CPWR
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Data Bulletin

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Employment Costs in Construction

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OVERVIEW

Employment costs are important to both construction employers and employees, providing a key way to monitor the health of the labor market. Particularly with current labor shortages, understanding compensation in construction, including historical trends, may also guide future wage and benefit decisions and help attract and retain more workers.

This Data Bulletin examines employment costs in the construction industry through four different pay measures: the *Employment Cost Index*, *compensation costs*, *average hourly earnings (AHE)*, and *average hourly wage (AHW)*. Data are from a variety of sources, including 1) the U.S. Bureau of Labor Statistics (BLS) National Compensation Survey, 2) BLS Current Employment Statistics, 3) BLS Current Population Survey, and 4) BLS Occupational Employment and Wage Statistics. All data sources present national trends and do not account for regional or state differences. Each data source offers a slightly different pay measure (e.g., compensation, wages) for different populations; the definitions section at the end of this report provides more information on each source. Charts 2 and 4 through 7 use the *Consumer Price Index (CPI)* to adjust for inflation to 2022 dollars; all other charts show 2022 dollars.

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THIS ISSUE

This issue examines employment costs in the construction industry through four pay measures: Employment Cost Index, compensation costs, average hourly earnings, and average hourly wage.

KEY FINDINGS

From 2004 to 2022, the average compensation cost, including wages/salaries and benefits, was higher in private construction compared to all private industries ($44.37 vs $38.73 per hour worked).

Chart 2

Wages and salaries accounted for 70.0% of compensation costs in the fourth quarter of 2022.

Chart 3

In the fourth quarter of 2022, almost a quarter of benefit costs were for life, health, and disability insurance (24.4% of total benefits).

Chart 3

Average hourly earnings increased 5.1% for private wage-and-salary construction workers and 7.6% for all industries from 2011 to 2022.

Chart 4

In 2022, construction workers aged 55 years or older ($26.88), with a bachelor's degree or above ($29.79), non-Hispanic ($26.07), and male ($25.06) had a higher average hourly wage compared to other demographics and all construction workers ($24.75).

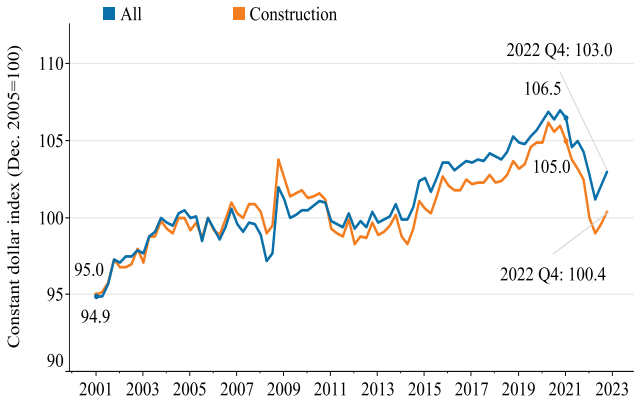
Chart 9

NEXT DATA BULLETIN

Construction Labor Force Characteristics

The Employment Cost Index (ECI), which details the costs of employees to employers, was examined first (chart 1). The construction industry generally followed the same trend as all industries from 2001 to 2022. From the first quarter of 2021 to the fourth quarter of 2022, among *private industries*, the ECI decreased 4.4% in construction (105.0 to 100.4) compared to a 3.3% decline in all industries (106.5 to 103.0).

