How to Choose **an Industrial Helmet**

A special report for industrial safety directors and PPE distributors

When it comes to choosing head protection, there's not a "one-size-fits-all" solution.

This white paper is designed to provide industrial safety directors, users, and personal protective equipment (PPE) distributors with information about the different types and classifications of industrial head protection.

First Things First

Hundreds of thousands of on-the-job accidents are reported each year. According to the National Institute for Occupational Safety and Health (NIOSH), the most common cause of non-fatal, on-the-job injuries is contact with objects or equipment.

As a result, a spotlight has been placed on advancements in industrial helmet head protection.

The Hype About Type

According to OSHA standard 1926.100, "employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by protective helmets." While this OSHA standard does not establish specific criteria for protective helmets, it does require that protective helmets comply with the consensus standards issued by the American National Standards Institute (ANSI) for Industrial Head Protection (Z89.1-2014). Other regions of the world have their own standard requirements for example EN 12492 & EN 397 have certain design requirements that differ between the two.

Climbing helmets that meet both ANSI/CSA as well as EN 12492 and/or EN 397 perform adequately as industrial helmets.

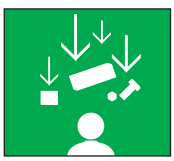
1. **EN 12494** is the European standard for mountaineering helmets and includes protection against impacts.
2. **EN 397** is a European standard for industrial helmets

There are only two recognized classifications of protective helmets that meet ANSI requirements:

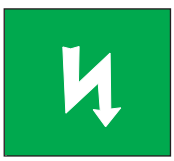
1. **Type I**—Type I helmets are intended to reduce the force of impact resulting from a blow to the top of the head.
2. **Type II**—Type II helmets are intended to reduce the force of impact resulting from a blow to both the top and sides of the head.

Type I and Type II have different impact locations, are tested to different impact energies, have different criteria for helmet failure and may be available in multiple styles like cap or hat. Each type of helmet is different and may be available in different styles, such as cap, full brim hat, or climbing.

In general, ANSI requires that industrial protective helmets:

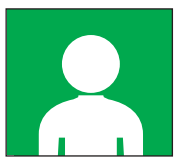


Absorb the energy from impact to the head



Act as an insulator against electric shock

Be water-resistant and slow burning



Shield scalp, face, neck, and shoulders

Force and acceleration are only part of the equation in determining the likelihood of preventing injury. The other part? Duration of impact.

Let's Talk Variables

The reality of industrial head protection is that there are many variables within the workplace setting to limit head protection to one single offering for all hazards, all tasks, and all workers.

Take the time to answer these fundamental questions as a first step in determining which industrial helmet is best for the worker and for the job:

Assess the hazards and understand the application.

Determine if the helmet meets the requirements of the right industrial safety standard.

Decide if accessories are needed.

Assess other factors that could impact wearer compliance.

4 Key Considerations

Assess the **hazards** and understand the **application**.

Environment: What conditions exist? Is work being done at height? With electrical sources? Extreme weather? In confined spaces?

Task: What is the worker doing? Working in confined spaces? Climbing?

Impact & Risk: Hitting or bumping the head? Falling objects? Electrical shock? Chemical splash?

Electrical Classification: What's the need: General (g) proof-tested at 2200 volts? Electrical (e) proof-tested at 20,000 volts? Conductive (c) for no electrical contact?

Style: Cap? Hat? Brimless? Climbing? Vented or non-vented?

Determine if the helmet meets the **requirements** of the right industrial safety **standard**.

ANSI: American national standards institute serves as "administrator and coordinator of the united states private sector voluntary standardization system."

CSA: "A global provider of testing, inspection, and certification services, and a leader in safety and environmental certification for Canada.

EN: European standards are voluntary standards that "ensure compatibility and interoperability of components, products, and services across the whole of the european single market."

Ancillary Standards: Determine if there are other reference standards that could be met, such as climbing helmet standard EN 12492, in addition to (not instead of) the industrial safety standard.

Decide if **accessories** are needed.

Face: Protect from impact, glare, uv, and other hazards, such as radiant heat, arc flash, and splash. There are options for both visors and frames to accommodate each application.

Eye: There are many options for industrial eyewear including anti-fog/anti-scratch, integrated spectacles, and overspectacles for those wearing prescription eyewear.

Hearing: Helmet mounted muffs are available for both cap and hat styles of hard hats.

Other: Chinstraps, goggle retainers, etc.

Note: While already a Z87 face protection requirement, the standard 2009 Version indicated that accessories or components installed onto hard hats cannot cause the helmet to fail. The 2014 standard update provides additional language further supporting the premise that accessory/ component manufacturers are responsible for proving that their products do not cause helmets to fail: *"the entity claiming that an accessory or replacement component, when installed, will not cause the helmet to fail the requirements of this standard, and is responsible for providing justification upon request."*

Assess other factors that could impact wearer **compliance**.

Comfort: Considered one of the most important factors for 9 out of 10 wearers, comfort has a strong bearing on wearer compliance. Comfort features may include adjustable headbands, foam-free helmets that reduce heat stress, ventilation systems, and fast-dry sweatbands.

Style: Industrial helmets are available in a multitude of styles and looks. Caps, hats and brimless options are available from many manufacturers. Additionally, many helmets are able to be customized with logos and design details, such as striping, can further enhance wearability. Climbing style helmets have made a splash in recent months within industrial safety settings. They provide the high level of quality users expect from MSA with additional comfort features to ensure a secure fit when working-at-height or in confined spaces.

More Information

Contact MSA at **800-672-2222** to learn more about:

- Choosing the right industrial helmet
- The difference between Type I and Type II helmets
- When a climbing-style helmet makes sense
- Fast lead times on logoed helmets

MSA—**The Safety Company**

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