the above together.

- OSHA cites the most penalized industries as follows:
  - Foundation, structure and building exterior contractors
  - Automotive repair and maintenance
  - Building finishing contractors
  - Architectural and structural metals manufacturing
  - Machine shops; turned product; and screw, nut and bolt manufacturing

Photos courtesy Avery Products Corporation

Increase Your Knowledge:

- → To see the standard in its entirety, go to: https://bit.ly/2zHZcsd
- → Also, the Hazard Communication page on OSHA.gov includes downloadable versions of the revised 1910.1200 Final Rule and appendices, updated to align with the GHS; a comparison of the Hazard Communication Standard, issued in 1994 (HazCom 1994), with the revised Hazard Communication Final Rule issued in 2012 (HazCom 2012); frequently asked questions on the revisions; and new guidance materials on the revisions. The page also contains the full regulatory text and appendices of HazCom 1994. ***WMHS***

Did You Know?

OSHA refers to this HCS as the one "that gave workers the right to know; now [it] gives them the right to understand."

To be specific: On March 26, 2012, OSHA amended the 1983 Hazard Communication Standard to align with the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS). The HSC of 1983 gave the workers the "right to know," but the updated Globally Harmonized System gave workers the "right to understand."

In order to ensure chemical safety in the workplace, information about the identities and hazards of the chemicals must be available and understandable to workers.

HAZCOM: THE #2 OSHA VIOLATION

ARE YOUR CHEMICAL LABELS GHS-COMPLIANT?

Get compliant quickly and easily with award-winning Avery UltraDuty® GHS Chemical Labels and Avery GHS Wizard® software.

REQUEST A SAMPLE AT AVERY.COM/GHS

AVERY INDUSTRIAL™
HERE TO WORK™

EASIER

Create custom labels with Avery GHS software and safety templates

FASTER

Print labels from your printer or let us print them for you

TOUGHER

Waterproof and resistant to chemicals, abrasion, UV and extreme temperatures

ANSI 105 & EN 388 Standards for Hand Protection

Delta Plus Group has been a global provider of hand protection for over 40 years and understands that different jobs require different tools. The ANSI/ISEA 105 standard is an important evolution in worker safety that better defines the variable levels of cut protection and abrasion resistance needed to perform the wide range of work requiring hand protection. The multiple levels of protection now provide employers the opportunity to define which products will maximize both safety and dexterity, resulting both in reduced injuries and increased productivity. *Delta Plus, 800-888-6582, www.deltapluscorp.com*

Important to Know:

ANSI/ISEA 105-2016 & EN 388 are voluntary standards where manufacturers can choose the attributes they would like to make claims, perform testing and label classifications accordingly. The standards address the classification and testing of hand protection for specific performance properties related to chemical and industrial applications. Within these standards, hand protection includes gloves, mittens, partial gloves, or other items covering the hand or a portion of the hand that are intended to provide protection against, or resistance to, a specific hazard. Performance ranges are provided for:

- **Mechanical protection** (cut-resistance, puncture-resistance and abrasion-resistance);
- **Chemical protection** (permeation resistance, degradation); and
- **Other performance characteristics,** such as ignition-resistance and vibration reductions, based on standardized test methods.

In North America, you can find the EN 388 marking on many cut-resistant gloves. The EN 388, similar to ANSI/ISEA 105, is the European standard used to evaluate mechanical risks for hand protection. Gloves with an EN 388 rating are third-party tested and rated for abrasion-, cut-, tear- and puncture-resistance.

Standard Requirements:

Gloves are classified to performance levels, based upon their performance when evaluated against set industry test methods. The ratings can assist users in selecting appropriate hand protection for known specific hazards in the workplace.

Performances are rated in:

Mechanical Protection

- **Cut-resistance** – To reduce variation for purposes of classifying a glove to ANSI/ISEA 105, a single test method (ASTM F2992-15 for TDM) has been selected to provide consistent meaning of the ratings, from the end-user perspective. The number of classification levels has also been expanded in the latest standard update to address the gap among certain levels seen in earlier versions and to model the approach used in similar international standards. ISEA and EN cut levels will be determined with the same piece of test equipment.

- **Puncture resistance** – The standard puncture test remains the same, using the EN388 puncture probe. An additional update is the inclusion of a needlestick puncture test, recognizing that this is a common potential exposure for the medical, sanitation and recycling industries. The standard EN388 probe is very large. There is a segment of users who need protection from smaller hypodermic needles, requiring a significantly different puncture device—very thin and sharp—and calling for using a new testing method and rating scale. The new method uses a 25-gauge needle as a probe. The normal industrial puncture test is done in accordance with clause 6.4 of EN 388:2003 (updated in 2016). A circular test specimen cut from the glove palm is mounted in a holder and punctured with a stylus of specified sharpness attached to a tensile tester. The force required to puncture the specimen to failure is measured. Results are classified into five performance levels; the higher the result, the better the performance. The average of 12 specimens (minimum) shall be used to determine the classification level.

- **Abrasion resistance** – These ASTM test methods (D3389-10 and D3884-09) shall be followed using H-18 abrasion wheels with a 500g load for levels 0-3 and a 1,000g load for levels 4-6. The test method has a 4in circular test specimen mounted on a horizontal axis platform, while being abraded to failure under a specified vertical weight load (500 or 1,000g) by the sliding rotation of two vertically oriented abrading wheels. The abrading wheels are comprised of vitrified clay and silicon carbide abrasive particles. The results, recorded in revolutions, are classified by ANSI/ISEA 105 Hand Selection Criteria as follows:

Chemical Protection

Permeation testing is done in accordance with ASTM Method F 739 standards. In this method, a specimen is cut from the glove and clamped into a test cell as a barrier membrane. The exterior side of the specimen

Table of Contents

Did You Know?

New cut-resistance standards from American National Standards Institute (ANSI) and International Safety Equipment Association (ISEA) became effective in March 2016. These new standards include changes to the ratings scale and the standardization on a testing methodology. The European Standard for Protective Gloves-EN 388, was updated shortly after the American standard in November 2016.

is then exposed to a hazardous chemical. At timed intervals, the unexposed interior side of the test cell is checked for the presence of the permeated chemical and the extent to which it may have permeated the glove material.

Other Protection

- **Ignition resistance** – Testing in accordance with ASTM F1358-16, the glove material's ignition-resistance and burning behavior should be classified against the levels provided in the standard. In order to be classified at a specific level, the glove material needs to meet each of the criteria at that specific level.
- **Vibration reductions** – The glove's vibration-reduction is classified as "pass" or "fail," when testing in accordance with ANSI S2.73-2002 (ISO 10819). A glove can only be considered an anti-vibration glove, if it fulfills both of the following criteria: TRM < 1.0 and TRH < 0.6, according to this standard.

Increase Your Knowledge:

→ The ANSI/ISEA 105-2016 standard is available for purchase at: https://webstore.ansi.org/Standards/ISEA/ANSIISEA1052016 *WMHS*

Want more eBooks?

WMHS has published other informative ebooks chock-full of current, useful information on Construction Safety, Arc Flash Protection, and OSHA Compliance.

Visit **www.workplacepub.com/ebooks** to access all of the available eBooks. While you are there be sure to bookmark the page and come back often because we will be adding new eBooks throughout the year.

VENICUT5XL

DELTAPLUS

- DELTANOCUT®+ High Performance Fibers support an ANSI A5 Cut Rating
- Polyurethane coating with leather palm for dual protection from abrasive surfaces
- 13 Gauge material for increased dexterity and superior breathabilty

ANSI
ISEA 105 A5

EN 388
4X43D

CUTTING/ PERFORATION

WEARING

2 Mountain View Drive • Shelton, CT 06484 • 800.888.6582 • 203.743.2488
deltapluscorp.com

ANSI MH29.1-2012:
Safety Requirements For Industrial Scissors Lifts

"Over 20 years ago, Advance Lifts and a number of other leading manufacturers of industrial scissors lifts formed a group that worked on developing the first version of Safety Requirements for Industrial Scissors Lifts. This became known as the ANSI MH29.1 standard. Advance Lifts has continued to be active in the development of the subsequent revisions to the standard and, in 2015, the International Code Council (ICC) incorporated ANSI MH29.1 as a reference standard in Section 3001.2 of chapter 30 of the International Building Code (IBC). All of the Advance Lifts scissors lift products are designed, tested and manufactured to comply with ANSI MH29.1. Consequently, when we ship a product to a customer, we are confident that we are providing them with reliable, durable and safe products." ANSI MH29.1 is a very important part of our company's business philosophy. *Advance Lifts, Inc., 800-843-3625, www.advancelifts.com*

Standard Requirements:

Mobile and stationary industrial scissors lifts raise, lower and position materials and personnel in various applications but are different from other conveyances, such as aerial work platforms (AWP) and elevators. MH29.1 has been revised to better illustrate that personnel operate and may themselves be raised or lowered by industrial scissors lifts.

This standard now defines dock lifts, work access lifts and lift tables as the three categories of industrial scissors lifts and identifies their differences and similarities. The responsibilities of manufacturers, users, owners and operators have been reordered, consolidated and enhanced. Lastly, the requirements within the standard have been revised, where needed, to ensure they are stated using mandatory language.

The over-arching goal to the latest version of MH29.1: 2012 is to better conform to other equipment codes recognized by the ICC board and the International Building Code (IBC) by establishing mandatory and unified language. IBC now recognizes ANSI code MH29.1:2012 as the authority over industrial scissors lifts.

The second goal is to provide clarity to the definitions contained within the code and further delineate between industrial scissors lifts and the aerial-type scissors lifts. The modifications to the definitions describe and define which type of scissors lifts may have riders on-board and the ones upon which riders are not allowed.

The final goal for establishing these new safety standards is that users of industrial scissors lifts are insured that the manufacturers who design and build are releasing products that hold to the highest of regulated standards and safety requirements.

Photo courtesy Advance Lifts Inc.

Increase Your Knowledge:

- To order a complete copy of the ANSI MH29.1:2012 Standard of Safety Requirements visit MHI. Org–LMPS industry section: https://bit.ly/2PBxSBi

- The Lift Manufacturers Product Group (LIFT) members are the resource for industry best practices, standards, information and equipment that lifts, rotates, tilts and otherwise positions materials. Industry scissors lifts and tilters can also improve the working interface between people and the materials they must move to reduce injury, increase productivity, and eliminate wasted motion, while providing a significant return on investment.

In 2017, LIFT made an excerpt from the MH29.1 standard (ANSI MH29.1:2012-Industrial Scissor Lifts Safety Requirements) available for free download on the MHI website.

LIFT members wanted to ensure access to the key responsibilities in safety requirements for owners and users of scissor lifts. The sections referring to these responsibilities have been extracted and made available. Download the free excerpt at https://bit.ly/2C3YMOm ***WMHS***

Did You Know?

In 2014, the International Building Code (IBC) officially recognized ANSI code MH29.1:2012 as the authority over industrial scissors lifts.

The reference can be found in Chapter 30, section 3001.2. This was considered a big win at the time, since some states and municipalities go strictly by the IBC, and it clearly separates industrial scissors lifts from elevators. Rider mezzanine lift approvals should be much easier. This recognition helped those who had problems getting job approval by empowering them to let their inspectors know that industrial scissors lifts are in now included in the IBC.

ADVANCE LIFTS®

LIFT TABLES

WORK ACCESS LIFTS

RIDER MEZZANINE LIFTS

HIGH CYCLE LIFTS

DOCK LIFTS

WE CAN TAILOR EQUIPMENT TO FIT YOUR NEEDS.

VISIT US AT ADVANCELIFTS.COM
OR CALL 1-800-843-3625

Advance Lifts was founded in 1974 and quickly became the leading dock lift manufacturer in the country. Over the years our product lines expanded to include production scissors lift tables, tilters, turntables, dumpers, work access lifts, and mezzanine access lifts. Since the beginning "engineering excellence" has been the trade mark of Advance Lifts products. Over the last decade, we have intensified our research and development program and the value gap between our products and our competitors has increased significantly. Through our R and D efforts Advance Lifts has developed our patented "Platform Centering Device" which is now standard on all of our In-Plant production tables and greatly reduces the single greatest cause of lift wear. Our "Ultra High Cycle" lift is the industries only scissors lift with a 3,000,000 cycle warranty. We also have designed a positioning control system for production scissors lifts with a repeatable accuracy of +/- .030". The point of all this research is to provide customers with superior value and service. Some of our breakthroughs can be applied to many of our standard products, while others are reserved for custom high performance applications.

Whether you need a standard unit, a highly custom unit, or something in between, let Advance's engineering expertise work for you.

made in USA

ISO 9001:2015 Certified

701 S. Kirk Road
St. Charles, IL 60174
Ph: 1-800-843-3625
Fax: 630-584-9405
www.advancelifts.com

OSHA 1910.28 - Duty to Have Fall Protection and Falling Object Protection

Most building codes use OSHA regulations as minimums and, in some cases, exceed what is required in their own requirements. OSHA is empowered by Congress to insure standards for workers and the public's safety, no matter what industry they happen to be employed or buildings they visit as private citizens. Omega Industrial Products, Inc.'s focus has always been to design and manufacture items supplied to industry to prevent these types of accidents. Our mission centers on protecting personnel, as well as facilities, keeping everyone that enters manufacturing, warehousing or distribution environments from their inherent hazards. *Omega Industrial Products, 800-521-8272, www.omegaindl.com*

Important to Know:

OSHA standard 1910.28 requires employers to provide protection to workers exposed to falls and falling object hazards. It also specifies that the protection employers provide must comply with the criteria and work practices in 1910.29. In addition, it clarifies that personal fall protection system must comply with the criteria and work practices in 1910.140, Personal Fall Protection Systems.

