



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 **\$20,728,267 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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