



Casualty Risk Engineering Services **Protective Footwear Basics**

Workplace or job site operations expose some or all of your workers to hazards that can injure their feet. Falling heavy objects, sharp items, hot or cold materials, electric current, hazardous liquids, moisture, & even slippery walking surfaces endanger them. An injury can be expensive. Downtime while an injured worker recuperates can increase your costs.

In some situations you can reduce the likelihood of foot injury by taking simple actions such as moving heavy objects from a top shelf to the floor, picking up nails & other sharp objects at a job site, or providing non-slip gloves so items do not slip out of employees' hands & land on their feet. These actions may not eliminate the hazards completely; you may need to provide protective shoes or boots for your workers. Several types of protective footwear are available; safety equipment suppliers & some shoe retailers can help you select the best ones for your needs.

When selecting protective footwear, you should:

- Identify the hazards to your workers' feet, such as:
 - Falling or moving items that compress or crush feet (e.g. bricks, machines).
 - Sharp items that puncture soles or other shoe/boot parts (e.g. nails at construction site).
 - Electric current that conducts through shoes or boots (e.g. electrician, utility worker).
 - Temperature extremes that burn or freeze feet (e.g. cold storage worker, asphalt paver).
 - Moisture (e.g. custodial worker).
 - Falling object injuries where metatarsal protection, in addition to toe protection, would be required.
 - Chemicals that can damage unsuitable shoe materials.
 - Stress from standing in place for prolonged times (e.g. cashier, assembly line worker).
- Provide comfortable shoes/boots that protect against hazards adequately:
 - Make sure they are not incompatible with materials they will contact.
 - Make sure they fit properly.
 - Choose size based on the person's bigger foot.
 - Choose shoes/boots late in the day, as feet swell later in the workshift.
 - Avoid shoes/boots that need a "break-in"; buy only if comfortable immediately.
- Try on shoes/boots with the socks typically worn at work.
- Make sure the working environment is compatible with the shoe / boot material. (i.e. hot working conditions would overheat a steel toe).
- Train your workers about:
 - The hazards to their feet & the need to use protective footwear.
 - The footwear's limitations (e.g. steel-toed shoes do not stop 1,000 lb. load).
 - The danger of working without protective footwear.
 - The ways to maintain protective footwear & when to replace it.
 - Your policy requiring their use of protective footwear.

Some workers (e.g. custodians) may be exposed to more than one hazards as they go to various sections of your premises.

Shoes should comply with the most current version of the following standards:
ASTM F-2412-2005: "Standard Test Methods for Foot Protection"
ASTM F-2413-2005: "Standard Specification for Performance Requirements for Protective Footwear"
ANSI Z41-1999: "American National Standard for Personal Protection – Protective Footwear"