Throughout the standard, the terms "handrails" and "guardrails" are used interchangeably. OSHA uses the term "guardrail" to refer to fall protection for raised platforms and stairways, but the industrial safety industry uses the more specific term "handrail," with "guardrail" used only to refer heavy-duty beams of formed steel.

Standard Requirements:

1910.28(b) sets forth the requirements on the types of fall protection systems that employers must select and use to protect workers from fall hazards, while working in specific workplace areas, situations and activities. The final rule allows employers to use any one or more of the fall protection systems listed for the particular area, situation or activity, including:

- Guardrail Systems
- Safety Net Systems
- Personal Fall Protection Systems
- Personal Fall Arrest Systems
- Travel Restraint Systems
- Ladder Safety Systems
- Handrails
- Designated Areas

Guardrail Systems - Employers must follow standard specifications to ensure the guardrail systems they use will protect workers from falling to lower levels, with specifications on the requirements for the minimum and maximum height of guardrail systems. Employers must install intermediate protective members, such as midrails, screens, mesh, intermediate vertical members, solid panels or equivalent intermediate members, between the walking-working surface and the top edge of the guardrail system when there is not a wall or parapet that is at least 21in high.

Safety Net Systems - Employers are required to install intermediate protective members, such as midrails, screens, mesh, intermediate vertical members, solid panels or equivalent intermediate members, between the walking-working surface and the top edge of the guardrail system when there is not a wall or parapet that is at least 21in high.

Designated Areas – Designated areas is defined as "a distinct portion of a walking-working surface delineated by a warning line in which employees may perform work without additional fall protection." It is required that employers ensure workers remain within the designated area during work operations. If workers must go outside the designated area, they must be protected by conventional fall protection systems.

Photo courtesy Omega Industrial Products

Covers - Employers must follow criteria and practices to protect workers from falling into a hole in a walking-working surface, including holes in floors, roofs, skylights, roadways, vehicle aisles, manholes, pits and other walking-working surfaces. Employers must ensure any cover they use to prevent workers from falling into a hole in a walking-working surface is capable of supporting—without failure—at least twice the maximum intended load that may be on the cover at any one time.

Did You Know?

There are seven situations in which the requirements in 1910.28 do not apply:

1. Portable ladders
2. When the employer is inspecting, investigating or assessing workplace conditions or the location at which work is to be performed prior to the start of work or after all work has been completed. However, this exemption does not apply when fall protection systems or equipment meeting the requirements of 1910.29 have been installed and available for workers to use. If fall protection systems are present, workers must use them while conduction pre-work and post-work inspections, investigations or assessments of workplace conditions.
3. Fall hazard presented by the exposed perimeters of stages and the exposed perimeters of rail-station platforms
4. Powered platforms covered by 1910.66(j)
5. Aerial lifts covered by 1910.67(c)(2)(v)
6. Telecommunications work covered by 1910.268(n)(7) and 1910.268(n)(8)
7. Electrical power generation, transmission and distribution work covered by 1910.269(g)(2)(i)

Handrail and Stair Rail Systems – OSHA 1910.29 sets criteria and practices for handrails and stair rail systems. These requirements cover height, finger clearances, surfaces, stair rail openings, handholds, projection hazards and strength. It is required that employers ensure each handrail is not less than 30in and not more than 38in high, as measured from the leading edge of the stair tread to the top surface of the handrail.

Cages, Wells and Platforms Used With Fixed Ladders – Established criteria and practice requirements are provided for cages, wells and platforms used with fixed ladders, which requires that employers ensure cages and wells installed on fixed ladders are designed, constructed and maintained to permit easy access to, and egress from, the ladder that they enclose.

Outdoor Advertising – OSHA 1910.29 establishes temporary criteria and practice requirements for employers engaged in outdoor advertising (billboard) operations, during the phase-out period which requires that outdoor advertising employers ensure that each worker who climbs fixed ladders without fall protection is physically capable to perform those duties employers assign.

Ladder Safety Systems – Criteria is established for practice requirements for ladder safety systems permanently attached to fixed ladders or immediately adjacent to such ladders which require that employers must ensure each ladder safety system allows workers to climb up and down the fixed ladder with both hands free for climbing. It is also specified in this standard that design of the ladder safety system must be such that it does not require that workers continuously hold, push or pull any part of the system while they are climbing.

Personal Fall Protection Systems – Per 1910.29(j), it is required that body belts, body harnesses and other components used in personal fall arrest systems, work positioning systems and travel restraint systems meet the applicable requirements in final 1910.140.

Protection From Falling Objects - Employers must follow established criteria and practice requirements for the measures that final 1910.28(c) requires. When an employee is exposed to falling objects, the employer must ensure that each employee wears head protection that meets specified requirements. In addition, the employer must protect employees from falling objects by implementing one or more of the following:

- Erecting toeboards, screens or guardrail systems to prevent objects from falling to a lower level;
- Erecting canopy structures and keeping potential falling objects far enough from an edge, hole or opening to prevent them from falling to a lower level; or
- Barricading the area into which objects could fall; prohibiting employees from entering the barricaded area; and keeping objects far enough from an edge or opening to prevent them from falling to a lower level.

Grab Handles – OSHA 19.10.29 sets forth the criteria and practice requirements for grab handles that employers provide, such as at a hoist area, and requires that grab handles employers provide must be at least 12in in length. Employers must install grab handles at hoist access openings that provide at least 3in of clearance from the framing or opening.

Increase Your Knowledge:

Learn more details about this standard at:

- OSHA 1910.28 - Duty to have fall protection and falling object protection: https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.28
- "A Guide to OSHA's Revised General Industry Walking-Working Surfaces and Fall Protection Standards" https://bit.ly/390XnXm
- Discover how handrails and guardrails differ: https://www.omegaindl.com/blog/guardrails-vs-handrails ***WMHS***

OMEGA

Safety Barriers & Guards

SAFETY BARRIERS

R·U·F PORTABLE BARRIERS

QUIK-STEP STAIRS

PIPE GUARDS

COLUMN GUARDS

TRAK-SHIELD

CORNER SHIELDS

BOLLARDS

HANDRAILS & GATES

RACK GUARDS

Downspout Pipe Guards, HDPE Bollard Covers and many other safety products available.

The Nation's Leading Supplier of Safety Barriers & Guarding Products

Contact us today to find out more about how our products can keep your workers safe and secure.

OMEGA Industrial Products 800-521-8272 • www.omegaindl.com

Sponsored by superiorglove

Hand Impact Protection: ANSI/ISEA 138

"The more information people have, the better able they are to make decisions that will keep them safe. As champions of safety, Superior Glove is thrilled to see the ANSI/ISEA 138 updates to current impact standards. The new standards better define anti-impact capabilities, especially when it comes to higher impact hazards—which means improved information for those looking to protect against impact risks. Better information; better selection; better safety. ANSI/ISEA 138 is a win-win for everyone! *Superior Glove, www.superiorglove.com/impact*

Important to Know:

Finally, now, in the U.S., leading glove manufacturers and material suppliers have collaborated to develop new, voluntary standards from the International Safety Equipment Association—ISEA, an American National Standards Institute-accredited standards developing organization.

ANSI/ISEA 138, American National Standard for performance and classification for impact-resistant hand protection, aims to improve on the somewhat limited treatment of impact performance recently incorporated into the main European hand protection standard, EN 388. That standard took its cues from an existing motorcycle impact standard for hand protection.

Photos courtesy Superior Glove

Whereas EN 388 covers the knuckles, ANSI/ISEA 138 covers knuckles and fingers, which is critical for industrial glove-users whose fingers are frequently at risk. The oil and gas sector, which is a large user of impact-protection gloves, has collected figures through the International Association of Drilling Contractors showing that, in 2016, fingers remained the most vulnerable part of the body in terms of both lost time and recordable injuries.

The ANSI/ISEA 138 standard, however, is specifically designed for industrial gloves and the special protections they offer. The defined ISEA 138 levels will give greater choice and flexibility to the end-user. Scaled performance levels help employers make a choice that meets the needs of their workforce, giving them the confidence to choose protective gloves that are both appropriate to potential risk and hazard levels.

The standard provides a reliable starting point to which end-users can apply all the variables affecting their specific workforce needs, including tasks, work environments, budgets, etc.

Standard Requirements:

- ✔ define an agreed test method;
- ✔ include defined performance levels;
- ✔ specify a pictogram mark for each of the defined levels for compliant gloves;
- ✔ and require that product be tested in a laboratory having a certificate of accreditation meeting the requirements in ISO/IEC 17025:2017, General Requirements for the competence of testing and calibration laboratories.

Increase Your Knowledge:

- → OSHA's library contains a general PPE assessment for employers, with checklists for specific topics, including hand/arm protection: https://bit.ly/2r8F1T9 ***WMHS***

Did You Know?

According to OSHA, of the 145,000 recordable injuries in today's workplace and government agencies, 63% are made up of cuts; 18% are due to crush and bone breakage. These numbers present a tremendous opportunity to improve and educate.

ANSI/ISEA 138 is specifically designed for industrial gloves and the special protection they offer to workers. Many people mistakenly believe hand impact injuries only affect a narrow range of industries, such as the offshore oil and gas sector, mining and construction. In reality, the market is much wider, with impact-related injuries a common danger for manufacturing, warehouse and transport workers. The bones and soft tissues in the back of the hand are all vulnerable to impact injuries, varying from bumps and bruises to severe fractures.

To date, there had been no commonly agreed performance standard or test method in North America for dorsal (back of hand) impact protection. Although many PPE manufacturers produce a wide range of protective gloves with new designs and materials constantly entering the market, there is either little differentiation between the materials used for impact protection, or performance claims can't be readily validated.

The lack of any objective performance standard has created a serious challenge for employers responsible for selecting appropriate PPE for industrial workers.

superiorglove®

PROTECTION AT YOUR FINGERTIPS

Like steel-toed boots for your fingers, our **PinchGuard** gloves protect your fingertips against impact and pinch hazards.

You no longer have to just accept pinch and crush injuries in the workplace. These new, must-have gloves are available in various styles to suit your individual needs.

PINCH*GUARD* WITH ABRASION RESISTANCE

ENDURA®
#378GOBFC

PINCH*GUARD* WITH IMPACT RESISTANCE

ENDURA®
#378GOBBFC

*superiorglove.com/**PinchGuard***

DUPONT Kevlar®

***superior**glove.com | 1.800.265.7617*

Medical Services/First Aid: Focus on AEDs

"Is your facility prepared for sudden cardia arrest(SCA)? Ensure you are always prepared for OSHA 1910.151 with a ZOLL® AED Plus® as part of your first aid equipment. Not all victims of SCA will need a shock, while 100% require high-quality CPR. ZOLL offers the only AED that supports rescuers with text, voice and visual prompts, and real-time feedback on compression rate and depth, for high-quality CPR to ensure you're ready for a medical emergency." *ZOLL Medical Corporation, 800-804-4356, www.zoll.com*

Important to Know:

There were 5,703 work-related fatalities in private industry in 2004. In that same year, there were 4.3 million total workplace injuries and illnesses, of which 1.3 million resulted in days away from work. Occupational illnesses, injuries and fatalities in 2004 cost the U.S. economy $142.2 billion, according to National Safety Council estimates. The average cost per occupational fatality in 2004 exceeded $1 million.

To cover the costs to employers from workplace injuries, it has been calculated that each and every employee in this country would have had to generate $1,010 in revenue in 2004.

Sudden cardiac arrest (SCA) may occur at work. According to recent statistics from the American Heart Association, there are 250,000 out-of-hospital SCAs annually. The actual number of SCAs that happen at work are unknown. If an employee collapses without warning and is not attended to promptly and effectively, the employee could die. Sudden cardiac arrest is caused by abnormal, uncoordinated beating of the heart or loss of the heartbeat altogether, usually as a result of a heart attack.

First Aid Supplies

It is advisable for the employer to give a specific person the responsibility for choosing the types and amounts of first aid supplies and for maintaining these supplies. The supplies must be adequate; should reflect the kinds of injuries that occur; and must be stored in an area where they are readily available for emergency access.

An automated external defibrillator (AED) should be considered when selecting first aid supplies and equipment. A specific example of the minimal contents of a workplace first aid kit is described in American National Standards Institute ANSI Z308.1-2003, Minimum Requirements for Workplace First Aid Kits. The kits described are suitable for small businesses. For large operations, employers should determine how many first aid kits are needed and if it is appropriate to augment the kits with additional equipment and supplies.

Employers who have unique or changing first aid needs should consider upgrading their first aid kits. The employer can use the OSHA 300 log, OSHA 301 reports or other records to identify the first aid supply needs of their worksite. Consultation with the local fire and rescue service or emergency medical professionals may be beneficial.

By assessing the specific needs of their workplaces, employers can ensure the availability of adequate first aid supplies. Employers should periodically reassess the demand for these supplies and adjust their inventories.

Automated External Defibrillators

With recent advances in technology, automated external defibrillators (AEDs) are now widely available, safe, effective, portable and easy-to-use. They provide critical and necessary treatment for sudden cardiac arrest (SCA) caused by ventricular fibrillation—the uncoordinated beating of the heart leading to collapse and death.

Using AEDs as soon as possible after sudden cardiac arrest (within 3-4 mins) can lead to a 60% survival rate. CPR is of value, because it supports the circulation and ventilation of the victim until an electric shock delivered by an AED can restore the fibrillating heart to normal.

