



THE ESSENTIAL BUYER'S GUIDE TO SAFETY FOOTWEAR

INTRODUCTION

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Ensuring safety at the workplace is fundamental. Selecting the right footwear plays a pivotal role in preventing accidents, and fostering a secure and productive work environment. In sectors such as construction, mining, manufacturing, and many more, the need for footwear that goes beyond basic protection, offering support and comfort with each step taken, is ever-present. **This necessity is underscored by an alarming statistic: 44.5 million slip, trip, and fall injuries in the US led to a \$967.9 billion cost for businesses.**¹

This guide delves into the critical elements of protective footwear, highlighting the significance of regulatory compliance and the essential features that ensure maximum safety and comfort. By exploring the various standards and protective measures like safety toecaps and metatarsal guards, you will gain a comprehensive understanding of how to select the best footwear for your workplace needs. Ensuring that your team is equipped with the right footwear is a proactive step towards fostering a safer, more productive work environment while adhering to legal obligations.

REGULATORY COMPLIANCE

SAFETY TOECAPS

METATARSAL PROTECTION

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ABOUT HONEYWELL

¹The Hazards Affecting Your Employees' Foot Safety. (2018). EHS Today.

REGULATORY COMPLIANCE

In the realm of workplace safety, the need for choosing the right protective footwear goes beyond personal well-being, serving as a vital legal requirement.

Compliance with safety standards in the workplace is not only a reflection of commitment to employee well-being but also a regulatory requirement. Across various regions, these standards include:

- EN ISO 20345:2022 (Europe): Outlines the basic and additional requirements for safety footwear, in addition to testing methods
- SS 513-1:2013 and SS 513-2:2013 (Singapore): Established by the Singapore Standards Council, they specify safety footwear requirements and testing methods
- SIRIM MS ISO 20345:2008 (Malaysia): Product certification by the Department of Occupational Safety and Health (DOSH)
- SNI 8877:2023 (Indonesia): Safety footwear accreditation by the Indonesian National Standard

Adhering to these standards doesn't just mean providing protective footwear; it signifies an investment in safety and peace of mind, fostering a safer work environment with each step.





SAFETY TOECAPS

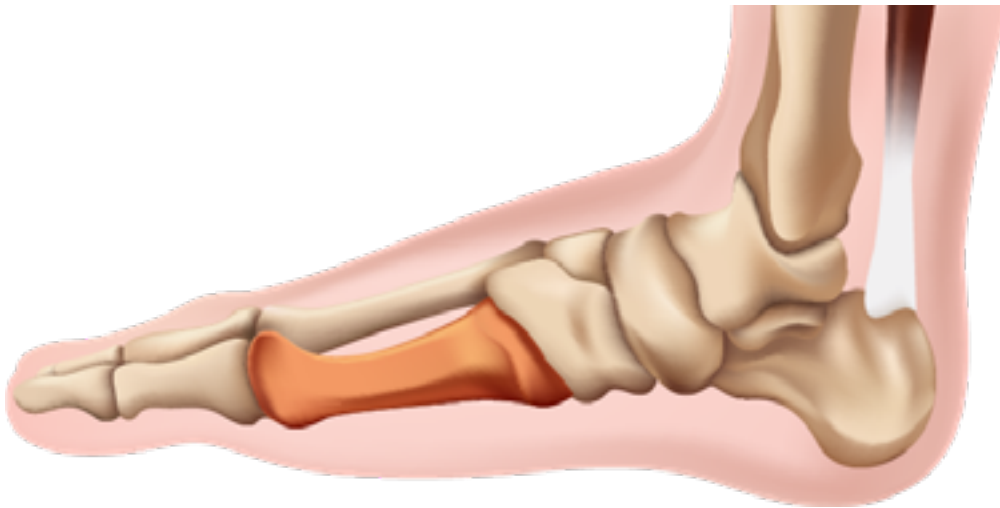
Safety toecaps, whether made of steel or composite materials, serve the purpose of protecting the wearer's toes from heavy objects or compression. Steel toecaps are traditionally made of hardened steel, providing exceptional strength and durability. They are ideal for medium to heavy-duty work applications, typically in construction and mining sites, manufacturing plants or warehouses, where there is a high risk of heavy objects falling or rolling onto one's feet. Composite toecaps are non-metallic and offer protection comparable to steel toecaps, but are significantly lighter in weight, making them more comfortable for extended wear. They are ideal for staff utilising metal detectors, such as airport security, or for electrical tradespersons due to the non-conductive nature of composite materials, and for fly-in-fly-out (FIFO) workers.

