



White Paper

A GUIDE TO OSHA'S FOOTWEAR REGULATIONS

Good shoes make better employees

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Outfitting employees with appropriate footwear reduces injuries. Protecting employees' feet, ankles and knees with good industrial footwear cuts lost work hours, improves productivity and heightens morale.

To abide by federal regulations adopted and enforced by the Occupational Safety & Health Administration (OSHA), protective footwear is required for workers in industrial settings. OSHA has thousands of rules and regulations regarding workplace safety, including section 29 CFR 1910.136 on occupational foot protection.

Failure to comply with OSHA regulations can result in warnings, sanctions and fines.

Footwear is included in the Personal Protective Equipment (PPE) section of the Occupational Safety and Health Standards. PPE is a common term in the health and safety industry and covers all parts of the body, from head to toe. The section on feet points to issues relevant to employers in the construction, industry, government and service fields.

Why is the OSHA safety footwear regulation important?

Failure to comply with OSHA regulations invites warnings, sanctions and fines. Employers can avoid these consequences by simply complying with the regulations through a strategy of buying employees' footwear, or by providing full or partial reimbursement. OSHA does not force companies to purchase shoes for staff, but encourages those that don't to require employees to have the right footwear before beginning work.

Consider a comparison of costs. Safety footwear ranges from \$80 to \$250, which is similar to the cost of an injured employee's hospital visit. OSHA fines run

from a minimum of \$2,300 to as much as \$70,000 per incident.

The U.S. Bureau of Labor Statistics (BLS), part of the U.S. Department of Labor, reports that foot injuries take an average of six days to heal, and around 120,000 workers annually suffer from toe, foot and ankle injuries. The BLS also cites a study revealing that 75% of these foot injuries occurred when workers were not in compliance.

What are the new standards?

The federal government's standard, 29 CFR 1910.136 (a), is clear: "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
- hot or slippery surfaces

OSHA recommends conducting an assessment—either by a company's safety personnel or by a consultant—

to determine the need for PPE equipment and the type of footwear employees should wear.

What do the standards mean?

Protective footwear must comply with the American Society for Testing and Materials (ASTM) standard F2413-05, formerly known as the American National Standards Institute (ANSI) Z41-1999. Only after footwear is compliant with the most important ASTM F2413-05 requirements for impact and compression resistance can additional requirements be met.

The ASTM standard measures the protective strength and durability, or impact resistance, of shoes through tests in which weights of 30, 50 and 75 pounds are dropped from a set height to determine whether a shoe can withstand the force. The results determine whether a shoe model is "1/30," "1/50" or "1/75" approved. A shoe that is 1/75 approved has achieved the highest level of impact protection.

Compression testing uses the same ratings but employs a different approach. A shoe rated C/30 can withstand 1,000 pounds of pressure, a C/50 rating represents 1,750 pounds and a C/75 rating represents 2,500 pounds. For reference, shoe manufacturers and sales staff can provide the ratings, which are also available online.

The ASTM requires that compression- and impact-resistant shoes have built-in toe guards. These shoes must have 1/50 and 1/75 ratings, as well as reach the C/50 and C/75 threshold. Beyond compression and impact resistance, shoes required for different types of jobs will reflect their own specific list of standards. For example, a shoe buyer might find an ASTM-certified product with the following designation:

- ASTM F2413-05
- MI/75, C/75, Mt75
- SR
- CS

What does this mean? The first line communicates that the shoe meets the ASTM F2413-05 standard. In the next line, the M stands for male, the I/75 stands for the impact rating and the C/75 is the compression rating. The Mt75 is a metatarsal designation of 75, protecting the wearer if up to 75 pounds is dropped on his or her feet. The SR means the shoe is slip resistant, and the CS means it is chain-saw resistant. Refer to the following list of rating abbreviations:

- C30, C50, C75 = Compression rating
- CD = Conductive properties
- CR=Chainsaw resistant
- DI = Dielectric insulation properties
- EH = Electrical insulation properties
- ESD = Electrostatic dissipative
- F = Footwear designated for a female
- I/30, I/50, I/75 = Impact rating
- M = Footwear designated for a male
- Mt30, Mt50, Mt75 = Metatarsal rating
- PR = Puncture resistant
- SL=Slip resistant

Safety and health experts recommend employers simply require employees to wear ASTM-approved shoes, because add-on protective devices, such as protective toe caps, often fit awkwardly over street shoes, and they can be difficult to walk in for more than a few feet. Employees can also forget to put them on. A safer approach is for everyone in industrial settings to wear ASTM-approved F2413-05 shoes.

Select the right shoe for the job

Each industry requires safety shoes designed to confront specific dangers. For example, OSHA suggests steel toe shoes for jobs in the construction industry where the danger of heavy objects dropping on workers' feet is a daily concern. Heat-resistant soles protect feet against hot surfaces in

paving, roofing and hot metal industries. Electrically conductive shoes protect against static electricity to reduce the risk of a spark causing a fire or explosion (and should not be worn with nylon, wool or silk socks). Electrical-hazard safety-toe shoes ground the wearer to protect against open circuits up to 600 volts. Foundry shoes have safety toes and are designed to stop hot metal from lodging in shoe parts and eyelets.

Shoe manufacturers and retailers can guide workers to the appropriate pair of shoes for their jobs. The more dangerous the position, the more likely the shoe will be created for a narrower range of challenges—firefighters select from product lines created just for them (and regulated by a separate OSHA standard), while electrical-hazard shoes are designed specifically for electricians.

Additional OSHA recommendations

Check safety shoes at regular intervals to determine whether they should be replaced or, at a minimum, cleaned. Any time a heavy object hits a steel safety toe, it is likely compromised and should be replaced. Pieces of metal embedded in shoe soles should be removed immediately. Shoes should be cleaned and maintained for best use and increased longevity.

For employers who want to ensure that they comply with applicable regulations, OSHA offers plenty of training opportunities and guidance through grants, strategic partnership programs within trade unions and associations, voluntary protection programs and free consultation assistance for small employers. These resources are detailed on OSHA's website (www.osha.gov).

From safety toes to slip-resistant heels, businesses have several choices that will help employees avoid foot-related aches, pains and injuries. Fulfilling OSHA's mandate is more than just about meeting a governmental obligation. It is about improving the

lives of employees and increasing their safety in the workplace. When employees wear the right OSHA-approved footwear, businesses create healthier and more productive workplaces. Everyone benefits.

Convenient for workers

With more than 1,500 U.S. retail locations, 170 Mobile Shoe Stores and over 250 purpose-built designs, your workers won't have to travel far to find the Red Wing footwear they need to do their jobs safely and productively.

Simple for you

Our HassleFree® Safety Footwear Program makes it easy to honor your commitment to your workers' well-being. From initial setup through ongoing support, our team of experts will be there to ensure a smooth experience and successful program for you.

HassleFree
SAFETY FOOTWEAR PROGRAM

To learn more about all the ways Red Wing safety footwear can benefit your workers and your business, please visit redwingsafety.com.



Based in Red Wing, Minnesota, Red Wing Shoe Company has a long tradition of offering premium-quality safety footwear that incorporates the best features available to protect people on the job. Right now, our boots are hard at work in thousands of applications in more than 110 countries.