Photo courtesy Zoll

All worksites are potential candidates for AED programs because of the possibility of SCA and the need for timely defibrillation. Each workplace should assess its own requirements for an AED program as part of its first aid response. A number of issues should be considered in setting up a worksite AED program: physician oversight; compliance with local, state and federal regulations; coordination with local EMS; a quality assurance program; and a periodic review, among others.

Did You Know?

First aid is emergency care provided for injury or sudden illness before emergency medical treatment is available. The first aid provider in the workplace is someone who is trained in the delivery of initial medical emergency procedures, using a limited amount of equipment to perform a primary assessment and intervention while awaiting arrival of emergency medical service (EMS) personnel. A workplace first aid program is part of a comprehensive safety and health management system that includes: Management Leadership and Employee Involvement; Worksite Analysis; Hazard Prevention and Control; and Safety and Health Training.

The basic elements for a first aid program at the workplace include:

- Identifying and assessing the workplace risks that have potential to cause worker injury or illness.
- Designing and implementing a workplace first aid program.
- Instructing all workers about the first aid program, including what workers should do if a coworker is injured or ill. Putting the policies and program in writing is recommended.
- Providing for scheduled evaluation and changing of the first aid program to keep the program current and applicable to emerging risks in the workplace, including regular assessment of the adequacy of the first aid training course.

The Occupational Safety and Health Act of 1970 (OSH Act) requires employers to comply with hazard-specific safety and health standards and regulations, as issued and enforced by either OSHA or an OSHA-approved State Plan. In addition, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm under Section 5(a)(1), the General Duty Clause of the Act. Employers can be cited for violating the General Duty Clause, if there is a recognized hazard and they do not take steps to prevent or abate the hazard. However, failure to implement this guide is not, in itself, a violation of the General Duty Clause. Citations can only be based on standards, regulations and the General Duty Clause.

The OSHA requirement at 29 CFR 1910.151(b) states, “In the absence of an infirmary, clinic or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. Adequate first aid supplies approved by the consulting physician shall be readily available.”

Increase Your Knowledge:

Additional information about AED program development can be found at the following websites:

- OSHA website: www.osha.gov
- American Heart Association: www.americanheart.org
- American College of Occupational and Environmental Medicine: www.acoem.org
- American Red Cross: www.redcross.org
- Federal Occupational Health: www.foh.dhhs.gov
- The National Center for Early Defibrillation, at www.early-defib.org, can provide additional information about AED program development. ***WMHS***

EMPOWER RESCUERS
WITH UNRIVALED SUPPORT

A sudden cardiac arrest (SCA) victim's best chance of survival is immediate CPR and a rescuer equipped with an AED. The ZOLL® AED Plus® with Real CPR Help® can help make the difference between life and death.

REAL CPR HELP provides integrated, real-time feedback on CPR compression rate and depth.

FIVE-YEAR BATTERY AND PAD LIFE means fewer replacements and a low cost of ownership.

DESIGNED TO BE DURABLE, the AED Plus can be used in various environments.

For more information visit www.zoll.com/aedplus

MCN PP 1810 0354

ZOLL®

ISO 12100:2010 Safety Of Machinery-Design Risk Assessment & Reduction

"Moving parts, extreme temperatures, constant noise and sharp edges comprise only a few of the hazards innate to machinery. Accidents involving machinery incur high costs, both in human terms and also economic and societal ones. Helping to assure the safety and health of consumers is a key component of ANSI's goal. Vast reduction of injury can be accomplished by considering safety hazards from the initial concept and design of machinery. ISO 12100 Safety of Machinery-General Principals for Design-Risk Assessment and Risk Reduction, available through ANSI, establishes basic terminology, and is used to aid in decision-making through the design process." *Julie Wallace, Sr. Product Manager, American National Standards Institute (ANSI), 212-642-4900, www.ansi.org*

Important to Know:

ISO 12100:2010 (Safety of Machinery—General Principles for Design—Risk Assessment and Risk Reduction) substitutes ISO 12100-1:2003, ISO 12100-2:2003 and ISO 14121-1:2007. The new standard will benefit designers who identify risks during the design stage of machine production, decreasing the potential for accidents.

The risk-assessment procedures provided in ISO 12100 are offered as a series of logical steps, helping designers to methodically define the limits of the machinery; identify risks of hazards, such as crushing, cutting, electric shock or fatigue; and estimate potential dangers, fluctuating from machine failure to human error.

By providing a best practices framework at the international level, ISO 12100 will help eradicate technical barriers to trade, while at the same time upholding the safety and health of users of machinery, in line with necessities of national legislations of countries around the world. This is an especially important standard for machine builders.

Differences Between ISO and ANSI Standard:

Before a manufacturer can reap the benefits of safety practices, they need to understand which machine standards to follow. When undertaking a risk assessment, a company should understand the differences between ANSI B11.0 and ISO 12100. In terms of performing a risk assessment, the international standard ISO 12100:2010 and the North American standard ANSI B11.0-2010 are similar in many ways, but they also differ.

ANSI B11.0 is a significant document for machinery safety and for the safety of end-users. The scope of the standard focuses on new, modified or rebuilt power-driven machines, not portable-by-hand, used-to-shape and/or form metal, or other materials by cutting, impact, pressure, electrical or other processing techniques, or a combination of these processes. The ISO 12100 standard is geared more toward original equipment manufacturers (OEMs), while ANSI B11.0 covers not only machine builders, but also end-users.

This means there may be some subtle terminology in ANSI B11.0 geared for end-users that may not have a direct correlation with the ISO standards. Other than that, the risk-assessment principals and requirements of documentation are almost the same for both standards.

The ANSI B11.0 standard references the similarities between the two:

"This standard has been harmonized with international (ISO) and European (EN) standards by the introduction of hazard identification and risk assessment as the principal method for analyzing hazards to personnel to achieve a level of acceptable risk. This standard integrates the requirements of ANSI/ISO 12100 parts 1 and 2, and ISO 14121 (now combined into a single standard–ISO 12100), as well as selected U.S. standards. Suppliers meeting the requirements of this ANSI B11.0 standard may simultaneously meet the requirements of these ISO standards."

Effectively, there is an equivalency between the two standards. If a builder designs a machine to ANSI B11.0 and ships it to Europe or any non-North American country, it would, for all practical purposes, have met ISO 12100 or EN ISO 12100 requirements because of the harmonization. The same is true for

Did You Know?

According to the WTO/TBT Agreement of 1995, member nations are required to create standards, such as compulsory standards, voluntary standards and conformance assessment processes, by integrating said standards with international standards—like the ISO and IEC standards. Facilities and machines conform to ISO/IEC standards. This makes it possible to, in general instances, make these facilities and machines conform to the technical criteria of various countries in order to increase unity around the world. Thus, allowing for fewer restrictions to worldwide trade.

machines built offshore that meet ISO 12100 specifications before being shipped to North America. Both standards are globally recognized.

Standard Requirements:

SO 12100:2010 (ISO 12100) specifies basic terminology, codes and a methodology for achieving safety in the design of machinery. It stipulates principles of risk assessment and risk reduction to aid designers in reaching this objective. These principles are grounded on information and experience of the design, use, incidents, accidents and risks related to machinery.

Within the standard, procedures are defined for identifying hazards; approximating and evaluating risks throughout relevant stages of the machine life cycle; and for the elimination of hazards or sufficient risk reduction. Direction is provided on the documentation and verification of the risk assessment and risk-reduction process. ISO 12100:2010 is additionally intended to be utilized as a base for the preparation of type-B or type-C safety standards. It doesn't contract with risk and/or damage to domestic animals, property or the environment.

Increase Your Knowledge:

- Designers who are interested in purchasing the full guide for *ISO 12100:2010 Safety Of Machinery - General Principles For Design - Risk Assessment And Risk Reduction Standard* can visit: https://www.iso.org/standard/51528.html https://bitly/2E4XsfA ***WMHS***

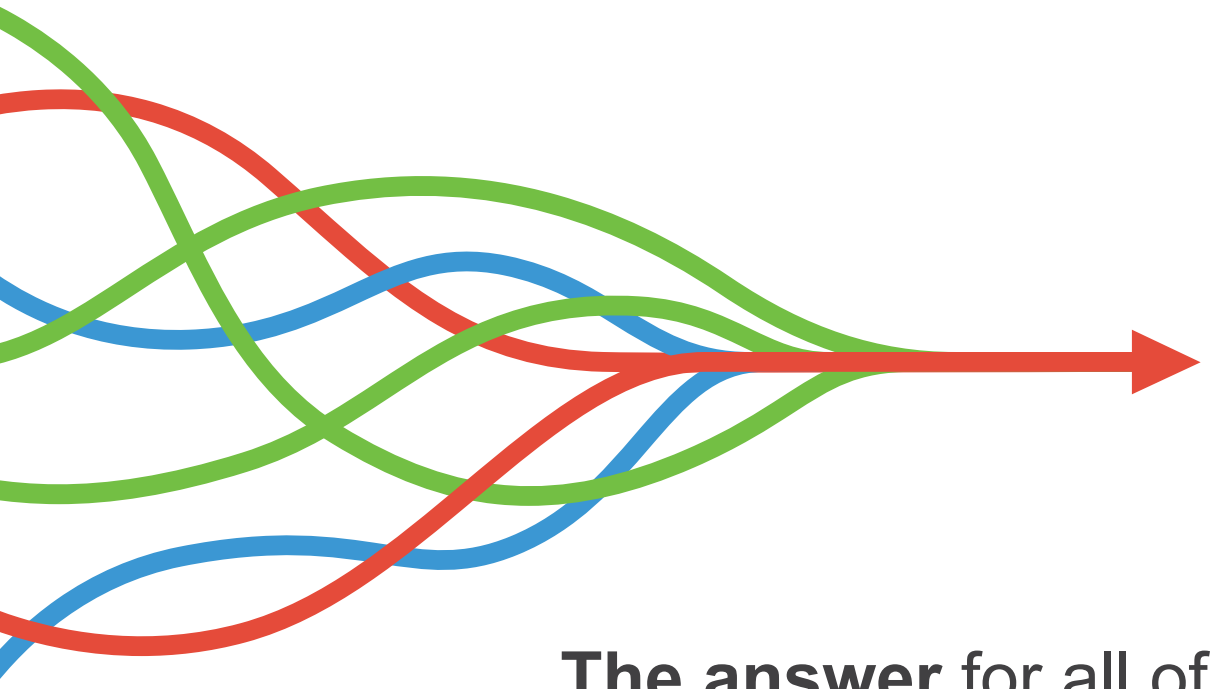
About *Workplace Material Handling & Safety*

Workplace Material Handling & Safety is a monthly publication that connects facilities & operations with EHS. Many times, they are under the same department. Our monthly subscribers include 20,000 print and 70,000 digital in the manufacturing and construction industries focusing on the top 5 high hazard markets: Construction, Primary Metals, Fabricated Metals, Transportation and Food Processing.

We recognize the operational challenges of productivity in a plant or on a construction site and keeping workers safe at the same time, no matter the facility. We are the only publication that covers the most up-to-date productivity solutions, safety in material handling, along with current safety regulations, trends and new products in both markets. We reach industrial executives, directors and managers that are looking to protect their workers with the current equipment, supplies and PPE gear. We are a one-stop shop for the EHS markets, so do not wait to jump on board to reach these manufacturing and construction decision-makers. *Workplace Material Handling & Safety* is a great opportunity to get in front of the people looking to buy your products through our many different print and digital opportunities.

Who are *WMHS's* readers?

- They are your customers! 94% of *Workplace Material Handling & Safety* respondents have purchasing influence over material handling or safety equipment/PPE purchases.
- The majority of *Workplace Material Handling & Safety* respondents work at a company doing more than $50MM in sales annually meaning bigger purchasing power.
- *Workplace Material Handling & Safety* job titles include mostly Corporate, Plant Manager, Safety/EHS, Engineering, HR and Industrial Hygiene.



STANDARDS CONNECT

The answer for all of your standards needs

A digital standards management solution that simplifies searching, collaborating, and accessing standards for your entire organization

ANSI

TO LEARN MORE, VISIT WEBSTORE.ANSI.ORG

Sponsored by HAFCOVAC

OSHA's Crystalline Silica Standard

HafcoVac's pneumatic-certified combustible dust vacuums, along with specially designed accessories, help prevent health hazards associated with silica dust. The use of our Essential Overhead Tool Kit, in combination with the powerful suction and HEPA filtration of our certified vacuums, protects against silica inhalation by vacuuming them before the particles are disturbed in the workplace. Coupled with same-day shipping and a lifetime warranty, it's THE safe simple solution you are looking for. *HafcoVac, 877-820-0050, www.hafcovac.com*

Important to Know:

Silicosis deaths have declined in recent years, but it does not detract from the severity of the problem. From 2005-2014, silicosis was listed as an underlying or a contributing cause of death on over 1,100 death certificates in the U.S., and most deaths from silicosis go undiagnosed and unreported. In addition, those numbers of silicosis deaths do not include additional deaths from silica-related diseases, such as COPD, lung cancer and kidney disease. It is import to always obtain current data and update procedures, as the industry continues to learn more about avoiding inhalation of silica.

This year, the final rule on Occupational Exposure to Respirable Crystalline Silica went into effect. OSHA estimates this new rule will save over 600 lives annually, preventing more than 900 new cases of silicosis; it will also provide net benefits of about $7.7 billion per year.