1. Index of labor costs, construction versus all industries, 2001-2022 (Private industry)*

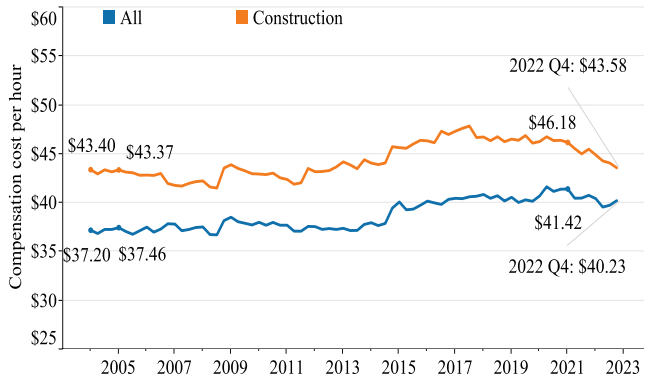


Source: *U.S. Bureau of Labor Statistics, National Compensation Survey, 2001-2022 Employment Cost Index.*

**Unless specified labels are for Quarter(Q) 1.*

Next, compensation *costs per hour worked* were analyzed in construction versus all industries, adjusted to 2022 dollars (chart 2). From the first quarter of 2004 to the fourth quarter of 2022, private construction had a higher average total compensation cost ($44.37 per hour worked) than all private industries ($38.73 per hour worked; data not shown). From the first quarter of 2021 to the fourth quarter of 2022 among private industries, there was a 5.6% decrease in compensation cost in construction ($46.18 to $43.58 per hour worked), whereas all industries experienced a 2.9% decrease ($41.42 to $40.23 per hour worked).

2. Compensation costs per hour worked, by construction versus all industries, 2004-2022 (Private industry)*^



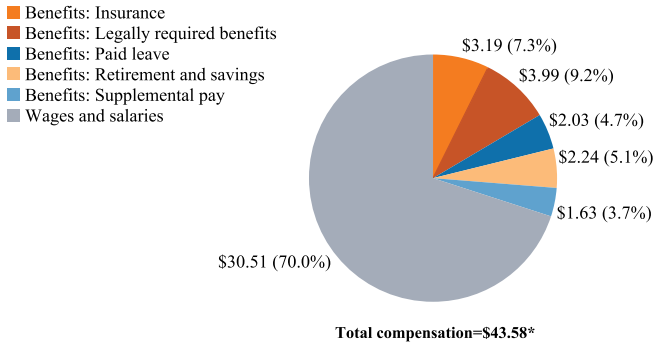
Source: *U.S. Bureau of Labor Statistics, 2004-2022 Consumer Price Index (CPI) and National Compensation Survey Employer Costs for Employee Compensation.*

** Adjusted for inflation to 2022 dollars using the CPI to provide a better comparison over time.*

^ Unless specified labels are for Quarter(Q) 1.

Compensation costs in private construction in the fourth quarter of 2022 were investigated by the type of compensation (chart 3). The majority of dollars spent on total compensation were on *wages and salaries* (70.0%; $30.51 per hour worked). *Benefits* accounted for the remaining 30.0% ($13.07 per hour worked). In comparison, the cost of benefits for all industries was $11.86 per hour (data not shown). *Legally required benefits* (e.g., Social Security) comprised the largest share of benefits in construction (30.5%; $3.99 per hour worked), followed by *insurance* (24.4%; $3.19 per hour worked).

3. Compensation costs per hour worked in construction, Fourth Quarter 2022 (Private industry)

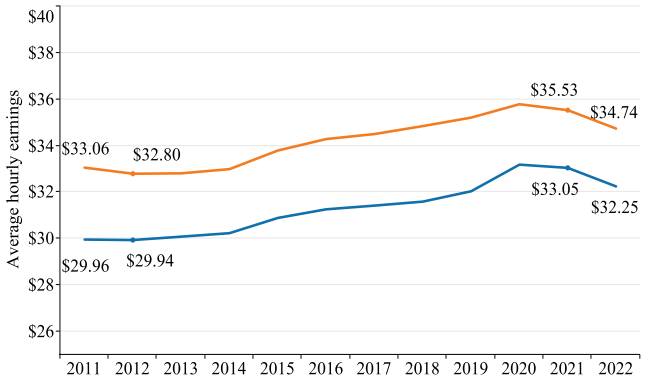


Source: *U.S. Bureau of Labor Statistics, National Compensation Survey, 2022 Employer Costs for Employee Compensation.*

