GENERAL REQUIREMENTS

The employer shall ensure that each affected employee wears a protective helmet when working in areas where there is a potential for injury to the head from falling objects, swing/side impacts and/or electrical shock hazards.

In accordance with Occupational Safety and Health Standards, head protection must comply with any of the following consensus standards: American National Standards Institute (ANSI) Z89.1-2009, 2003,1997, "American National Standard for Industrial Head Protection," incorporated by reference in Sec. 29 CFR 1910.6

HOW TO PROTECT YOURSELF

Choose the correct safety helmet.

Identify the risk: falling objects, lateral blows, electrical shock, or combined risks

The safety helmet has three primary functions:

Anti-penetration: for an effective skull protection

Shock Absorber: the cap and the harness absorb force upon impact

Deflector: thanks to a suitable design which makes it possible to deflect the fall of an object from the top of the head

There is, in addition, a selection of accessories which offer face and hearing protection.

STANDARDS

ANSI/ISEA Z89.1-2014 (R2019), American National Standard for Industrial Head Protection is the most current revision preceded by ANSI/ISEA Z89.1-2014. These will be referenced in future OSHA Field Guide updates but currently are not. Delta Plus Corp will only reference ANSI/ISEA Z89.1-2014 (R2019) in this document. Please refer to a COMPLETE version of ANSI/ISEA Z89.1-2014 (R2019) for Selection and use of any Head Protector.

ANSI/ISEA Z89.1	(American National Standards Institute) American standard for industrial head protection	MANDATORY	**Type 1:** Impact force transmitted to the crown must not exceed 4,450 N at the drop of an impactor of 3.6kg (8 lbs) at a velocity of 5.5 m/s (meters per second). **Penetration:** A 1 kg penetrant must not contact the headform at a velocity of 7.0 m/s. **Flammability:** the helmet should not burn with flame emission more than 5 seconds after removal of the flame **Electrical resistance:** proof tested at 20,000 volts for Class E or 10,000 volts for Class G. Class C does not provide protection against electrical hazards. **Type 2:** In addition to the requirements for type 1, the type 2 head protection shall also meet: **Energy attenuation:** acceleration must not exceed 150g when dropped on the crown and lateral using a 5 kg headform at 3.5 m/s. **Lateral penetration:** At the front, rear and sides, a 1 kg penetrant must not contact the headform at a velocity of 5.0 m/s.
		OPTIONAL	**ANSI/ISEA Z89.1 has 4 options:** Low Temperature (LT), High Temperature (HT), Reverse Wear Position, and High Visibility

Some of our hard hats and bump caps also meet the following European standards:

EN397	Protective helmets for industry	MANDATORY	**Impact*:** force transmitted to the headform must not exceed 5 kN at the fall of an object of 5 kg from a 1 m height. The impact energy of the helmet at the end of the test is 49 J. **Penetration*:** the tip of the mass used in the test (3 kg over 1 m) must not come into contact with the skull. **Flammability:** the helmet should not burn with flame emission more than 5 seconds after removal of the flame. * The impact and penetration tests are performed at room temperature, **at 50°C and at -10°C**.
		OPTIONAL	**In extreme temperatures:** impact and penetration tests are conducted at room temperature at **150°C, at -20°C or -30°C**. Protects against accidental short-term contact with a live **electrical conductor up to 440 VAC**. Protects against **lateral compression**. The maximum deformation of the helmet should be ≤ 40 mm. Resistance to **molten metal splashes**.
EN50365	Electrical insulation helmets for use in low voltage environment	MANDATORY	**Electrically insulating helmets** for use near energized equipment not exceeding **1000 VAC or 1500 VDC** (appliance class 0). Used simultaneously with other electrically insulating protective equipment, these helmets prevent dangerous currents passing through to the person's head. These optional electrical insulation tests are more stringent than the EN397 and they complement them. (2 triangle marking, Class 0).
EN812	Bump caps for industry	MANDATORY	**Impact*:** This PPE protects against impacts from knocks against structures or objects. It does not protect from the impact of a falling object at all. The impact energy of the cap at the end of the test reached 12.25 J. **Penetration*:** the tip of the mass used in the test (0.5 kg over 0.5 m) must not come into contact with the skull. * The impact and penetration tests are performed at room temperature, at **50°C and at -10°C**. Should in no way be a substitute for an industry type helmet (EN397).
		OPTIONAL	**In extreme temperatures:** impact and penetration tests are conducted at room temperature at **-20°C or -30°C**. Protects against accidental short-term contact with **a live electrical conductor up to 440 VAC**. **Flammability:** the helmet must not burn with flame emission more than 5 seconds after removal of the flame (F marking).