"More than 80 years ago, Labor Secretary Frances Perkins identified silica dust as a deadly hazard and called on employers to fully protect workers," quoted U.S. Secretary of Labor Thomas E. Perez. "This rule will save lives. It will enable workers to earn a living without sacrificing their health. It builds upon decades of research and a lengthy stakeholder engagement process—including the consideration of thousands of public comments—to finally give workers the kind of protection they deserve and that Frances Perkins had hoped for them." (U.S. Department of Labor)

Standard Requirements:

The standard for general industry and maritime (29 CFR 1910.1053) requires employers to:

- Assess employee exposures to silica, if it may be at or above an action level of 25µg/m3 (micrograms of silica per cubic meter of air), averaged over an 8-hour day;
- Protect workers from respirable crystalline silica exposures above the permissible exposure limit (PEL) of 50µg/m3, averaged over an 8-hour day;
- Limit workers' access to areas where they could be exposed above the PEL;
- Use dust controls to protect workers from silica exposures above the PEL;
- Provide respirators to workers when dust controls cannot limit exposures to the PEL;
- Use housekeeping methods that do not create airborne dust, if feasible;
- Establish and implement a written exposure-control plan that identifies tasks that involve exposure and methods used to protect workers;
- Offer medical exams—including chest x-rays and lung function tests—every three years for workers exposed at or above the action level for 30 or more days per year;
- Train workers on work operations that result in silica exposure and ways to limit exposure; and
- Keep records of exposure measurements, objective data and medical exams.

Increase Your Knowledge:

→ OSHA has published a *Small Entity Compliance Guide for the Respirable Crystalline Silica Standard for General Industry and Maritime*. This is a good resource for employers wishing to seek out more information on how to implement the changes in their work environment and educate their employees on the new procedures. https://bit.ly/2zqQgHt ***WMHS***

Did You Know?

The health risks associated with exposure to dust containing crystalline silica are well-known today, but it is important to note this wasn't always the case. In 1700, Dr. Bernardino Ramazzini found evidence of silicosis in stone cutters. Approximately 200 years later, Dr. Alice Hamilton, a physician whose work resulted in significant safety and health reforms, documented silica-related illnesses being common in granite workers.

In the early 1900s, granite cutters in Vermont acknowledged there was a connection between the dust they were inhaling and resulting fatal illnesses.

A slow, up-hill battle ensued, and employees struggled to attain proper ventilation and equipment. The real breakthrough came in the 1930s, when Federal Government responded in 1938. U.S. Secretary of Labor Francis Perkins held a National Silicosis Conference and initiated a campaign to "Stop Silicosis," asserting: "Our job is one of applying techniques and principles to every known silica dust hazard in American industry. We know the methods of control—let us put them in practice."

HAFCOVAC

SAFE ▸ SIMPLE ▸ CERTIFIED

EXPLOSION-PROOF CERTIFIED VACUUMS PRICE LEADER

SAFETY + POWER + COST + RELIABILITY = HAFCOVAC

HAFCO VACUUMS
HAVE THE **MOST**
POWERFUL
VENTURI SYSTEMS
WITH **LIFETIME**
WARRANTIES

FOR WET OR DRY USE

CERTIFIED OSHA COMPLIANT LIFETIME WARRANTY

SAME DAY SHIPPING

MADE IN THE * USA *

HAFCOVACHEPA

HEPA FILTRATION
included with all units

ATEX Ex II2DcT6X

Equivalent to National Fire Protection Association 70: NEC Rating:

Class I Division 1* Groups A, B, C, D T6 Zone 1
Class II Division 1* Groups E, F, G T6
Class III Division 1*

Zone 1 Only
Certified for use in a Division1 hazardous location, can be used in a Division2 hazardous location, providing it is in the same Class and Group

NFPA®

MEETS
652 654 484
REQUIREMENTS

PHONE: 201.447.0433 **TOLL-FREE:** 855-HAFCOVAC **EMAIL:** safety@hafcovac.com www.hafcovac.com

ANSI MH 28.3-2009 Design, Manufacture & Installation of Industrial Steel Work Platforms

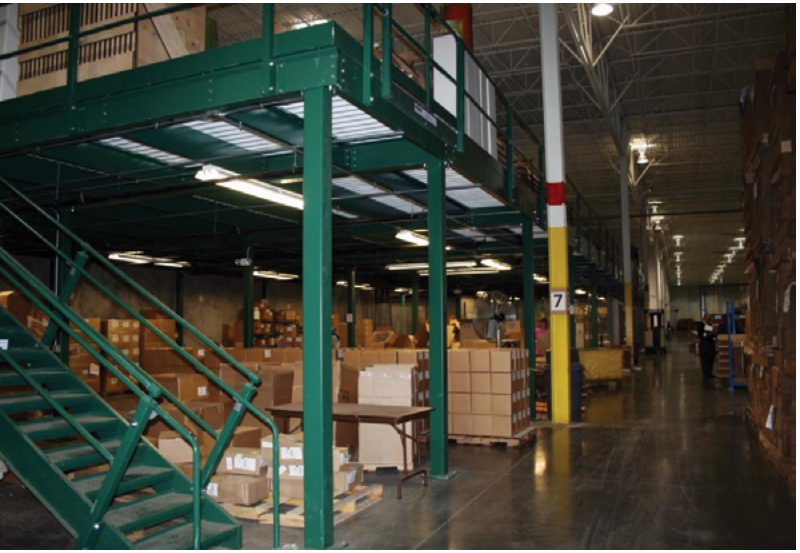


Photo courtesy Wildeck

"Quality Wildeck work platforms meet stringent industry standards and specified national, state, and local codes and are specifically designed to meet your size, load and span requirements. Our expertise and extensive manufacturing capability ensures that you receive more value today and for years to come."
Wildeck, 800-325-6939, www.wildeck.com

Did You Know?

This specification was developed under material handling industry procedures and approved by ANSI on October 27, 2009, for guidelines applied to industrial steel work platforms—a prefabricated elevated platform located in an industrial environment, predesigned using a steel framing system. The people working on such a platform should be properly trained employees, accustomed to a manufacturing or warehouse environment. Additionally, workers' clothing and PPE should be compatible with safety regulations.

Important to Know:

An industrial steel work platform, as defined in the ANSI MH28.3-2009 standard, is a prefabricated, elevated platform located in an industrial environment, which is predesigned using a steel framing system. Flooring may include other structural or non-structural elements such as, but not limited to, concrete, steel and/or engineered wood products. ANSI MH 28.3-2009 is a specification intended to be applied to the design, manufacturing, installation and maintenance of such structures.

This specification is intended for work platforms made from steel. All structural components in the framing system shall be made from steel, as specified in section 7.0 of the standard. The non-structural walking surface of the deck may be composed of a variety of material, including combustible material such as, but not limited to, engineering wood flooring.

Standard Requirements:

This specification is intended to apply to the design, manufacturing, installation and maintenance of steel work platforms.

The standard states that the owner shall maintain the integrity of the installed work platform by assuring proper operational housekeeping and maintenance procedures, including but not limited to, the following:

- Prohibit overloading at any one area of the overall platform.
- Keep the guardrail and handrail in place under normal conditions.
- Keep access and egress stairways free of debris.
- Properly enforce application restrictions as stated in the scope of the specification.
- When damaged, immediately unload the appropriate area of the structure, then repair or replace the damaged component(s).

The work platform should include plaques of less than 50 sq ins displayed in the following locations:

- Clearly visible on at least one riser of each stairway or other means of access
- At each access gate
- The plaques shall show in clear, legible print the maximum permissible uniformly distributed live load for the work platform. Special loads shall also be indicated on the plaque(s).

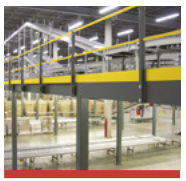
Increase Your Knowledge:

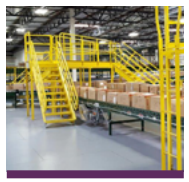
→ Copies of the standard can be downloaded for free at https://bit.ly/2Xa5USx.
→ Visit ANSI online at www.ansi.org for more information. ***WMHS***

YOUR PLATFORM TO AUTOMATION SUCCESS.

When it's time to automate your material handling, you can rely on Wildeck for solutions that will help you get the job done right. We'll find more space, enhance your efficiency, increase safety, and provide superior access products to give your operation the flexibility it needs.

FIND YOUR SPACE.™



WILDECK®

GUARDS
MEZZANINES
LIFTS
ACCESS

800-325-6939 | wildeck.com/automation

 WA 1810 AD

OSHA's General Industry Regulation:
29 CFR 1910.146, Permit-Required Confined Spaces

"You can't overstate the impact that the confined space legislation has had on the safety of our customers and on Industrial Scientific, as a whole. Before the standard was implemented in 1993, there was no guidance on gas detection. Few workers carried life-saving, multi-gas monitors, and there was little concern over sending workers into a confined space without knowing the atmospheric conditions within. Today, everything is different. This standard gives greater visibility into gas hazards and initiated a focus on safety that has paved the way for similar legislation around the world. And, on a personal level, the confined space standard has helped accelerate progress toward our company's vision of ending death on the job by 2050."
-Dave Wagner, Director of Applications Engineering and Product Knowledge, Industrial Scientific, www.indsci.com

Important to Know:

OSHA's *Permit-Required Confined Spaces* manual overviews this standard, stating: "Many workplaces contain spaces that are considered to be 'confined,' because their configurations hinder the activities of employees who must enter into, work in or exit from them. Due to the work environment, employees who perform tasks in confined spaces also face increased risk of exposure to serious physical injury from hazards, such as entrapment, engulfment and hazardous atmospheric conditions."

Confinement itself may pose entrapment hazards, and work in confined spaces may keep employees closer to hazards, such as machinery components, than they would be otherwise. The terms "permit-required confined space" and "permit space" refer to spaces that meet OSHA's definition of a "confined space" and contain health or safety hazards. For this reason, OSHA requires workers to have a permit to enter these spaces.

Standard Requirements:

According to osha.gov, OSHA's standard for confined spaces (29 CFR 1910.146) contains the requirements for practices and procedures to protect employees in general industry from the hazards of entering permit spaces. Employers in general industry must evaluate their workplaces to determine if spaces are permit spaces. If a workplace contains permit spaces, the employer must inform exposed employees of their existence, location and the hazards they pose. This can be done by posting danger signs, such as "DANGER—PERMIT-REQUIRED CONFINED SPACE—AUTHORIZED ENTRANTS ONLY" or using an equally effective means.

"This standard gives greater visibility into gas hazards and initiated a focus on safety that has paved the way for similar legislation around the world."

If employees are not to enter and work in permit spaces, employers must take effective measures to prevent them from entering these spaces. If employees are expected to enter permit spaces, the employer must develop a written permit space program and make it available to employees or their representatives.

Alternative to a full permit entry under certain conditions described in the standard, the employer may use alternate procedures for worker entry into a permit space. For example, if an employer can demonstrate with monitoring and inspection data that the only hazard is an actual or potential hazardous atmosphere that can be made safe for entry using continuous forced-air ventilation, the employer may be exempted from some requirements, such as permits and attendants. However, even in these circumstances, the employer must test the internal atmosphere of the space for oxygen content; flammable gases and vapors; and the potential for toxic air contaminants—before any employee enters it. The employer must also provide continuous ventilation and verify that the required measurements are performed before entry.

Increase Your Knowledge:

- OSHA offers help and training through several programs, including technical assistance about effective safety and health programs, state plans, workplace consultations, voluntary protection programs, strategic partnerships, training and education.
- For a complete detailed on this standard, go to https://bit.ly/2re6oei.
- For an article on gas detection in confined spaces, see "Gas Detection and Monitoring in Confined Spaces," *WMHS*, March 2018. Go to workplacepub.com for more on this and many other safety topics. ***WMHS***

Did You Know?

OSHA issued a general industry standard (29 CFR 1910.146) on January 14, 1993, to require protection for employees who enter permit-required confined spaces. The permit space standard, which provides a comprehensive regulatory framework for the safe performance of entry operations in general industry workplaces, became effective April 15, 1993.

The best teams

COMMUNICATE ... so do the best GAS DETECTORS

With the **Ventis® Pro5** from Industrial Scientific, Mike's teammates will know he's entered a high H_2S environment, so they can **respond faster** with more information—when every second counts.

See the Ventis Pro5 in action at
www.indsci.com/team-safety

INDUSTRIAL SCIENTIFIC

HILCO VISION
Creating Smart Optical Solutions since 1956

ANSI/ISEA Z87.1-2015:

American National Standard for Occupational and Educational Eye & Face Protection Devices

The ANZI Z87 safety standard is a guideline that is used to ensure that safety eyewear meets the harsh work conditions across all industries. At Hilco Vision, we use this as the minimum level of compliance. Our goal is not just to meet this standard, but to exceed it. We've invested the most sophisticated testing equipment, including high-speed photography. That enables us to review how eyewear reacts to high-speed and high-mass impacts, so that we can design the safest eyewear for our customers. We also know that eyewear made in one testing facility needs to be recreated in labs across the world. That is why we include edging recipe cards that assist laboratories in repeating the process. *Hilco Vision, 800-955-6544, www.hilcovision.com*

Important to Know:

ANSI/ISEA Z87.1-2015 sets forth criteria related to the general requirements, testing, permanent marking, selection, care and use of protectors to help minimize the occurrence and severity, or prevention of injuries, from hazards like impact, non-ionizing radiation and liquid splash exposures. This applies to both occupational and educational environments, including machinery operations, material welding and cutting, chemical handling and assembly operations, and others, according to ANSI.com.

The standard includes information that can assist in making informed decisions in selecting appropriate eye and face protection, such as the "Selection Guide" and "Protector Markings" tools.