** Due to rounding, individual costs may not sum to total compensation shown.*

Average hourly earnings (AHE) for private *wage-and-salary* workers were then examined by industry (chart 4). From 2011 to 2022, construction workers had higher AHE than workers in all industries, increasing 5.1% ($33.06 to $34.74) in construction, while AHE for all industries increased 7.6% ($29.96 to $32.25). From 2021 to 2022, AHE decreased 2.2% ($35.53 to $34.74) in construction and 2.4% ($33.05 to $32.25) for all industries. This is consistent with BLS findings once adjusted for inflation using the CPI Inflation Calculator.

4. Average hourly earnings, construction versus all industries, 2011-2022 (Private wage-and-salary)*

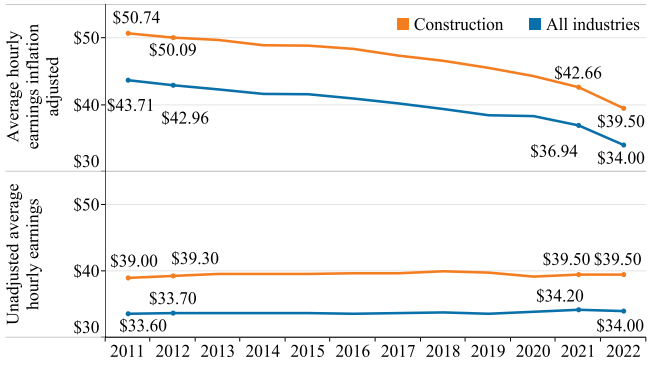


Source: *U.S. Bureau of Labor Statistics, 2011-2022 Consumer Price Index (CPI) and Current Employment Statistics (CES).*

** Adjusted for inflation to 2022 dollars using the CPI to provide a better comparison over time.*

AHE for private wage-and-salary *production and nonsupervisory employees*, when adjusted for inflation, fell 22.2% from 2011 to 2022 for both construction and all industries, decreasing by $11.24 ($50.74 to $39.50) in construction and $9.71 ($43.71 to $34.00) for all industries (chart 5). Unadjusted AHE remained consistent over the period, indicating that earnings for these employees did not increase with inflation, which is consistent with prior findings in the United States.

5. Average hourly earnings of production and nonsupervisory employees in construction versus all industries, 2011-2022 (Private wage-and-salary)*

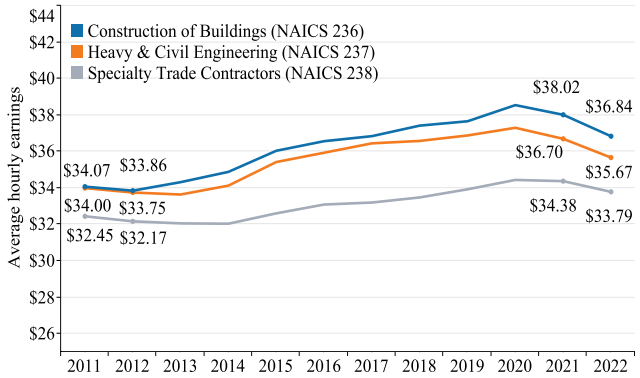


Source: *U.S. Bureau of Labor Statistics, 2011-2022 Consumer Price Index (CPI) and Current Employment Statistics (CES).*

** Adjusted for inflation to 2022 dollars using the CPI to provide a better comparison over time.*

Among construction *major subsectors*, Construction of Buildings (NAICS 236) had the highest AHE from 2011 to 2022, which increased 8.1% ($34.07 to $36.84) over the period (chart 6). Heavy and Civil Engineering (NAICS 237) had the second highest AHE, increasing 4.9% ($34.00 to $35.67), followed by Specialty Trade Contractors (NAICS 238), which increased 4.1% ($32.45 to $33.79). All three major subsectors saw declines in AHE from 2021 to 2022, consistent with findings for all construction presented in chart 4.

