



# **Weekly Safety Tip**

**Head Protection**

**Update**

The Occupational Safety and Health Administration has numerous OSHA regulations addressing head protection for PPE – Personal Protective Equipment.



**29 CFR 1910.135: General Industry** says you must require employees to wear protective helmets in areas where there is a risk of impact to, or penetration of, the head.

**29 CFR 1926.100 Construction** specifically refers to head protection requirements for workers in construction, demolition, and renovation

Also, **Maritime** OSHA regulations for **Shipyards** at **29 CFR 1915.55**; **Marine Terminals** at **29 CFR 1917.93**; and **Longshoring** at **29 CFR 1918.103**

OSHA standards require employers to provide head protection that meets one of various versions of the American National Standards Institute (ANSI) consensus standard **Z89.1** (2019 back to 1997).

ANSI Z89.1 defines two types of hard hats and three classes based on the level of electrical hazard protection provided. **Type 1** protects the top of the head and is commonly used in the U.S., while **Type II** protects the top and sides of the head.

The classes of hard hats are:

- Class **G (General)**, rated for 2,200 volts
- Class **E (Electrical)**, rated for 20,000 volts
- Class **C (Conductive)**, does not offer electrical protection

*Why some (mainly construction) are switching from traditional hard hats to safety helmets ?*



### Safety Helmets for OSHA

After a general Job Hazard Analysis of its work and a thorough evaluation of head protection options, **OSHA determined Type II, Class G safety helmets were the most appropriate form of head protection for its employees.** Regardless, the Agency recognizes that based on their own Job Hazard Analysis, employers and workers may decide that another form of head protection is for them.

# The State of Electrical Safety

## Report 2024



## SAFETY & HEALTH SHARE

### 2024 The State of Electrical Safety Report

#### An Analysis of Electrical Safety Trends and Top Issues

A study of citations, incidents, and fatalities related to industrial electrical safety in the US.

A study by [Grace Technologies](#) examined the critical role of Lockout/Tagout (LOTO) procedures in preventing catastrophic electrical accidents, by analyzing LOTO violation trends from 2019 to 2023.

#### Key Takeaways

- Despite a temporary decline in 2020, likely due to the COVID-19 pandemic, **LOTO violations surged by 29% from 2022 to 2023**, reaching levels similar to 2019.
- The manufacturing industry is disproportionately affected by LOTO violations, with Food Manufacturing (384 citations), Fabricated Metal Products (377), and Plastics & Rubber Products (202) leading in citations and penalties.
- LOTO consistently ranks among the top 10 OSHA citations. The trend for LOTO violations is similar to other top citations, with a dip in 2020-2021 and a rebound in 2022-2023.

#### Lockout/Tagout Violations Trend

OSHA's LOTO standard aims to prevent unexpected energization, startup, or release of stored energy, which could cause injuries. From 2019 to 2020, there was a notable decrease in violations, and in 2021, no violations were reported.

However, from 2022 to 2023, there was a sharp 29% increase in violations, back to 2019 levels.

From October 2022 through September 2023 the total number of citations across all industries is 2,532 from 1,368 inspections, resulting in **\$20,728,257 in penalties**.

**Manufacturing industries are the most affected by LOTO violations**, accounting for the majority of citations and penalties. The Food Manufacturing industry alone faced 384 citations across 181 inspections, resulting in penalties amounting to \$7,495,528. Similarly, the Fabricated Metal Product Manufacturing sector received 377 citations, with penalties totaling \$1,380,262. The Plastics and Rubber Products Manufacturing industry was cited 202 times, incurring penalties of \$2,094,718.

#### Most Frequent Accident

Grace Technologies analyzed over 300 electricity-related accident reports from 2021 to 2024, performing a text analysis to understand what were **the most frequent causes of accidents**.

The most frequently mentioned causes of electrical accidents include **contact with energized parts**, leading to electrocution, and falls from heights such as ladders or scaffolding. Lack of proper lockout/tagout procedures and insufficient supervision and training also contribute significantly to these incidents.

The **high frequency of "Shock" (mentioned 445 times) and "Contact" (315) keywords** in accident descriptions emphasizes the importance of proper LOTO procedures, as these terms are often associated with electrical hazards and unexpected equipment activation.

The following page provides a count of keywords cited in electrical accident reports . . .





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