By the Numbers – Assured Grounding



DID YOU KNOW?

The Electrical Safety Foundation International (ESFI) uses the U.S. Bureau of Labor Statistics' (BLS) Census of Fatal Occupational Injuries (CFOI) and Survey of Occupational Injuries (SOII) to distill information specifically pertaining to fatal and nonfatal occupational electrical injuries. Each year the ESFI publishes electrical injury information in tabular and graphical form on our website. The most recent data covers the 24-year period from 1992-2018, but mainly focuses on 2003-2018 data.

Fatal Electrical Injuries

- There were 160 electrical fatalities in 2018. An 18% increase over the previous year and the highest number of fatalities since 2011.
- Fatality rates per 100,000 workers were 0.11 in 2018, compared to 0.13 in 2011.
- Contact with / Exposure to electric current accounted for 3% of all fatalities in 2018. In 2017, they accounted for 2.6%, in 2016 2.9%, 2015 2.7% and 3.1% in 2014.
- All electrically related fatalities were caused by electric shock, no fatalities were caused by burns.
- Construction industry accounted for 54% of all electrical fatalities, the same percentages as in 2017. Professional and business services accounted for 28% of electrical fatalities.
- The construction industry had the highest rate of fatal electrical injuries (0.8 / 100,000) followed by utility (0.55 / 100,000).
- In 2018, 9% of all electrical injuries were fatal.
- Good producing private industries (natural resources and mining, construction, manufacturing) accounted for 71% of fatal electrical injuries compared to 28% fatal injuries from service-providing private industries.
- The number of electrical fatalities varies between ages
- 6% of electrical fatalities occurred in workers aged 20 – 24
- 31% of electrical fatalities occurred in workers aged 25 – 34
- 30% of electrical fatalities occurred in workers aged 34 – 44
- 14% of electrical fatalities occurred in workers aged 45 – 54
- 14% of electrical fatalities occurred in workers aged 55 – 64
- 4% of electrical fatalities occurred in workers aged 65+
- Leading primary Source of Fatal Electrical Injury

- Parts and Materials: 41%
    - Machine Tool and Electric Parts: 36%
- Tool, Instruments and Equipment: 17%
- Machinery: 14%
- Vehicles: 14%

- “Constructing, Repairing, Cleaning” accounted for the leading worker activity for electrical fatalities at 63%. “Using or Operating Tools, Machinery” accounted for 23% of electrical fatalities.
- 35% of electrical fatalities occurred in Private Residences, 26% occurred in Industrial Place and Premises, and 13% in Street and Highway.
- The Construction and Extraction Occupations accounted for 47% of electrical fatalities, Installation, Maintenance, and Repair Occupations accounted for 21% and Building and Grounds Cleaning and Maintenance Occupations 15%.

Nonfatal Electrical Injuries

- There were a record low number of nonfatal electrical injuries in 2018, 1,560. A 29% decrease over 2017. There was an 8% decrease over 2016, the year with the previous lowest number of nonfatal electrical injuries.
- 17% of all nonfatal injuries resulting in days away from work could be attributed to electricity during 2018. In 2017, 0.25% could be attributed to electricity.
- The median number of days away from work for nonfatal electrical injuries was 4 in 2018, a 60% drop from 2017, returning to 2014 levels.
- The industries with the leading number of nonfatal electrical injuries:

- Construction: 20%
- Manufacturing: 16%
- Leisure and Hospitality: 13%
- Education and Health Services: 11%
- Accommodation and Food Services: 10%

- Electrical shocks accounted for 1,080 of the non-fatal electrical injuries while burns accounted for 490.

According to the CDC’s NIOSH, the construction industry comprises approximately 8% of the U.S. workforce, yet it accounts for 44% of job-related fatalities. Consider the statistics:

- Electrical hazards cause more than 300 deaths and 4,000 injuries each year among the U.S. workforce.
- Electrocution is sixth among causes of workplace deaths in America.
- Construction trades, and installation/maintenance/repair professionals are the top two groups suffering the most fatal electrocution work-related accidents, from 2003-2007.

Electrocution accidents involving heavy equipment

The construction industry represents 52% of all occupational electrocutions, according to the recent CDC study referenced above. Below are some statistics on the heavy equipment in the trades and related electrocution accidents…