6. Average hourly earnings in construction by major subsector, 2011-2022 (Private wage-and-salary)*

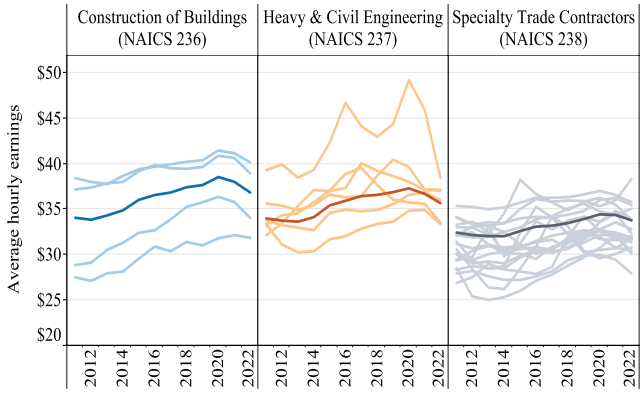


Source: *U.S. Bureau of Labor Statistics, 2011-2022 Consumer Price Index (CPI) and Current Employment Statistics (CES).*

** Adjusted for inflation to 2022 dollars using the CPI to provide a better comparison over time.*

The AHE for *detailed subsectors* followed similar trends as major subsectors overall (chart 7). Among detailed subsectors under Construction of Buildings (NAICS 236) in 2022, Commercial and Institutional Building (NAICS 23622) had the highest AHE at $40.14. For detailed subsectors under Heavy & Civil Engineering Construction (NAICS 237), Land Subdivision (NAICS 2372) had the highest AHE in 2022 ($38.43), though the subsector peaked in 2020 ($49.19). Examining Specialty Trade Contractors (NAICS 238), Other Building Equipment (NAICS 23829) had the highest AHE in 2022 ($38.34). For more information and to view an interactive version of this chart, visit our Construction Workers Income and Benefits Dashboard.

7. Average hourly earnings in construction by detailed subsector, 2011-2022 (Private wage-and-salary)*^



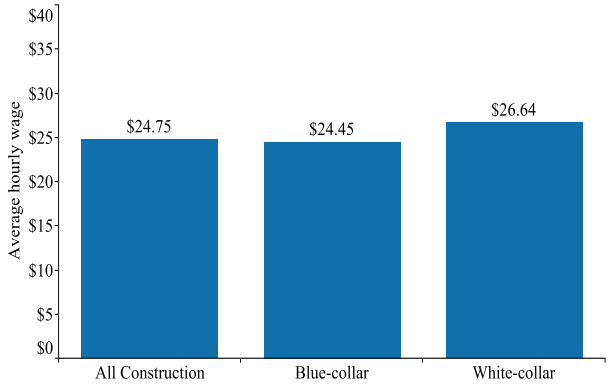
Source: *U.S. Bureau of Labor Statistics, 2011-2022 Consumer Price Index (CPI) and Current Employment Statistics (CES).*

**The bold lines represent the major subsectors from chart 6, whereas the lighter lines are the detailed subsectors within each category.*

^ Adjusted for inflation to 2022 dollars using the CPI to provide a better comparison over time.

The average hourly wage (AHW) for wage-and-salary workers who reported being paid hourly was then examined by demographics and union status (charts 8-11; shown on page 4). The AHW in construction was $24.75 in 2022. By worker type, *white-collar* workers had a higher AHW than *blue-collar* workers ($26.64 versus $24.45; chart 8). The following demographics had higher AHWs compared to both those in the same demographic and all construction workers ($24.75): construction workers aged 55 years or older ($26.88), held a bachelor's degree or above ($29.79), non-Hispanic ($26.07), and males ($25.06; chart 9). By union status, the AHW was 41.1% higher among members of labor unions in 2022 ($32.83 versus $23.27; chart 10). The AHW for members of unions were then explored by demographics (chart 11). *Union members* with the highest AHW were those aged 35 to 54 years old ($35.68), with some college/associate degree/completion of a vocational program ($35.53), and non-Hispanic ($33.30) had among the highest AHW.

