Type 1 vs. Type 2 Head Protection: A Complete Guide to Hard Hat Classes

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Every hard hat on a job site looks roughly the same from a distance — a shell, a suspension system, sometimes a brim. But underneath that similarity, hard hats are built and certified for very different impact scenarios and electrical hazards. Two ratings determine what a given hard hat actually protects against: its Type and its Class.

Get either one wrong and a worker can be wearing head protection that looks adequate but isn’t rated for the hazard they’re actually exposed to. This guide breaks down what Type 1 and Type 2 mean, what the electrical Classes (G, E, and C) mean, and how to combine them to choose the right head protection for the job.

The Standard Behind Head Protection: ANSI/ISEA Z89.1

Head protection sold and used in the United States is governed by ANSI/ISEA Z89.1, the American National Standard for Industrial Head Protection. Every compliant hard hat or safety helmet carries a label inside the shell identifying its Type, Class, and other performance details — manufacturer, date of manufacture, and shell material.

Two ratings matter most when matching head protection to a hazard: Type, which describes the direction of impact the hat protects against, and Class, which describes the level of electrical protection. These are independent ratings — a hard hat is always both a Type and a Class, and the two are chosen based on different hazards.

Type 1 vs. Type 2: Direction of Impact Protection

Type refers to the direction from which the hard hat is designed to absorb an impact.

Type 1 hard hats are tested and certified to reduce the force of impact from a blow to the top of the head only. This is the traditional hard hat design most people picture — a rigid shell with a suspension system that absorbs vertical impact from falling objects directly overhead.

Type 2 hard hats and safety helmets are tested and certified to reduce the force of impact from a blow to the top of the head and to the sides. This requires a different shell design — typically deeper, with more coverage around the sides and back of the head — and almost always includes a chin strap to keep the helmet in place during a lateral or angled impact.

The practical difference shows up in the hazards each one addresses. A Type 1 hard hat protects against an object falling from above. A Type 2 helmet protects against that same hazard plus impacts from the side — walking into a low beam, being struck by a swinging object, or falling and striking the head against a fixed surface.

	Type 1	Type 2
Impact protection	Top of head only (vertical impact)	Top and sides of head (vertical + lateral impact)
Typical design	Traditional hard hat with brim and suspension	Often a safety helmet style with chin strap and deeper shell
Best suited for	Falling object risk from directly overhead	Risk of side impact — swinging objects, low clearances, falls, confined spaces
Common industries	General construction, warehousing, manufacturing	Construction at height, utility work, oil and gas, tree care, confined space work

Why Type 2 has become more common

Type 2 safety helmets have grown significantly in construction and utility work over the past several years as employers have recognized that side-impact and fall-related head injuries are at least as common as overhead impacts. Many major contractors now specify Type 2 helmets as standard issue, particularly for work at height, in confined spaces, or around moving equipment.

Head Protection Classes: Electrical Protection

Class refers to the level of electrical insulation a hard hat provides. This rating is independent of Type — a hard hat can be Type 1 or Type 2 and Class G, E, or C in any combination, depending on the manufacturer's design and certification.

The current Z89.1 standard uses Class G, E, and C. Older terminology — still seen on some older hats and in some industry conversation — used Class A, B, and C. Class G replaced Class A, and Class E replaced Class B. The electrical performance requirements are essentially the same under both naming systems.

Class	Also Known As	Electrical Rating	Best For
Class G	Formerly Class A	Proof-tested to 2,200 volts	General construction, manufacturing — limited electrical exposure
Class E	Formerly Class B	Proof-tested to 20,000 volts	Electrical trades, utility line work, substations
Class C	Conductive	No electrical protection	Comfort/ventilation only — never near electrical hazards

Class G — General

Class G hard hats are proof-tested to withstand up to 2,200 volts. This is the most common class for general construction, manufacturing, and warehouse environments where some incidental electrical exposure is possible but high-voltage work is not part of the job.

Class E — Electrical

Class E hard hats are proof-tested to withstand up to 20,000 volts — the highest level of electrical protection available in head protection. These are required for workers performing electrical trade work, utility line work, substation work, or any task involving exposure to high-voltage equipment.

Class C — Conductive

Class C hard hats provide no electrical protection at all. They are often made of aluminum or have significant ventilation, prioritizing comfort and airflow over insulation. Class C hats are appropriate only in environments with no electrical hazard whatsoever — they must never be used near energized equipment or conductors.

Critical safety note

Class C hard hats are sometimes chosen for comfort in hot environments without the wearer realizing they offer zero electrical protection. If there is any chance of contact with energized equipment — even incidental — Class C is the wrong choice. Verify the class marking inside the shell before assuming any hard hat provides electrical protection.

Choosing the Right Combination

Type and Class are selected independently based on two different questions: where is the impact risk coming from, and is there an electrical hazard present?

- Electrician or lineworker on overhead impact risk job sites: Type 1 or Type 2, Class E.
- General construction with overhead falling object risk and no electrical exposure: Type 1, Class G.
- Construction at height, confined space, or utility work with side-impact risk and electrical exposure: Type 2, Class E.
- Warehouse or manufacturing with minimal electrical exposure, prioritizing comfort and ventilation: Type 1, Class C — only where no electrical hazard exists.

When in doubt, default to the higher level of protection in both categories. A Type 2 Class E hard hat covers the broadest range of hazards and is increasingly the standard issue choice for employers who want one piece of head protection that satisfies multiple job site conditions.

Hard Hat vs. Safety Helmet: A Note on Design

The terms hard hat and safety helmet are often used interchangeably, but they increasingly refer to different physical designs. Traditional hard hats use a brimmed shell and a suspension cradle that sits inside, with the shell held away from the head by an air gap. Safety helmets — the design most associated with Type 2 certification — more closely resemble climbing or sports helmets, with a deeper shell, integrated padding, and a chin strap.

Not every Type 2 product is marketed as a "helmet," and not every helmet-style product is Type 2 — always check the label rather than assuming based on appearance. The chin strap, in particular, is what allows a Type 2 helmet to stay in place during a lateral impact; without it, the protective benefit of the Type 2 shell design is significantly reduced.

When to Replace Head Protection

Hard hats and safety helmets degrade with age, UV exposure, and impact — even impacts that don't look severe from the outside.

- Replace immediately after any impact, even if there's no visible damage. The suspension or shell may have absorbed energy in a way that compromises future protection.
- Check the manufacture date stamped inside the shell. Most manufacturers recommend shell replacement after 5 years and suspension replacement after 12 months, though this varies by manufacturer and conditions.
- Inspect regularly for cracks, chalky or faded discoloration (a sign of UV degradation), and suspension wear.

Head Protection Brands We Carry

Work 'n More stocks hard hats and safety helmets across Type 1, Type 2, and all three electrical classes from manufacturers trusted across construction, utility, and industrial work.

- **MSA** A long-standing leader in head protection, including the V-Gard line of hard hats and Type 2 safety helmets used widely across construction and industrial sites.
- **Pyramex** Broad range of Type 1 and Type 2 hard hats and helmets at strong value, popular for outfitting larger crews.
- **Radians** Hard hats and safety helmets with hi-vis options, useful for sites where head protection and visibility requirements overlap.
- **Fibre-Metal** Established manufacturer known for durable shell construction and a range of Class E electrical-rated options.
- **Lift Safety** Modern safety helmet designs with a strong presence in Type 2 lateral-impact protection for construction and utility work.

Not sure which Type and Class your crew needs? Our staff can walk through your job site hazards and help match the right head protection. Stop in at any of our Washington locations or browse our full selection at worknmore.com.