Standard Requirements:

ANSI/ISEA Z87.1-2015 requires markings on eye protection that directly relate to the ability of the eye protection device to defend against specific hazards. If the eye protection is ANSI/ISEA Z87.1-2015-compliant, it will be marked (or etched) with Z87; must clearly indicate the manufacturer; and any additional markings to identify impact, dust, optical radiation and splash protection. Splash marks are not applied to lenses—they are on frames only.

Working with Chemicals - ANSI/ISEA Z87.1-2015 provides a test methodology and marking for "splash protection" (D3) on eye/face protectors. The standard does not specifically address protector performance against chemicals, including when splashed, because there are thousands of chemicals and hundreds of complicating environmental factors making the assessment of specific chemicals as part of the standard nearly impossible.

Optical Radiation - Understanding the dangers of optical hazards and the risks arising from the intensity and length of exposure time to optical radiation is critical when working indoors or outdoors. The most common radiation workplace hazards are:

- **Glare** – Bright, visible light generated from sources such as lamps, welding arcs or furnace operations; and outdoors—where direct or reflected sunlight is present. High levels of visible glare may cause discomfort and could impact visual clarity.
- **Ultraviolet** – Also known as UV, it is present in welding operations and is emitted from industrial lamps used for curing and sanitation purposes. UV energy can initiate photo-chemical reactions in the eye, and short-term effects can be "sun burn" of the cornea.
- **Blue Light** – The blue/violet portion of the visible light spectrum adjacent to the UV. It is transmitted through the eye, where long-term damage could occur with frequent exposures.
- **Infrared (IR)** – This is invisible, long-wavelength radiation that is typically experienced as heat energy from sources such as welding arcs, radiant lamps, ovens and furnaces; or accidental discharges of energy from electrical equipment.

Lasers and Electrical Safety - Other settings and workplaces where optical radiation hazards are present include operations with lasers or servicing of electrical equipment. These applications are outside of the scope of ANSI/ISEA Z87.1-2015.

Working with Molten Metal - Working around molten metal involves exposure to heat and, often, optical radiation, such as infrared (IR) and UV. When working near molten metal, the use of face protection, preferably in conjunction with appropriate eye protection, is recommended.

Table of Contents

Did You Know?

This standard was developed by the Z87 Committee on Safety Eye and Face Protection, which is administered by ISEA and approved by ANSI. Safety eyewear conforming to the standard is used in the U.S., and the standard is incorporated into OSHA regulations for PPE.

Providing adequate training for all supervisors and workers who require eye and face protection is crucial to ensuring worker safety. OSHA estimates that 90% of eye injuries can be prevented through the use of proper protective eyewear. Those who were injured while not wearing protective eyewear most often said they believed it was not required for the situation, or that they had received no information on where eyewear could be found and what kind of eyewear should be used.

The following is a suggested list of training objectives. Training should be site-specific and may need to cover more topics than are listed below:

- Recognize the hazards, environmental and other workplace factors, such as those described in the Hazard Assessment section
- Proper selection, fit and use of eye and face protectors for each application
- Inspection and maintenance of eye and face protectors
- How and where employees can obtain protective eyewear
- Where to get replacements and what to do if eye protection is missing from a workstation
- Manufacturer's instructions, warnings, cautions and equipment limitations should be reviewed and understood by the employees
- Always maintain PPE according to the manufacturer's requirements

Devices or lenses need to be replaced if all or part of the plastic looks cloudy; has lost its gloss; has droops; is crazed or marked by tiny cracks; or seems distorted. Chemical degradation can embrittle plastic and reduce impact protection. Replacement of the device or lenses should be immediate upon failing inspection or after impact.

ONGUARD® INDUSTRIAL SAFETY Rx EYEWEAR

Photo courtesy Hilco Vision

Working in Humid and/or Abrasive Environments - Three important barriers to eyewear PPE usage include lack of comfort and fit, fogging and scratching. While comfort and fit are subjective based on facial size, contour, nose bridge, etc., both antifog (AF) and anti-scratch (AS) performance is measurable. Fog forms on a surface when water vapor in the air condenses in fine droplets. A good anti-fog coating should prevent the formation of such droplets, but not all anti-fog coatings are the same.

Working Around Electricity - Under conditions where an arc flash may occur, PPE categories have been established that indicate the type of PPE needed, as well as what protection level is required (and to which it must perform). Eye and face protector performance against arc flash is specified in NFPA 70E, Standard for Electrical Safety in the Workplace.

Increase Your Knowledge:

→ For a complete, detailed list of ANSI standards, go to www.ANSI.org. ***WMHS***


ONGUARD®
INDUSTRIAL SAFETY Rx EYEWEAR
powered by HILCOVISION
100% MADE IN USA
For more information on our OnGuard Made in the USA frame line, please contact our customer care team at (800) 955-6544 or visit www.hilcovision.com.

Sponsored by MCR SAFETY

OSHA 1910.138:
Hand Protection, General Requirements

"The OSHA 1910.138 is one of the most important standards of protection that directly relates to the overall mission of MCR Safety. 'We Protect People' is what MCR Safety does on a daily basis by manufacturing safety gear utilizing the latest technology in raw materials. We may not shoulder a weapon or wear a badge. However, we do take pride in keeping America's workforce safe and injury free with MCR Safety Personal Protective Gear. #WeProtectPeople" *MCR Safety, www.mcrsafety.com, 800-955-6887*

Important to Know:

Many consider the use of gloves hard to comply with and unnecessary. Yet, more categories and classifications of gloves for broader purposes exist than ever before—cut-resistant, chemical protective, electrically-rated, infection control—just to name a few.

The PPE standard for hand protection, 29 CFR 1910.138, specifies the selection criteria to be used when providing hand protection and ensures that employers provide their workers with PPE that is relevant to their work. OSHA advises employers to use manufacturers' data on the effectiveness of any given product to protect against cold, as well as employee feedback, in selecting hand protection.


Photo courtesy MCR Safety


Photo courtesy MCR Safety

As stated in paragraph 2 of Appendix B, Assessment and Selection: *"It should be the responsibility of the safety officer to exercise common sense and appropriate expertise to accomplish these tasks."*

Standard Requirements:

The requirement is clearly stated on OSHA's website:

Standard 1910.138(a) General requirements: *"Employers shall select and require employees to use appropriate hand protection when employees' hands are exposed to hazards, such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes."*

Standard 1910.138(b) deals with the selection of such protective hand gear: *"Employers shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified."*

Increase Your Knowledge:

- OSHA has put out a *Guide for Personal Protective Equipment*, which includes a section outlining their policies on hand protection. Supervisors and people in charge of worker safety wishing to seek out more information can consult this comprehensive guide to personal protective equipment. www.osha.gov/Publications/osha3151.pdf ***WMHS***


Photo courtesy MCR Safety

Did You Know?

Back in the day, workers considered it a sign of durability and hardiness to not wear gloves when performing tasks in the workplace. Most never considered wearing gloves to keep a better grip on tools; prevent knuckle busters and burns; or just to keep the hands clean. This attitude is often still a problem in today's workforce. Hand injuries, including injury to fingernails and fingers, are often written off as first-aid usage and near-misses. That is why OSHA has come up with its 1910.138 standard outlining the general requirements employers should contemplate when selecting PPE equipment for hand protection.

Intelligent Manufacturing

The Next Generation of Gloves…

Product → Advanced Coatings

Process → Cutting-Edge Efficiencies

Planet → Eco-Friendly

MCR SAFETY

mcrsafety.com 800-955-6887

Sponsored by MAC•RAK

Assessment, Repair or Replacement of Damaged Rack (ANSI MH16.1-2012)

Mac Rak specializes in custom-engineered pallet rack repair kits, column protection and protective guarding for warehouse equipment. It has the nation's most complete line of the finest custom-engineered, guaranteed, bolted and welded rack repair products available to solve all rack repair needs. *Mac Rak, Inc., 815-723-7400, www.macrak.com*

Know the Requirements:

ANSI MH16.1-2012-Specification for the Design, Testing and Utilization of Industrial Steel Storage Racks applies to industrial pallet rack systems. This is a revision of MH16.1-2008 and is considered the voluntary industry consensus; it applies to industrial pallet rack systems, movable shelf racks and stacker racks made of cold-formed or hot-rolled steel.

The standard does not apply to other types of racks, i.e., cantilever, portable or racks made of material other than steel; nor does it apply to so-called "drive-in" or "drive-through" racks. ANSI MH16.1 has also recently been incorporated into the more general International Building Code (IBC), which now includes the ANSI requirements in the construction of all warehouses in the U.S.

Standard Requirements:

ANSI MH16.1-2012 has language that is specific to inspection and maintenance. The standard states the following:

In section 1.4.1 Owner Maintenance, the following is pertinent: "The racking system operator is responsible for maintenance and repair of the storage systems."

Section 1.4.9 Rack Damage states that, "upon visible damage, the pertinent portions of the rack shall be unloaded immediately and removed from service by the user until the damaged portion is repaired or replaced."

Inspection Specifics

It is important to have steel storage racks inspected regularly, in order to assess/check for any damage or potential faults. If an event occurs that might have resulted in a damaged rack, an immediate inspection should take place. Owners have complete control over how often to inspect their steel storage racks, but such inspections should be documented. It is recommended that inspections be conducted once a year, at least.

The Rack Manufacturers Institute (RMI) recommends four conditions for which pallet racking systems should be inspected. They are plumb and straight; visible rust or corrosion; load capacity; and damage.

The maximum top to bottom out of plumb ratio for a loaded rack is Total Rack Height/240in, according to ANSI MH16.1-2012. This is measured from the centerline of the column upright at the floor to the centerline of the column upright at the top of the shelf elevation.

Any rust or corrosion can indicate weakening metal. If paint is scraped, a rack may have suffered a collision and should be checked for plumbness and straightness of the upright columns.

Applicable information from the manufacturer's capacity specs should be prominently displayed on a plaque or sign at the end of each aisle (see "Did You Know?" section, below). Engineering should always be involved, if there is a change in the original weight load/configuration. Beam deflection can occur if overloaded, with the maximum allowable deflection, according to the 2012 standard, as follows: Length of the Beam/180in.

The most commonly damaged components are beams, upright columns and anchors. Separate damage to the components within the racking system is a common problem and can affect the entire system's safety.

Did You Know?

Signage matters! ANS MH16.1-2012 states that the owner is responsible for displaying a plaque or sign in one or more "conspicuous locations." This permanent sign "shall have an area of not less than 50 sq ins. Moreover, "plaques shall show in clear, legible print the maximum permissible unit load and/or maximum uniformly distributed load per level; the average unit load (Section 2.6.2), if applicable; and maximum total load per bay." It is also specified that "storage levels having multiple stacking of unit loads shall be so identified." It is considered the owner's responsibility to "ensure that the rack system is not altered in a manner that the plaque information is invalidated."

Increase Your Knowledge:

- Rack Manufacturer's Institute www.mhi.org/rmi
- ANSI MH16.1-2012 can be purchased at the ANSI webstore: https://bit.ly/336WecI *WMHS*

ENGINEERED RACK REPAIR & PROTECTION

AVOID DISASTER!

Common Rack Damage Can Lead to Catastrophe

Don't replace it. Repair it!

**All Styles, All Punches, All Dimensions,
All Colors of Pallet Rack… Mac Rak has a solution.**

Repairs in as little as 20 minutes with minimal disruption!

MAC-RAK

Call Today!

815-723-7400

info@macrak.com

Visit us at MacRak.com

RMI RACK MANUFACTURERS INSTITUTE ASSOCIATE

MHI

YOUR INDUSTRY CONNECTION MHEDA MEMBER Material Handling Equipment Distributors Association

NATIONAL SAFETY COUNCIL Member

Heat Stress Guide for Employers

COOLSHIRT Systems has been in the business of manufacturing liquid-cooled garments for over 30 years. Originating in the medical field, we've developed systems based on NASA technology, providing the most effective means of cooling and maintaining a safe core body temperature. Studies have shown that workers can make up to 60 unrecognized mistakes per hour when the heat index exceeds 95°F without cooling. Cool water circulated through garments cools 28 times faster than cool air. Our customers have discovered that cooling the worker, rather than the area they worked, was in many cases their only option. Keeping your core body temperature at acceptable levels increases productivity, reducing the errors that heat causes. ***COOLSHIRT Systems, www.coolshirt.com***

Important to Know:

Outdoor workers exposed to hot and humid conditions can be at risk of heat-related illness. The risk of heat-related illness becomes greater as the weather gets hotter and more humid. The combination of both air temperature and humidity affect how hot outdoor workers feel in hot-weather conditions.

Employers need to take into consideration the "heat index," which is a single value that takes both temperature and humidity into account. The higher the heat index, the hotter the weather feels. The heat index is considered a better measure than air temperature alone for estimating the risk to workers from environmental heat sources.

NOAA issues extreme-heat advisories to indicate when excessive, extended heat will occur. The advisories are based mainly on predicted heat index values:

- Excessive Heat Outlook: issued when the potential exists for extended excessive heat (heat index of 105-110°F) over the next 3-7 days. This is a good time to check on supplies, such as extra water coolers, and refresh worker training.
- Excessive Heat Watch: issued when excessive heat could occur within the next 24-72 hours, but the timing is uncertain.
- Excessive Heat Warning: issued when the heat index will be high enough to be life-threatening in the next 24 hours. This warning indicates that the excessive heat is imminent or has a very high probability of occurring.
- Excessive Heat Advisory: similar to an Excessive Heat Warning, but less serious. This is issued when the heat index could be uncomfortable or inconvenient but is not life-threatening if precautions are taken.