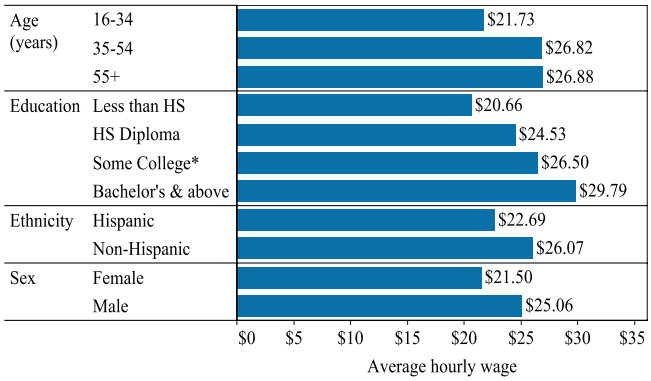
8. Average hourly wage in construction by worker type, 2022 (Wage-and-salary^)



Source: *Integrated Public Use Microdata Series (IPUMS), 2022 Current Population Survey.*

^ Includes wage-and-salary workers who are paid hourly, excluding self-employed.

9. Average hourly wage in construction by demographics, 2022 (Wage-and-salary^)

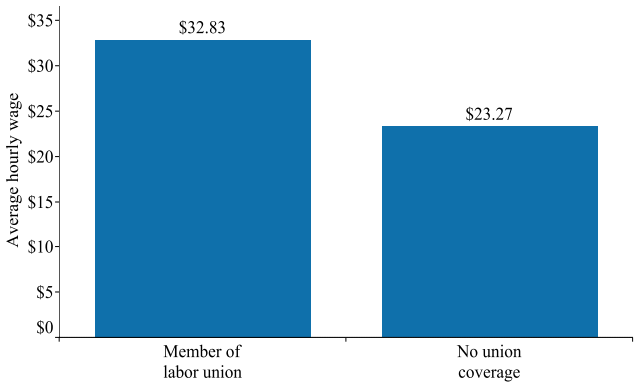


Source: *Integrated Public Use Microdata Series (IPUMS), 2022 Current Population Survey.*

^ Includes wage-and-salary workers who are paid hourly, excluding self-employed.

**Category includes some college, associate's degree, or completion of a vocational program.*

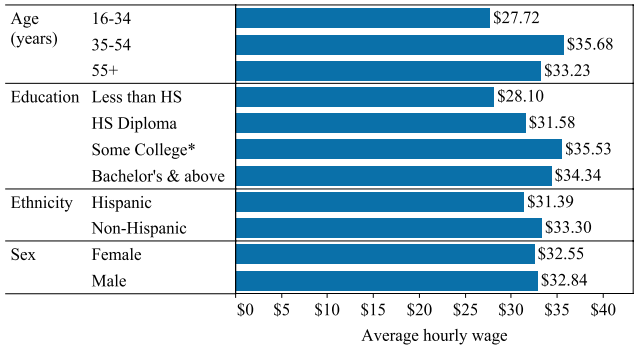
10. Average hourly wage in construction by union status, 2022 (Wage-and-salary^)



Source: *Integrated Public Use Microdata Series (IPUMS), 2011-2022 Current Population Survey.*

^ Includes wage-and-salary workers who are paid hourly, excluding self-employed.