Choose between steel or composite toecaps, depending on job requirements and personal preference. Balancing safety with comfort is essential.

METATARSAL PROTECTION

Metatarsal protection reduces the risk of impact and crushing injuries to the metatarsal bones, which are the long bones in the middle of the foot. Metatarsal guards, coupled with safety toecaps, offer complete forefoot protection.

Oliver Footwear's PORON® XRD™ Metatarsal Guard is not only comfortable, flexible, and lightweight but frees wearers of rigid, bulky, and constricting padding. On impact, the PORON® XRD™ high-performance molecules create a unique protective shield that absorbs up to 90% of the most intense force*, hit after hit.



*As measured according to ASTM-F1614-C

SLIP RESISTANCE

Slips, trips, and falls cause nearly 700 fatalities per year and many more injurious accidents in the workplace.² Selecting footwear endowed with superior slip resistance can significantly mitigate these incidents.

The latest EN ISO 20345:2022 standard redefines slip resistance requirements in safety footwear. With more stringent requirements than its predecessor, it introduces a mandatory test on ceramic tile using a soap solution (sodium lauryl sulphate), as a new basic performance requirement. Additionally, an optional test involving glycerine as a lubricant on a ceramic tile can be conducted. Passing this optional test results in receiving an "SR" code.

The King's KWD and KWX Range meet the basic slip resistance requirements of the EN ISO 20345:2022 standard. Demonstrating compliance with the additional "SR" test, the footwear range ensures enhanced slip resistance for workplace safety.



²[Slips, Trips, and Falls: Preventing Workplace Trip Hazards. \(2023\). Occupational Safety and Health Administration.](#)

ELECTRICAL HAZARD PROTECTION

Safety footwear with Anti-Static (A) properties, as well as Electrical Hazard (EH) and Electrostatic Discharge (ESD) protection is required in various work environments where electrical hazards and static buildup pose a risk to workers, equipment, or processes.

Anti-static (A) Properties – Anti-static footwear is crucial in environments where static buildup poses a risk to sensitive electronic equipment or flammable materials. It allows static charge to dissipate through the soles of the shoes, thereby reducing its buildup in the wearer's body, and preventing static sparks that could damage electronics or set flammable substances alight. All King's and Otter footwear ranges, as well as selected ranges from Oliver Footwear (AT 55 Series, AT 65 Series, and PB 49 Series Women's), feature anti-static properties.

Electrical Hazard (EH) Protection – EH protection in safety footwear is essential in environments where workers are exposed to electrical hazards such as live wires or high-voltage equipment. Footwear with EH protection insulates against electrical currents, reducing the risk of electrical conductivity through the wearer's body. The Oliver AT 45 Series, as well as selected styles from the AT 55 and AT 65 Series (AT 55-346, AT 55-336 and AT 65-490Z), along with the WB 34 Series, incorporate EH protection.

Electrostatic Discharge (ESD) Protection – Safety footwear certified with ESD protection is designed to safely and effectively ground any static charges accumulated by the wearer, ensuring that electrostatic discharges do not harm sensitive electronics. ESD protection is necessary in environments such as manufacturing facilities and cleanrooms, where even small electrostatic discharges can damage electronic components or ignite explosions. The King's Eurorange KWD202B Low-cut Lace Safety Boot and KWD302B Mid-cut Lace Safety Boot feature ESD protection.





PUNCTURE RESISTANCE

Safety footwear with puncture-resistant soles provide protection against sharp objects such as nails, glass shards, metal debris, or other puncture hazards. Foot injuries can be prevented with puncture-resistant footwear that reduce the likelihood of lacerations or puncture wounds.

Oliver Footwear features Q-Flex® technology in selected ranges, including the AT 55 Series metatarsal styles, AT 65 Series and ST 40 Series. Q-Flex® incorporates a non-metallic insole that protects against penetration by sharp objects across the entire foot surface while ensuring maximum flexibility and comfort. For a steel alternative, look no further than the King's footwear range and King's safety gumboots with penetration protection.

WATER RESISTANCE

Industries such as construction, mining, agriculture, landscaping, and outdoor maintenance often encounter wet conditions like rain, mud or standing water necessitating the need for water-resistant or waterproof footwear. Water-resistant safety footwear repels water to some extent but may not fully prevent water penetration. In contrast, waterproof safety footwear provides better protection against water penetration, effectively preventing water from entering the footwear even when submerged, making it ideal for use in demanding work environments where complete water protection is necessary.