Know the Guidelines:

Extra measures, including implementing precautions at the appropriate risk level, are necessary for reducing the risk of heat stress for employees working outdoors in extreme heat. The employer's response at the four risk levels is the subject of the remainder of OSHA's guidelines. The steps employers should take in response to an elevated heat index are the same type of steps that they would follow to address other hazards in the workplace:

- Develop an illness-prevention plan for outdoor work based on the heat index.
- Train your workers how to recognize and prevent heat-related illness. Train workers about safe work practices before heat index levels go up. Workers should be prepared, so they recognize the signs and symptoms of heat-related illness; how to prevent it; and what to do if someone is demonstrating symptoms.
- Track the worksite heat index daily; communicate it and the required precautions to workers. Knowing how hot it will be during scheduled work activities can help to determine which preventive measures should be taken in preparation.
- Implement your plan; review and revise it throughout the summer.

Did You Know?

OSHA does not have a specific standard that covers working in hot environments. Nonetheless, under the OSH Act, employers have a duty to protect workers from recognized serious hazards in the workplace, including heat-related hazards. Using the Head Index: A guide for Employers was created to help employers and worksite supervisors prepare and implement hot weather plans. This guide explains how to use the heat index to determine when extra precautions are needed at a worksite, with the goal to protect workers from environmental contributions to heat-related illness.

OSHA' Critical Actions for Heat Risk

According to OSHA*, the most critical actions employers should take to help prevent heat-related illness at each risk level:

Heat Index	Risk Level	Suggested Measures
< 91°F	Lower-Caution	• Provide drinking water • Ensure that adequate medical services are available • Plan ahead for times when heat index is higher, including worker heat-safety training • Encourage workers to wear sunscreen • Acclimatize workers **If workers must wear heavy protective clothing, perform strenuous activity or work in the direct sun, additional precautions are recommended to protect workers from heat-related illness.**
91°-103°F	Moderate	In addition to the steps listed above: • Remind workers to drink water often (about four cups/hour) • Review heat-related illness topics with workers: how to recognize heat-related illness; how to prevent it; and what to do if someone gets sick • Schedule frequent breaks in a cool, shaded area • Acclimatize workers • Set up buddy system/instruct supervisors to watch workers for signs of heat-related illness **If workers must wear heavy protective clothing, perform strenuous activity or work in the direct sun, additional precautions are recommended to protect workers from heat-related illness.** **• Schedule activities at a time when the heat index is lower** **• Develop work/rest schedules** **Monitor workers closely**
103°-115°F	High	In addition to the steps listed above: • Alert workers of high-risk conditions • Actively encourage workers to drink plenty of water (about four cups/hour) • Limit physical exertion (e.g., use mechanical lifts) • Have a knowledgeable person at the worksite who is well-informed about heat-related illness and able to determine appropriate work/rest schedules • Establish and enforce work/rest schedules • Adjust work activities (e.g., reschedule work, pace/rotate jobs) • Use cooling techniques • Watch/communicate with workers at all times **When possible, reschedule activities to a time when heat index is lower**
> 115°F	Very High-Extreme	**Reschedule non-essential activity for days with a reduced heat index or to a time when the heat index is lower** **Move essential work tasks to the coolest part of the work shift; consider earlier start times, split shifts, or evening and night shifts.** **Strenuous work tasks and those requiring the use of heavy or non-breathable clothing or impermeable chemical protective clothing should not be conducted when the heat index is at or above 115°F.** If essential work must be done, in addition to the steps listed above: • Alert workers of extreme heat hazards • Establish water drinking schedule (about four cups/hour) • Develop and enforce protective work/rest schedules • Conduct physiological monitoring (e.g., pulse, temperature, etc.) Stop work if essential control methods are inadequate or unavailable.

*This chart is available online at http://www.osha.gov/SLTC/heatillness/heat_index/.

It is suggested that workers are trained before hot outdoor work begins, and training can be more effective if it is matched to job tasks and conditions and is reviewed and reinforced throughout hot weather conditions. The following OSHA-suggested training topics might be addressed in one session or in a series of shorter sessions:

- Risk factors for heat-related illness
- Different types of heat-related illness, including how to recognize common signs and symptoms
- Heat-related illness prevention procedures
- Importance of drinking small quantities of water often
- Importance of acclimatization; how it is developed; and how your worksite procedures address it
- Importance of immediately reporting signs or symptoms of heat-related illness to the supervisor
- Procedures for responding to possible heat-related illness
- Procedures to follow when contacting emergency medical services
- Procedures to ensure that clear and precise directions to the worksite will be provided to emergency medical services

Increase Your Knowledge:

→ You can find more about information about heat stress at *Using the Heat Index: A Guide for Employers* https://bit.ly/34v0nYJ or, for training documents, you can visit https://bit.ly/2M6Eto9. ***WMHS***

COOLSHIRT

TEMPERATURE CONTROLLED GARMENTS

*Work **better, safer** and **longer** in hot environments*

Multi Person Industrial **System**

3001-0004

Built around a 75 quart heavy-duty cooler to ensure that you and your crew stay cooler for a longer period of time. The cooler incorporates a water port panel that allows for up to 6 connections at once.

MobileCool **BP2**

2001-0005 | **$**714

Powered by a 7.4V lithium battery, this self-contained portable cooling system provides the portability needed to continue normal work functions without being tied down to a power outlet.

Industrial **Kit**

3002-00XX | **$**689

This complete kit comes with everything you need to stay cool and calm while on the work site: One COOLSHIRT, a rechargeable 7 hr. lithium battery with charger, an 8 ft. insulated hose, our endurance ice, and maintenance solution.

Arc Flash **Kit**

3002-00XX | **$**745

Featuring all the advantages of the Industrial Kit as well as an NFPA 70 E Arc Flash-certified 2COOL AR shirt, the Arc Flash Kit is the perfect choice for convenience, comfort and most importantly, safety.

No matter what your needs are, we have the perfect solution for you.

Office: 800-345-3176 **Fax: 678-289-4325** **www.coolshirt.com**

FR/Electrical Safety-NFPA 70E Standard

NFPA 70E is a key tool in easing the burden on Safety Professionals when it comes to the selection of appropriate rainwear. By simply stating that to be compliant with the standard, rainwear must comply with ASTM F1891, decision-makers do not have to worry about different stated levels of performance, job function or a hazard risk assessment: They can just find a product they like from a reputable manufacturer that meets the ASTM F1891 standard. —Brian Nutt, Product Director, Protective Clothing *Tingley Rubber Corporation, 800-631-5498, www.tingleyrubber.com*

Important to Know:

It is a widely recognized characterization that electricity is a serious workplace hazard. The human body will conduct electricity, if direct body contact is made with an electrically energized part, while similar contact is made at the same time with another conductive surface.

Simply put, electricity will find the fastest and easiest way to the ground, even if that is through a human body. Currents at levels as low as 3 milliamperes traveling through the body can cause serious, even fatal, injuries.

The NFPA created the NFPA 70E standard to address the electrical safety requirements for employees. Also titled as Standard for Electrical Safety in the Workplace, NFPA 70E was originally developed at OSHA's request. In fact, some suggest OSHA writes the safety decrees companies are required to follow, and NFPA describes to businesses how they should follow them.

NFPA 70E assists companies in complying with OSHA 1910 Subpart S and OSHA 1926 Subpart K. The standard helps companies and employees avoid workplace injuries and fatalities due to shock, electrocution, arc flash and arc blast.

Burns due to electrical accidents can be very serious. There are three basic types: electrical, which are the result of electric current flowing through the tissues; arc burns, which are the result of high temperatures produced by electric arcs or explosions close to the body; and thermal contact burns, which are typically caused by skin coming into contact with hot surfaces, such as electric conductors, conduits or other energized equipment. Any of these burns can happen simultaneously with each other.

Additionally, electric arcs can start fires and cause damage to equipment. In environments that have explosive gases or vapors or combustible dust in them, electric arcs can cause explosions.

Electrical accidents are usually caused by unsafe conditions of some variety due to unsafe equipment and installations, unsafe work environments or work practices, or a combination of all three.

Standard Requirements:

As in 2015, the 2018 edition of NFPA 70E continues to focus on risk management principles. Some of the major changes for 2018 are:

- **Risk Assessment Procedure:** This requirement emphasizes addressing human error and its negative consequences.
- **Hierarchy of Risk Controls Methods:** Listed according to their priority, they are the following:

  1. Elimination
  2. Substitution
  3. Engineering controls

Photo courtesy Tingley Rubber Corporation

Did You Know?

According to the U.S. Bureau of Labor Statistics' Census of Fatal Occupational Injuries and Survey of Occupational Injuries data compiled by Electrical Safety Foundation International (ESFI), there were 154 electrical fatalities in the US during 2016, a 15% increase over the 2015 total.

Exposure to electric current increased one place, to sixth on the list of occupational exposures leading to fatal injuries on the job. And, electrocutions constituted the vast majority of electrical fatalities, while electrical burns of all degrees were responsible for four fatalities in 2016.

Despite these bleak numbers, decades ago, the grim statistics of fatalities and serious injuries stemming from electrical accidents were even worse. This is why on February 16, 1972, OSHA incorporated the 1971 edition of the National Fire Protection Association's (NFPA) National Electrical Code (NEC), NFPA 70-1971, as the electrical standard for general industry. On January 16, 1981, OSHA revised its electrical installation standard, replacing the incorporation by reference of the 1971 NEC with relevant requirements from Part 1 of the 1979 edition of NFPA 70E. This revision simplified and clarified the electrical standard.

In 1981, safety-related work practice requirements were added and, in 1995, the concepts of "limits of approach" and "arc flash" were introduced. The last two decades have concentrated on personal protective equipment (PPE) requirements and the development of electrical safety programs and policies by employers.

The current emphasis is on a business's duty to have a comprehensive electrical safety program that is integrated with the occupational health and safety management system. The 2015 edition defined risk-management terminology and aligned the standard's requirements to risk management principles.

4. Awareness

5. PPE

- ✓ **Establishing an Electrically Safe Work Condition:** These are a set of instructions on how to logically set up an electrical safety program.
- ✓ **Estimating the Likelihood of Occurrence of an Arc Flash Incident:** This is a table to help assess the risk of an arc flash and applies to the incident energy analysis method.
- ✓ **Selection of Arc-Rated Clothing Using Incident Energy Analysis Method:** This is a table providing guidance on how to select gear when using the incident energy analysis method.

Increase Your Knowledge:

→ Copies of the standard can be purchased online from: https://bit.ly/2EC2v6o
→ From more information, please visit: https://www.nfpa.org ***WMHS***

ECLIPSE™

TRI-HAZARD® CHEMICAL RESISTANT, ARC FLASH AND FLASH FIRE PROTECTION

- Easy to identify blue color
- Lightweight, comfortable
- Resists acids, chemicals, and caustics
- Ideal for petrochemical, off-shore drilling, or wherever flash fire protection is required

MEETS ASTM F1891
MEETS ASTM F2733

TINGLEY

Learn more: www.tingleyrubber.com

Emergency Eyewash & Shower Equipment: ANSI/ISEA Z358.1-2014

Haws® Services is a warranty and service provider for all brands of emergency shower and eye/face wash products to ensure your emergency equipment is ANSI-compliant and functioning properly. From startup and commissioning to annual inspections and preventative maintenance, Haws Services' experts specialize in emergency response equipment. *Haws Services, Haws Co., www.hawsco.com*

Important to Know:

The first 10-15 seconds after exposure to a hazardous substance, especially a corrosive substance, are critical. Delaying treatment, even for a few seconds, may cause serious injury.

This ANSI standard establishes minimum performance and use requirements for eyewash and shower equipment for the emergency treatment of the eyes or body of a person who has been exposed to hazardous materials. It covers the following types of equipment: emergency showers, eyewashes, eye/face washes and combination units.

Standard Requirements:

The standard contains specific language for both showers and eyewashes, including performance, installation, maintenance and training components.

EMERGENCY SHOWERS

Performance: A means shall be provided to ensure that a controlled flow of flushing fluid is provided at a velocity low enough to be non-injurious to the user.

- Emergency showers shall be capable of delivering flushing fluid at a minimum of 75.7 liters/minute (20gpm) for a minimum of 15 minutes. If shut-off valves are installed in the supply line for maintenance purposes, provisions shall be made to prevent unauthorized shut off.
- Emergency showers shall provide a flushing fluid column that is at least 208.3cm (82in) and not more than 243.8cm (96in) in height from the surface on which the user stands.
- The spray pattern shall have a minimum diameter of 50.8cm (20in) at 152.4cm (60in) above the surface on which the user stands. The center of the spray pattern shall be located at least 40.6cm (16in) from any obstruction. The flushing fluid shall be substantially dispersed throughout the pattern.
- Emergency showers shall be designed, manufactured and installed in such a manner that, once activated, they can be used without requiring the use of the operator's hands.
- Emergency showers shall be constructed of materials that will not corrode in the presence of the flushing fluid. Stored flushing fluid shall be protected against airborne contaminants.

Installation: When the self-contained emergency shower is installed, its installation shall be verified in accordance with manufacturer's instructions. It is the installer's responsibility to ensure that emergency showers shall:

- Be assembled and installed in accordance with the manufacturer's instructions, including flushing fluid delivery requirements.
- Be in accessible locations that require no more than 10 seconds to reach. The emergency shower shall be located on the same level as the hazard; the path of travel shall be free of obstructions that may inhibit its immediate use.
- Be located in an area identified with a highly visible sign, positioned so the sign shall be visible within the area served by the emergency shower. The area around the emergency shower shall be well-lit.
- Be positioned so that the shower pattern is dispersed such that the top of the flushing fluid column is at least 208.3cm (82in) and not more than 243.8cm (96in) from the surface on which the user stands. The center of the spray shall be at least 40.6cm (16in) from any obstruction.