11. Average hourly wage in construction for members of unions by demographics, 2022 (Wage-and-salary^)



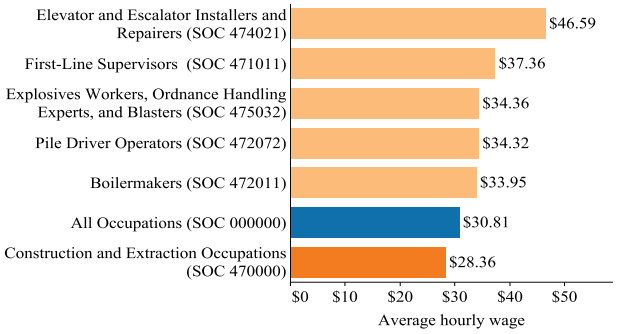
Source: *Integrated Public Use Microdata Series (IPUMS), 2011-2022 Current Population Survey.*

**Category includes some college, associate's degree, or completion of a vocational program.*

^ Includes wage-and-salary workers who are paid hourly, excluding self-employed.

Construction and extraction *occupations* (SOC 47-0000) were examined for those employed in the construction industry. In the construction industry,[2] those in construction and extraction occupations had a higher AHW compared to those in all occupations (SOC 000000; $30.81 versus $28.36; chart 12) in the May 2022 estimates. The highest AHW in construction and extraction occupations in the construction industry were for elevator and escalator installers and repairers (SOC 47-4021; $46.59), followed by first-line supervisors (SOC 47-1011; $37.36).

12. Top 5 average hourly wages in construction and extraction occupations, construction industry, May 2022



Source: *United States Bureau of Labor Statistics. May 2022 Occupational Employment and Wage Statistics (OEWS).*

As construction costs rise, it is important to monitor the trends of component costs, such as material and compensation costs (e.g., wages, salaries, and benefits). This Data Bulletin highlights trends in employment costs in the construction industry versus all industries, average hourly earnings in construction by major and detailed subsector, as well as average hourly wages by characteristics, demographics, and occupations. In 2022, wages and salaries comprised 70.0% of the total compensation costs in construction. Additionally, the cost of total benefits in construction was $13.07 per hour worked, as compared to $11.86 in all industries in December 2022.

Construction workers had average hourly earnings (including benefits) of $34.74, compared to $32.25 in all industries in 2022. Construction workers who were white-collar workers ($26.64), age 55+ ($26.88), attained a bachelor's degree or higher ($29.79), non-Hispanic ($26.07), males ($25.06), and members of a labor union ($32.83) had a higher average hourly wage compared to all workers ($24.75).

The Infrastructure Investment and Jobs Act (IIJA) and the Build Back Better Framework together are expected to add an average of 1.5 million jobs annually from 2021-2031 which will impact employment trends and associated costs. The BLS is estimating that employment in construction from 2021 to 2031 will increase by 2.8%, which is likely an underestimate, as those projections do not include any potential impacts of the IIJA or Build Back Better Framework. CPWR Data Dashboards on employment trends, projections, and income/benefits are updated regularly to monitor these trends. With the changing needs of the construction workforce, CPWR, OSHA, and NIOSH have resources to address occupational safety and health concerns (including emerging issues) in the industry.

ACCESS THE CHARTS & MORE

View the charts in PowerPoint and the data underlying the charts in Excel. Downloading will start when you click on each link. These files can also be found under the Data Bulletin at: https://www.cpwr.com/research/data-center/data-reports/. See our three data dashboard updates, including Income and Benefits, Employment Trends, and Employment Projections.