LIFESPAN OF HARD HATS

There is no established shelf life for safety helmets. The majority of our safety helmets are molded from high density polyethylene (HDPE) which is a very stable plastic. However, all plastic resins and, indeed, most materials are adversely affected by the high energy ultraviolet component of sunlight. Our helmets contain UV Inhibitors to reduce the effects of sunlight and are regularly tested in a chemical bath that replicates the effects of aging, but nothing can prevent the eventual degrading effects of long-term sunlight exposure.

As stated in the warning label attached to each helmet, many organic solvents (e.g. trichloroethane, perchloroethylene, gasoline, diethyl benzene, propane, etc.) can also adversely affect the plastic shell. Direct exposure of the safety helmets to these materials should be avoided whenever possible. To maximize the helmet's useful life, cleaning should only be done with water and a mild soap.

It is important to replace any shells, regardless of age, that show signs of deterioration, whether from sunlight, chemical exposure, or use. Due to these contributing factors, our advice is to replace the safety helmet at a maximum of 5 years from the date molded into the brim, even if no signs of deterioration are apparent. For our polycarbonate hats (Americana® Heat and Wildlands) we recommend replacement after 8 years.

The manufacture date of each helmet shell is indicated by two dials seen as impressions under the bill (see next page).

TYPES AND CLASSES OF HARD HATS

Type I
Intended to reduce the force of impact resulting from a limited force blow only to the top of the head.

Type II
Intended to reduce the force of impact resulting from a limited force blow to the top or sides of the head.

Electrical Classes

Class G (General): Intended to reduce the danger of contact with low voltage conductors. Test samples shall be proof-tested at 2200 volts (phase to ground).

Class E (Electrical): Intended to reduce the danger of contact with higher voltage conductor. Test samples are proof-tested at 20,000 volts (phase to ground).

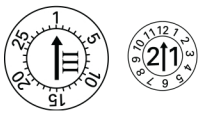
Class C (Conductive): NOT intended to provide protection against contact with electrical hazards.

Bump Caps

A class of protective headgear on the market that are designed for use in areas with low head clearance. They are recommended for areas where protection is needed from head bumps and lacerations. These are not designed to protect against falling or flying objects and are not ANSI compliant.

HARD HAT MARKINGS

Each helmet must have manufacturer's instructions explaining the proper method of size adjustment, care and use. Each helmet must have permanent markings stating the manufacturer, date of manufacture, Type and Class, head size range, ability to reverse wear the suspension or special temperature range or visibility performance.



The manufacture date of each helmet shell is indicated by two dials seen as impressions under the bill (the first with the big arrow points to the day of the month, while the second smaller dial indicates the month with the year inscribed in the center of the dial). While these two dials are not expirations dates, we recommend replacing the safety helmet at a maximum of 5 years from the manufacture date.

ERB® AMERICANA®

Our manufacturer identification is included on the bill of each hard hat as well as the name of the helmet model.

MEETS ANSI/ISEA Z89.1 TYPE I, CLASS E & G

All of our hard hats meet the ANSI/ISEA Z89.1 standard. The specific standard type and class that helmet meets is indicated on the brim.

LT

Hard hats with this icon are certified when the headband is installed in reverse position.

Our hard hats marked with "LT" indicate that the hard hat meets testing requirements of the standard when exposed to low temperatures down to -22°F, and ones marked with "HT" indicate that the hard hat meets protective requirements when exposed to high temperatures up to 140°F.

MADE IN USA

All ERB Safety helmets are made and tested in the USA in our Woodstock, GA facility.

53 - 63 cm

All Delta Plus helmets include the head size range for that specific helmet.

Class 0

All Delta Plus hard hats meet CE and EN. The specific CE and EN standards that helmet meets is indicated on the brim. They also meet the ANSI/ISEA Z89.1 standard.

CE 0082 EN397:2012 + A1:2012

Some Delta Plus helmets include CE and EN standard markings. These markings indicate the specific standard that meets the requirements for the European health, safety, and environmental protection standards.