Photo Courtesy Haws Co.

- Be connected to a supply of flushing fluid per the manufacturer's installation instructions to produce the required spray pattern for a minimum period of 15 minutes. Where the possibility of freezing conditions exists, the emergency shower shall be protected from freezing, or freeze-protected equipment shall be installed. If shut-off valves are installed in the shower line for maintenance purposes, provisions shall be made to prevent unauthorized shut off.

Did You Know?

Emergency eyewash stations, as well as shower equipment, are addressed by ANSI/ISEA Z358.1-2014: American National Standard for Emergency Eyewash and Shower Equipment. This standard, written and published by the International Safety Equipment Association (ISEA), an ANSI-accredited standards developing organization, establishes minimum performance and use guidelines for eyewash and shower equipment for the emergency treatment of the eyes or body of someone who has been exposed to hazardous materials.

Regarding personnel safety, there are multiple factors to take into account when handling hazardous materials in factories, laboratories or other workplaces. Emergency showers and eyewash stations need to remain visible, easily accessible and reliable. They are a final level of protection, in many cases, as they can sufficiently combat any chemicals or other hazardous materials that may make contact with one's eyes or body.

OSHA regulations address emergency eyewash and shower equipment in 29 CFR 1910.151. Specifically, 1910.151(c) states: "Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use."

However, this is the only federal requirement for emergency eyewash and shower equipment. OSHA has often referred employers to ANSI Z358.1 as a recognized source of guidance for protecting employees who are exposed to injurious corrosive materials. The standard has also been adopted by many governmental organizations and the International Plumbing Code.

- Deliver tepid flushing fluid. In circumstances where chemi-cal reaction is accelerated by flushing fluid temperature, a facility's safety/health advisor should be consulted for the optimum temperature for each application.

- When the plumbed emergency shower is installed, its performance shall be verified in accordance with the following procedures:

  1. With the unit correctly connected to the flushing fluid source and the valve(s) closed, visually check the piping connections for leaks;

  2. Open the valve to the full-open position. The valve shall remain open without requiring further use of the operator's hands.

  3. With the valve in the fully opened position, measure the diameter of the spray pattern. It shall be a minimum of 50.8cm (20in) at 152.4cm (60in) above the standing surface. The flushing fluid shall be substantially dispersed throughout the pattern.

  4. Using the flowmeter or other means, determine that the rate of flow is at least 75.7 liters/minute (20gpm).

  5. Using a temperature gauge or other means, determine that the flushing fluid is tepid.

Maintenance and Training:

Manufacturers shall provide operation, inspection and maintenance instructions with emergency shower equipment. Instructions shall be readily accessible to maintenance and training personnel.

- Plumbed emergency showers shall be activated weekly for a period long enough to verify operation and ensure that flushing fluid is available.

- Self-contained emergency showers shall be visually checked weekly to determine if flushing fluid needs to be changed or supplemented. Such inspection shall be conducted in accordance with manufacturer's instructions.

- Employees who may be exposed to hazardous materials shall be instructed in the location and proper use of emergency showers.

- All emergency showers shall be inspected annually to assure conformance with this standard.

EYEWASH EQUIPMENT

Performance:

A means shall be provided to ensure that a controlled flow of flushing fluid is provided to both eyes simultaneously, at a velocity low enough to be non-injurious to the user.

- The eyewash shall be designed and positioned in such a way as to pose no hazard to the user.

- Nozzles and flushing fluid units shall be protected from airborne contaminants. Whatever means is used to afford such protection, its removal shall not require a separate motion by the operator when activating the unit.

- Eyewashes shall be designed, manufactured and installed in such a manner that, once activated, they can be used without requiring the use of the operator's hands.

- Eyewashes shall be constructed of materials that will not corrode in the presence of the flushing fluid.

- Eyewashes shall be capable of delivering flushing fluid to the eyes not less than 1.5 liters/minute (0.4gpm) for 15 minutes. If shut-off valves are installed in the supply line for maintenance purposes, provisions shall be made to prevent unauthorized shut off.

- Eyewashes shall be designed to provide enough room to allow the eyelids to be held open with the hands while the eyes are in the flushing fluid stream.

- Eyewashes shall provide flushing fluid to both eyes simultaneously. A test gauge for making determination of a suitable eyewash pattern shall be a minimum 10.16cm (4in) in length with two sets of parallel lines equidistant from the center. The interior set of lines shall be 3.18cm (1.25in) apart and the exterior lines shall be 8.26cm (3.25in) apart. Place the gauge in the stream of the eyewash. The flushing fluid shall cover the areas between the interior and exterior lines of the gauge at some point less than 20.3cm (8in) above the eyewash nozzle(s).

Maintenance and Training:

Manufacturers shall provide operation, inspection and maintenance instructions with eyewashes. Instructions shall be readily accessible to maintenance and inspection personnel.

- Plumbed eyewashes shall be activated weekly for a period long enough to verify operation and ensure that flushing fluid is available.

- Self-contained eyewashes shall be visually checked weekly to determine if flushing fluid needs to be changed or supplemented. Such inspection shall be conducted in accordance with manufacturer's instructions.

- Employees who may be exposed to hazardous materials shall be instructed in the location and proper use of emergency eyewashes.

- All eyewashes shall be inspected annually to assure conformance with this standard.

Increase Your Knowledge:

- The standard is available at the ANSI Webstore, along with information, specifications, performance guidelines, and illustrations for emergency shower and eyewash stations: https://bit.ly/2Rj5JjY
- Read more at the ANSI Blog: Standard for Emergency Eyewash and Shower Stations: ANSI/ISEA Z358.1-2014 https://bit.ly/2Rj17KP ***WMHS***

ON-SITE EMERGENCY EYE/FACE WASH AND SHOWER ANSI COMPLIANCE SERVICES

Haws® provides the most comprehensive service offering in the market today with in-depth, on-site evaluation and testing of your emergency eye/face wash and showers against ANSI Z358.1 requirements. With detailed reporting, gap identification and mitigation recommendations performed by experienced ANSI compliance experts, our team will work with your facility to make sure your equipment meets the annual standard.

ADDITIONAL SERVICES INCLUDE:

- Preventative maintenance to guarantee accurate cleaning, inspection and replacement of necessary parts and to ensure proper functionality and longevity of your emergency equipment
- Emergency equipment product repairs and upgrades performed by experienced and knowledgeable ANSI compliance experts
- Reliable product commissioning for new and existing systems
- Extensive ANSI Z358.1 competent person training to help your team better understand the importance of compliant equipment

Haws® SERVICES

Reach out to our safety experts to schedule a site survey
www.hawsco.com/services • 1.888.640.4297

Sponsored by

SafetyRailCompany
Fall Protection for Life and Compliance

OSHA 1910.29 Fall Protection Systems and Falling Object Protection

Safety Rail Company manufactures the SRC360 Mobile Railing System, a free-standing, non-penetrating railing system that complies with OSHA 1910.28 and 1910.29, qualifying as a passive barrier system between the worker and fall hazard. This engineered, fall-protection system ranks high in OSHA's hierarchy of controls when addressing fall hazards. Engineered solutions are the most favored course of preventative action over implementing some sort of administrative or PPE protocol for controlling worker exposures. Passive barrier systems do not require significant training or compliance protocols associated with administrative or active fall protection solutions. In low-slope, commercial roofing applications, the SRC360 is an ideal solution for fall hazard areas and can be left in place permanently to protect all trades that access the roof. *Safety Rail Company, www.safetyrailcompany.com, 888-434-2720*

Important to Know:

According the OSHA 1910.29 standard requirements, employers must ensure each personal fall protection system meets the specified requirements, as well as provide and install all fall protection systems and falling object protection complying with other requirements in the standard subpart. This must be done *before* any employee begins work that requires fall or falling object protection.

Standard Requirements:

OSHA 1910.29 states the employer must ensure guardrail systems meet the following requirements:

- The top edge height of top rails, or equivalent guardrail system members, are 42in, plus or minus 3in, above the walking-working surface. The top edge height may exceed 45in, provided the guardrail system meets all other criteria of paragraph (b) in accordance to this section of the OSHA 1910.29 standard.

- Midrails, screens, mesh, intermediate vertical members, solid panels or equivalent intermediate members are installed between the walking-working surface and the top edge of the guardrail system as follows, when there is not a wall or parapet that is at least 21in high:
  - Midrails are installed at a height midway between the top edge of the guardrail system and the walking-working surface;
  - Screens and mesh extend from the walking-working surface to the top rail and along the entire opening between top rail supports;
  - Intermediate vertical members (such as balusters) are installed no more than 19in apart; and
  - Other equivalent intermediate members (such as additional midrails and architectural panels) are installed so that the openings are not more than 19in wide.

- Guardrail systems are capable of withstanding, without failure, a force of at least 200lbs applied in a downward or outward direction within 2in of the top edge, at any point along the top rail.

- When the 200-lb test load is applied in a downward direction, the top rail of the guardrail system must not deflect to a height of less than 39in above the walking-working surface.

- Midrails, screens, mesh, intermediate vertical members, solid panels and other equivalent intermediate members are capable of withstanding, without failure, a force of at least 150lbs applied in any downward or outward direction at any point along the intermediate member.

- Guardrail systems are smooth-surfaced to protect employees from injury, such as punctures or lacerations, and to prevent catching or snagging of clothing.

- The ends of top rails and midrails do not overhang the terminal posts, except where the overhang does not pose a projection hazard for employees.

- Steel banding and plastic banding are not used for top rails or midrails.

- Top rails and midrails are at least 0.25in in diameter or in thickness.

- When guardrail systems are used at hoist areas, a removable guardrail section, consisting of a top rail and midrail, are placed across the access opening between guardrail sections when employees are not performing hoisting operations. The employer may use chains or gates instead of a removable guardrail section at hoist areas if the employer demonstrates the chains or gates provide a level of safety equivalent to guardrails.

- When guardrail systems are used around holes, they are installed on all unprotected sides or edges of the hole.

- For guardrail systems used around holes through which materials may be passed when materials are being passed through the hole, not more than two sides of the guardrail system are removed; and when materials are not being passed through

the hole, the hole must be guarded by a guardrail system along all unprotected sides or edges or closed over with a cover.

- When guardrail systems are used around holes that serve as points of access (such as ladderways), the guardrail system opening needs to have a self-closing gate that slides or swings away from the hole, and is equipped with a top rail and midrail or equivalent intermediate member that meets the requirements; or is offset to prevent an employee from walking or falling into the hole.

- Guardrail systems on ramps and runways are installed along each unprotected side or edge.

- Manila or synthetic rope used for top rails or midrails are inspected as necessary to ensure that the rope continues to meet the strength requirements.

When the employer uses a designated area, the employer must ensure employees remain within the designated area while work operations are underway, and the perimeter of the designated area is delineated with a warning line consisting of a rope, wire, tape or chain that meets the requirements of the standard. The employer must ensure each warning line:

- Has a minimum breaking strength of 200lbs;

- Is installed so its lowest point, including sag, is not less than 34in and not more than 39in above the walking-working surface;

- Is supported in such a manner that pulling on one section of the line will not result in slack being taken up in adjacent sections, causing the line to fall below the limits specified in the standard;

- Is clearly visible from a distance of 25ft away and anywhere within the designated area;

- Is erected as close to the work area as the task permits; and

- Is erected not less than 6ft from the roof edge for work that is both temporary and infrequent, or not less than 15ft for other work.

- When mobile mechanical equipment is used to perform work that is both temporary and infrequent in a designated area, the employer is required to ensure the warning line is erected not less than 6ft from the unprotected side or edge that is parallel to the direction in which the mechanical equipment is operated, and not less than 10ft from the unprotected side or edge that is perpendicular to the direction in which the mechanical equipment is operated.

In accordance with the standard, the employer must ensure each cover for a hole in a walking-working surface is capable of supporting, without failure, at least twice the maximum intended load that may be enforced on the cover at any one time and is secured to prevent accidental displacement.

The employer must also ensure that handrails are not less than 30in and not more than 38in, as measured from the leading edge of the stair tread to the top surface of the handrail.

OSHA 1910.29 states that the height of stair rail systems needs to meet the following:

- The height of stair rail systems installed before January 17, 2017 is not less than 30in from the leading edge of the stair tread to the top surface of the top rail; and the height of stair rail systems installed on or after January 17, 2017 is not less than 42in from the leading edge of the stair tread to the top surface of the top rail.

According to OSHA 1910.29, the top rail of a stair rail system may serve as a handrail only when the height of the stair rail system is not less than 36in and not more than 38in, as measured at the leading edge of the stair tread to the top surface of the top rail; and the top rail of the stair rail system meets the other handrail requirements.

Employers must also ensure that cages and wells installed on fixed ladders are designed, constructed and maintained to permit easy access to, and egress from, the ladder that they enclose. Employers must also ensure:

- Cages and wells are continuous throughout the length of the fixed ladder, except for access, egress and other transfer points;

- Cages and wells are designed, constructed and maintained to contain employees in the event of a fall, and to direct them to a lower landing; and

- Platforms used with fixed ladders provide a horizontal surface of at least 24 x 30in.

Increase Your Knowledge:

→ For full details on this standard visit OSHAS website at www.OSHA.gov. ***WMHS***

Did You Know?

Prior to an employee being exposed to a fall hazard, the employer must provide training for personal fall protection systems. The employer must ensure that each employee is trained by a qualified person in the nature of the fall hazards in the work area and how to recognize them; the procedures that should be followed to minimize the hazards; and the correct procedures and systems.