DEFINITIONS

- ***Blue-collar workers*** *– Manual labor occupations, including SOC codes 6005-7640, 7700-9760, and 9800-9830. Historically used interchangeably with production worker in the Construction Chart Book.*
- ***Consumer Price Index –*** *A measure of the average change overtime in the prices paid by urban consumers for a market basket of consumer goods and services.*
- ***Detailed subsector –*** *4- or 5-digit NAICS codes within construction (depending on the level available in the data).*
- ***Employment costs –*** *Pay measures used in the Data Bulletin to describe relevant employment costs, listed by data source in the order they appear in the Data Bulletin.*
  - ***Charts 1-3 (National Compensation Survey):***
    - ***Compensation costs –*** *Wages, salaries, and employer costs for employee benefits.*
      - ***Benefits –*** *Cost to employers for providing a benefit. Categories include paid leave, supplemental pay, insurance, retirement and savings, and legally required benefits.*
        - ***Insurance –*** *Includes life, health, short-term and long-term disability.*
        - ***Legally Required*** *– Includes Social Security, Medicare, federal and state unemployment insurance, and workers' compensation.*
      - ***Wages and salaries*** *– Regular payments from employer to employee as compensation for services performed.*
    - ***Cost per hour worked –*** *Employer cost of wages and salaries or benefits divided by total hours worked.*

[2] Note: Construction and extraction occupations (SOC 47-0000) cover largely the Construction and the Mining, Quarrying, and Oil and Gas Extraction industries; however, an individual in an SOC 47-000 position could work in another industry. For example, tile and stone setters (47-2044) top industries are construction and manufacturing.

- ***Employment Cost Index –*** *Measures the cost an employer pays to compensate an employee using a constant dollar comparison. The index number shows the change in compensation costs relative to a base period, set at 100.0 for December 2005.*

◦ ***Charts 4-8 (Current Employment Statistics):***

- ***Average hourly earnings (AHE) –*** *Calculated as the aggregate weekly payroll divided by aggregate weekly hours. Earnings do not include total labor costs, as they exclude benefits, irregular bonuses, and payroll taxes.*

◦ ***Charts 9-11 (Current Population Survey):***

- ***Average hourly wage (AHW)*** *– Average hourly wage reported for wage-and-salary workers who reported being paid an hourly wage. Excludes self-employed persons.*

◦ ***Chart 12 (Occupational Employment and Wage Statistics):***

- ***Average hourly wage (AHW)*** *– Also called the mean hourly wage is the estimated total hourly wages of an occupation divided by its estimated employment.*

- ***Major subsector*** *– 3-digit NAICS codes within construction, including Construction of Buildings (NAICS 236), Heavy and Civil Engineering Construction (NAICS 237), and Specialty Trade Contractors (NAICS 238).*

- ***Occupations*** *– All occupations included were within the construction industry (NAICS 23) defined using the Office of Management and Budget's 2018 Standard Occupational Classification (SOC) system.*

- ***Private industry*** *– excludes workers in the state and local government, workers employed in the federal government, private households, the self-employed, workers who set their own pay (owners, proprietors, major stockholders) and family members paid token wages.*

- ***Production and nonsupervisory employees*** *– production employees in mining and logging and manufacturing, construction employees in construction, and nonsupervisory employees in the service-providing industries.*

- ***Union member*** *- the respondent was a member of a labor union or employee association similar to a union for their current job.*

- ***Wage-and-salary*** *– workers who receive wages, salaries, commissions, tips, or pay from their employer.*

- ***White-collar workers*** *– Includes managerial, professional (architects, accountants, lawyers, etc.), administrative support workers, and other office workers.*

DATA SOURCES

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  https://www.cpwrconstructionsolutions.org/
- Construction Solutions ROI Calculator
  https://www.safecalc.org/
- COVID-19 Construction Clearinghouse
  https://covid.elcosh.org/index.php
- COVID-19 Exposure Control Planning Tool
  https://www.covidcpwr.org
- Electronic Library of Construction Occupational Safety and Health
  https://www.elcosh.org/index.php
- Exposure Control Database
  https://ecd.cpwrconstructionsolutions.org/
- Nano Safety Data Sheet Improvement Tool
  https://nanosds.elcosh.org/
- Safety Climate - Safety Management Information System (SC-SMIS)
  www.scsmis.com
- Stop Construction Falls
  https://stopconstructionfalls.com/
- Work Safely with Silica
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