Explore the King's KWX Range and the Otter footwear range, both offering S3-rated water-resistant footwear perfectly suited for the demands of the oil, gas and mining industries. Additionally, the Oliver AT 65 Series and WB 22 Series Safety Gumboots feature 100% waterproof boots.





CHEMICAL RESISTANCE

Chemical resistance in safety footwear is essential for protection against the harmful effects of corrosive substances in industries exposed to various chemicals. This helps to safeguard workers from accidental exposure to hazardous substances and reduces the likelihood of injuries such as chemical burns or irritation.

The Oliver AT 65-490, AT 65-490Z and AT 65-493 are caustic-resistant boots that feature high abrasion and chemical resistance.

HEAT RESISTANCE

Mining and 'hot metal' industries, including foundries, metal smelters, welding and aluminium casting operations, create heavy-duty, high-heat working environments that require special safety protection for workers. Safety footwear with a heat resistance rating of 300°C provides protection against direct contact with hot surfaces, preventing burns and other heat-related injuries. For job applications with moderate heat exposure, such as construction or automotive repair, safety footwear with a heat resistance rating of 130°C offers adequate protection against heat-related hazards.

Oliver Footwear offers the options of 300°C and 130°C heat-resistance rated footwear to suit the diverse needs of various industries. The K2 range offers 300°C rated footwear. For specialised heat-resistant boots designed for the 'hot metal' industries, as well as fire and emergency services, choose from the Oliver HS 66 Series. These boots feature heat-resistant and flame-retardant leather, along with a heavy-duty nitrile rubber soling system resistant to temperatures of 300°C. Oliver's firefighting boots also include heavy-duty, heat-resistant red Nomex® stitching and flame-proof laces.





COMFORT AND FIT

Workers often spend extended periods at work on foot, sometimes throughout their entire shift. If footwear is uncomfortable, it can lead to fatigue, discomfort, and even foot pain, which in turn can reduce productivity. Comfortable safety footwear allows workers to focus on their tasks without distractions caused by discomfort. When safety footwear is uncomfortable or improperly fitted, workers may be inclined to remove it, even if only for a brief moment, compromising their safety.

King's prioritises comfort for all-day wearability. King's safety footwear boasts a wide-profile toecap that allows ample space for toes to splay naturally, promoting better balance and stability. They feature a shock-absorbing Comfort Footbed with perforated channels for breathability. Expertly designed outsoles in the King's KWD range align with natural walking biomechanics, ensuring fatigue-free strides. Additionally, the Stability Torsion Zone supports diverse foot arches for optimal comfort, while specialised air cushioning minimises fatigue throughout the workday.

OTHER FEATURES

The versatility of all King's, Otter and Oliver Footwear extends to its closure systems, which play an instrumental role in ensuring safety on the job. From traditional laces that promise a snug fit to modern quick-lacing systems offering both speed and security, footwear is designed to stay firmly in place, guarding against the risks associated with loose or ill-fitting footwear.

Moreover, the inclusion of zippers not only facilitates easy wear and removal but also provides an additional layer of security against potential accidents. Each of these features harmoniously combines to prevent the footwear from inadvertently coming off, providing workers with the peace of mind that their footwear will endure even in the most demanding work environments.

The King's KWX range features an innovative driver-centric stabiliser meticulously engineered into the outsole for vehicle operators' comfort and control. Its unique curvature supports foot positioning for comfort and stability. As drivers operate their vehicles, the stabiliser effortlessly conforms to the natural foot position on the pedal.



A LEGACY OF FOOT PROTECTION: SINCE 1887 AND COUNTING

With a combined heritage of over 300 years, Honeywell's leading safety footwear brands – King's, Otter and Oliver Footwear – are at the forefront of continuous innovation in worker protection. These industry-leading brands go beyond just safety and meeting regulatory compliance, constructing quality footwear that not only enhances job performance but also provides superior comfort and durability for wearers.

King's, a leading footwear brand in Southeast Asia, is deeply attuned to the challenges of the region's rugged industrial landscapes and meticulously crafts footwear to meet the rigours of these environments.

Otter stands as a stalwart in safety innovation, drawing on its rich German engineering heritage to craft premium-quality safety footwear for various industries such as construction, chemicals and industrial maintenance.

Oliver Footwear owes its origins to Australia's gold mining heritage, and pioneers innovative technologies in comfort and sole construction, offering quality footwear for challenging workplace environments including mining, the 'hot metals' industry, firefighting and emergency services.



To learn more and discover your perfect fit, click [here](#).



For more information
automation.honeywell.com

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