OSHA COMPLIANT ROOF SAFETY FOR GENERAL INDUSTRY IS SMART BUSINESS

OUR SAFETY SOLUTIONS HAVE YOU COVERED

OSHA 29 CFR 1910.28(b)(1)(i)&A

SAFETY RAILINGS/
FOR ROOF PERIMETERS

OSHA 29 CFR 1910.28(b)(3)(iv)

ROOF HATCH GUARDS/
FOR OPEN HOLES

OSHA 29 CFR 1910.29(b)(13)(i)(ii)

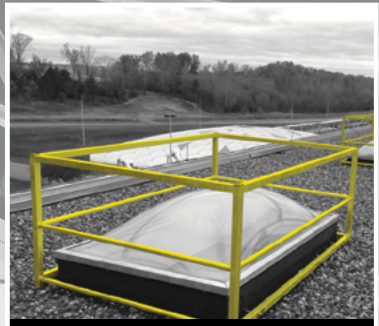
FIXED LADDER ACCESS/
FOR LEADING EDGES

OSHA 29 CFR 1910.28(c)(1)

GUARDRAILS/
FOR FALLING OBJECTS

OSHA 29 CFR 1910.28(b)(13)(i-iii)&(A)

WARNING LINES/
FOR DESIGNATED AREAS



OSHA 29 CFR 1910.28(b)(3)(i)(A-B)

SKYLIGHT PROTECTION/
FOR OPEN HOLES

(Note: OSHA standards cited are intended as an initial reference point. Other OSHA standards may also apply.)

Safety Rail Company is your one-stop destination for OSHA compliant safety solutions to prevent falls and injury.

Every product is designed for simple installation and flexible integration into any commercial or industrial application. All of our products work together to create a comprehensive fall-prevention solution.

**PROTECT LIVES.
BE OSHA COMPLIANT.
CONTACT US TODAY.**

SafetyRailCompany
Fall Protection for Life and Compliance

MADE IN USA

SAFETYRAILCOMPANY.COM | 888.434.2720

OSHA 1910.1153 Silica in Construction

Industry leaders have been using real-time dust monitors to aid the assessment and management of workers' exposure to hazardous particles in a much more cost effective way. However, OSHA's recent acceptance of real-time monitors has accelerated the collaborations between industry and regulators worldwide to look into how best to utilize real-time monitors in the prevention and isolation of pollution sources. Nanozen has been chosen by many international companies as the real-time dust monitor partner to aid the development and management of HSE 4.0 towards the reduction and complete elimination of workers' exposure to workplace health hazards, starting with particles in the workplace. ***Nanozen, www.nanozen.com, 1-844-nanozen***

Important to Know:

Workers who are exposed to respirable crystalline silica dust are at an increased risk of developing serious silica-related diseases. OSHA's standard for respirable crystalline silica requires employers to take necessary steps to protect their workers from respirable crystalline silica exposures.

According to OSHA, exposure to respirable crystalline silica can occur during common construction tasks, such as using masonry saws, grinders, drills, jackhammers and handheld powered chipping tools; operating vehicle-mounted drilling rigs; milling; operating crushing machines; using heavy equipment for demolition or certain other tasks; and during abrasive blasting and tunneling operations. About 2 million construction workers are exposed to respirable crystalline silica in over 600,000 workplaces.

Standard Requirements:

According to the standard requirements, employers can either use a control method of the construction standard, or they can measure workers' exposure to silica and independently decide which dust controls work best to limit exposures in their workplaces to the permissible exposure limit (PEL).

All construction employers covered by the standard are required to do the following, regardless of which exposure control method is used:

- Establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to protect workers, including procedures to restrict access to work areas where high exposures may occur with a designate a competent person to implement the written exposure control plan;
- Restrict housekeeping practices that expose workers to silica (such as use of compressed air without a ventilation system to capture the dust and/or dry sweeping), where effective, safe alternatives are available;
- Offer medical examinations every three years for workers who are required by the standard to wear a respirator for 30 or more days per year, which would include chest X-rays and lung function tests;
- Train workers on the health effects of silica exposure; workplace tasks that can expose them to silica; and ways to limit exposure; and
- Employers must keep records of their workers' silica exposure and medical exams.

Photo courtesy Nanozen

Increase Your Knowledge:

→ You can learn more about OSHA's silica standard by visiting www.osha.gov/silica. OSHA can also provide compliance assistance through a variety of programs, including technical assistance about effective safety and health programs, workplace consultations, and training and education. ***WMHS***

Did You Know?

About 2 million construction workers are exposed to respirable crystalline silica in over 600,000 workplaces. With the 110,000 worker deaths per year directly from airborne contaminants and the 2 million worker deaths from occupational diseases, half of them are respiratory/circulatory related to dust inhalation. This is 10x the number of deaths from traumatic safety issues. Being that these are latent, they have been ignored—especially in construction, as well as for open-pit mining—because workers are outdoors. These conditions are now recognized as a huge risk, with standards and proper training practices required.

nanozen
know the air you breathe®

FRUSTRATED BY SLOW GRAVIMETRIC TESTING RESULTS?

DustCount® 88xx

CUT DUST EXPOSURE ANALYSIS AND REMEDIATION EXPLORATION FROM WEEKS TO MINUTES

Nanozen's DustCount®, the industries smallest and lightest optical particle counter, offers accurate real-time personal dust monitoring which helps shave days and weeks off your current assessment and remediation efforts.
To learn more visit
www.nanozen.com/speedmatters

DustCount® 9000

- PM 2.5, PM 4, PM 10 & Inhalable
- Easy input of custom silica percentage
- No cyclone required
- Built-in sampling filter
- Selectable dust types
- Integrated wireless control/data

1-844-nanozen / www.nanozen.com

OSHA 1910.136(a): Foot Protection

Following OSHA standards does not only lead to a safer workplace, but also results in greater productivity and profitability for your business. When employees know that they are safe at work, they feel valued by their employer. That empowers them to be personally invested in their jobs. ***Impacto Protective Products Inc., 888-232-0031, www.impacto.ca***

Important to Know:

According to data from the U.S. Bureau of Labor Statistics (BLS), a total of 5,190 workers died from an occupational injury in 2016. This number increased by 7% from 2015 and is the highest count since 2008.

Companies that do not comply with OSHA regulations can find themselves with citations and fines. Fees for violations start at a few thousand dollars, but OSHA raised its maximum penalties in 2018 from $12,600 to $12,934 for "serious" and "other-than-serious" violations. Plus, "willful or repeat" violations can now carry a maximum of $129,336.

BLS data also reports approximately 120,000 workers annually suffer from toe, foot and ankle injuries, which average six days to heal. Adding up the cost of OSHA fines, plus the loss in productivity caused by an injury and possible workers' compensation costs, as well as the possibility of an additional hire, lack of foot protection can mean big bucks for a company.

Standard Requirements:

OSHA's 1910.136 (a) standard says:

"The employer shall ensure that each affected employee uses protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects; or objects piercing the sole; or when the use of protective footwear will protect the affected employee from an electrical hazard, such as a static-discharge or electric-shock hazard, that remains after the employer takes other necessary protective measures."

OSHA suggests protective footwear be worn in situations involving the following: corrosive or poisonous materials; electrical hazards; static electricity that could cause an explosion; heavy objects that could roll onto feet; sharp objects that could puncture the foot; molten metal that could splash onto feet; and hot or slippery surfaces.

Employers are responsible to ensure employees wear footwear that protects against the hazards they will encounter on the job. The footwear also must meet industry consensus standards, such as ASTM F2412-11, Standard Test Methods for Foot Protection, which

© Dmytro Mykhailov - stock.adobe.com

requires footwear's performance to be evaluated for impact and compression resistance in the toe area; metatarsal and puncture protection; conductive properties to reduce hazards from static electricity buildup; electrical hazards from stepping on a live wire; and static dissipative properties.

OSHA recommends companies conducting an assessment either by an in-house safety staff member or by an outside consultant to determine the correct protective footwear.

Increase Your Knowledge:

- For more information, please visit: https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.136 ***WMHS***

Did You Know?

As part of the rules and regulations regarding workplace safety, OSHA requires protective footwear for workers in industrial settings. Occupational foot protection is included in the Personal Protective Equipment (PPE) section of the Occupational Safety and Health Standards, specifically 29 CFR 1910.136.

The existing OSHA standards for PPE are contained in Subpart I of OSHA's general industry standards. These standards were adopted in 1971 from established federal standards and national consensus standards. Originally, 29 CFR 1910.136 incorporated the ASTM F2412-05 Standard Test Methods for Foot Protection, F2413-05 Standard Specification for Performance Requirements for Protective Footwear and the American National Standards Institute (ANSI) American National Standard for Personal Protection-Protective Footwear (ANSI Z41-1999 and Z41-1991). In March 2005, the ANSI Z41 reference was withdrawn and replaced by the ASTM Standards.

In 2007, OSHA issued a rule requiring employers to provide PPE at no cost to their employees when the PPE is used to comply with OSHA standards. Specific to footwear, the rule said employers aren't required to pay for non-specialty, safety-toe protective footwear when the employee is able to wear it off the workplace. But, if employees are required by employers to keep non-specialty, safety-toe protective footwear at the workplace, companies must pay for that footwear. If the safety-toe protective footwear is a non-standard "specialty" item, such as non-skid shoes, the employer must pay for them. OSHA also orders employers to pay for required footwear using metatarsal protection.


METGUARD
19 88
IMPACTO
PROTECTIVE PRODUCTS
WWW.IMPACTO.CA
COMFORTABLY WORKING HARD
1-888-232-0031 · WWW.IMPACTO.CA · INFO@IMPACTO.CA

Dropped Object Prevention: ANSI/ISEA 121-2018

"This is big, because it establishes tethering systems as best practice when it comes to falling object safety," said Nate Bohmbach, Product Director at Ergodyne and the Chairman of the ISEA committee that developed this standard. "To date, many have been content with PPE, such as hard hats; or administrative controls, such as barricade tape, but those do not prevent items from falling, nor do they eliminate potential injury. Tethering systems prevent the items from falling altogether, and without this standard, there would be nothing to differentiate duct tape and string from a properly rated tool lanyard and attachment point." *Ergodyne, 800-225-8238, www.ergodyne.com*

Important to Know:

Objects dropped from height can strike with a great deal of force, and the only way to reduce the chance of injury or harm from dropped objects is to prevent these accidental drops. Again, according to the Bureau of Labor Statistics, overall "struck-by" injuries were up 8.7% during the 2013-2014 period; more than 52,000 "struck by falling object" OSHA-recordable incidents occur each year in the U.S., according to OSHA, with 5% percent of all workplace fatalities in 2015 due to strikes by a falling object. And, they are projected to increase to 9% by the end of 2018. In fact, one insurance company said it paid out more than $5 billion in workers' compensation claims from 2013-2014. Damage to equipment, structures or the environment are not included in these claims.

ANSI/ISEA 121-2018 is groundbreaking, in that it requires dropped object prevention (DOP) solutions to go through dynamic drop-testing to be considered fit for use. Dynamic drop-testing involves dropping an object of known weight multiple times. If the DOP device being tested prevents a drop, it passes; if the device breaks and the object drops, it fails.

Standard Requirements:

Developed by the ANSI and the International Safety Equipment Association (ISEA), ANSI/ISEA 121-2018, American National Standard for Dropped Object Prevention Solutions establishes minimum design, performance and labeling requirements for solutions and testing that mitigate this hazard.

The standard addresses four active controls against dropped objects, including:

- ✔ Anchor Attachments
- ✔ Tool Attachments
- ✔ Tool Tethers
- ✔ Containers

The standard will not include passive controls, like netting and toeboards, nor will it include longstanding falling object PPE, like hard hats, eyewear and safety footwear. The standard is limited to the identified scope and offers further guidance in various appendices. Utilization and use of the equipment outlined in this standard may differ between manufacturers offering it and employers using it.

Photo courtesy Ergodyne

Increase Your Knowledge:

- → Copies of the standard can be purchased online from ISEA: https://bit.ly/2LkwxQV
- → Visit OSHA online at https://bit.ly/2DrpxO8 for more information. ***WMHS***

Did You Know?

The ANSI/ISEA 121-2018, American National Standard for Dropped Object Prevention Solutions standard comes in response to the thousands of workers each year in the U.S. who are injured (and hundreds who have died) from being struck by falling objects, such as hand tools, instrumentation, small parts, structural components and other items that have to be transferred and used at heights.

In 2016, the Bureau of Labor Statistics reports there were 255 fatalities and 47,920 reported injuries from dropped objects in the U. S., making this the third-leading cause of injuries on the jobsite, according to OSHA. Compared to 2015, deaths from dropped objects were up approximately 3% with injuries increased by nearly 7%.

ISEA formed the Dropped Object Prevention Group, which included leading safety equipment manufacturers, to standardize solutions available to protect workers from objects dropped from heights. The standard was developed "from scratch" and is not a revision of anything. Before this standard, many workers have been tethering their tools and equipment using duct tape or rope. This standard guides employers and workers toward safer, more reliable solutions.

Table of Contents

TENACIOUS
ergodyne
WORK GEAR
est. 1983

SQUIDS® TOOL TETHERING SYSTEMS TESTED TO ANSI/ISEA 121-2018

Visit **ergo.zone/drops** to learn more about the new standard in at-heights safety and how to get your dropped objects program off the ground.

THANKS TO OUR SPONSORS

WORKPLACE
Material Handling & Safety

An RDG Media Inc. Publication
822 Central Ave., Suite 340, Fort Dodge, IA 50501
(888) 247-2007 | www.workplacepub.com