



## Skilled Construction Trades

### *Job Description*

The construction of houses, offices, and infrastructure projects like bridges, among many other types of projects, requires the trained skills of many different workers. There are three general categories of construction trades workers – structural, finishing, and mechanical.

Structural workers erect the internal and external framework of a structure. They include carpenters, brick masons, stonemasons, cement masons, concrete finishers, construction equipment operators, and structural and reinforcing iron and metal workers.

Finishing workers give a structure its final appearance and include carpenters, drywall installers, plasterers, stucco masons, glaziers, painters, paperhangers, and roofers.

Responsibility for installing the equipment and material for basic building operations belongs to mechanical workers who include electricians, plumbers, pipe fitters, sheet metal workers, and heating, air-conditioning and refrigeration mechanics and installers.

### *Salary*

Construction jobs pay well. In 2004, according to the U.S. Bureau of Labor Statistics (BLS), the hourly wage of construction workers averaged \$19.23, or 21% higher than the average for private industry non-supervisory workers. The BLS reported that in 2004 the annual salary ranges for the middle half of workers in the most popular skilled trades were as follows:

|   |                   |
|---|-------------------|
| Brickmasons   | \$32,100-\$52,900 |
| Carpenters  | \$27,200-\$47,400 |
| Cement masons and concrete finishers                        | \$24,500-\$47,400 |
| Operating engineers; other construction equipment operators | \$27,500-\$48,000 |
| Painters  | \$24,300-\$40,200 |
| Plumbers, pipe fitters, steam fitters                       | \$31,400-\$55,700 |

Workers in skilled trades unions or covered by union contracts generally are paid more than nonunion workers.

Because these salary figures are based on a national average, the salary ranges in different communities may vary from amounts mentioned above.

### *Education*

Employment in one of the skilled construction trades does not require a college education, although a number of community colleges offer technical and practical courses relevant to many of the trades.

Many people enter the construction trades through apprenticeship programs. Lasting several years, these programs offer on-the-job training under the supervision of experienced craftworkers plus formal classroom instruction. During their training, apprentices receive a wage that is lower than that of skilled workers. Apprenticeships are administered by trade unions, trade associations, and local employers.

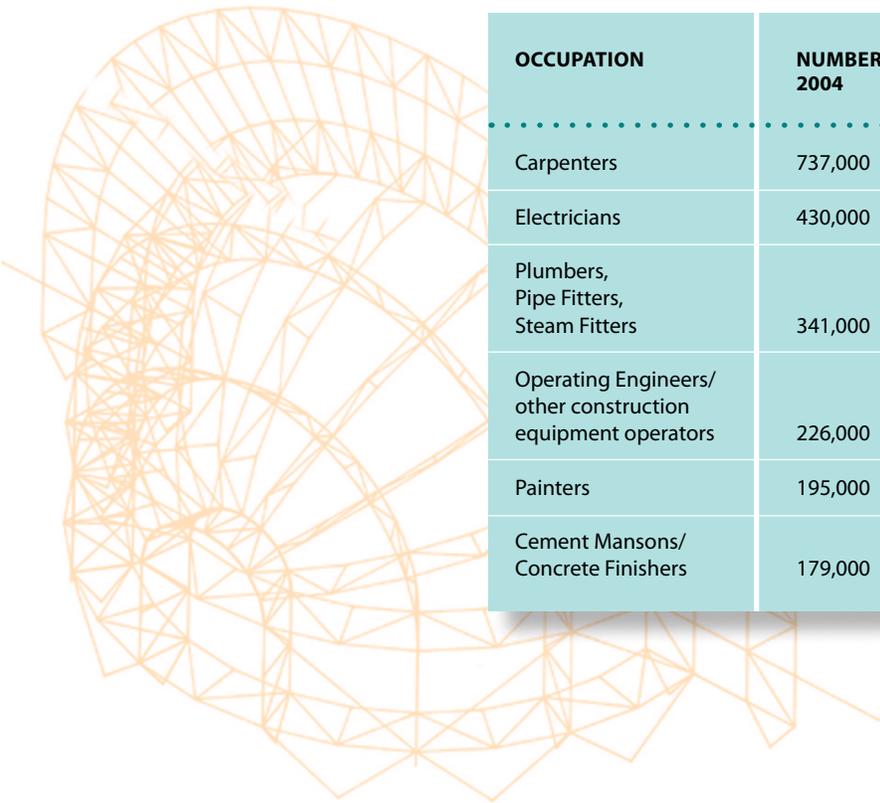
### *Skills and Abilities*

Fundamental to all work in the skilled construction trades is a pride in craftsmanship and attention to detail. Manual dexterity, eye-hand coordination, and physical fitness are also critical, as is the ability to read plans and visualize steps of the construction process. Solid arithmetic skills are essential for calculations and measurements. Knowledge of different materials and of tools and machines, including their use and maintenance, is frequently required. Increasingly, some ability with computers is also needed.

### *Job Opportunities*

The construction industry faces a critical shortage of workers. Consequently, as older skilled trades workers retire and as the need for new jobs expands, the growth of jobs in the skilled construction trades will be strong and steady in the coming years. Between 2004 and 2014, the Bureau of Labor Statistics estimates that the almost 7 million workers employed in all construction industry related positions will grow by more than 11%. The growth rate for several of the most common skilled trades is even higher.





| OCCUPATION  | NUMBER EMPLOYED 2004 | % CHANGE 2004-2014 |
|---|----------------------|--------------------|
| Carpenters  | 737,000              | 13.1%              |
| Electricians  | 430,000              | 14.2%              |
| Plumbers, Pipe Fitters, Steam Fitters                       | 341,000              | 16.7%              |
| Operating Engineers/ other construction equipment operators | 226,000              | 13.1%              |
| Painters  | 195,000              | 12.1%              |
| Cement Masons/ Concrete Finishers                           | 179,000              | 15.9%              |

### *Helpful High School Courses*

- ▶ General science
- ▶ General mathematics
- ▶ Mechanical drawing
- ▶ Vocational/technical subjects



### *Resources*

The following two websites give a broad overview of different career paths in the construction industry.

- ▶ **CareerVoyages.gov** is a collaborative effort of the U.S. Department of Labor and the U.S. Department of Education to encourage and assist young people to pursue careers in high-growth, high-demand sectors of the economy. Construction is one of the featured sectors. The interactive website focuses on different skilled trade occupations, describes apprenticeships and college opportunities, and offers videos depicting the work of several skilled trades. There are sections for students, parents, and career advisors.

<http://careervoyages.gov/construction-main.cfm>

- ▶ **Constructmyfuture.com** provides an informative, interactive website with considerable background about different careers in construction and education and training opportunities. In addition, many useful links to other organizations and resources can be found on this web site. The web site has sections for teachers, students, and parents. <http://www.constructmyfuture.com>

Many construction industry associations and the U.S. Department of Labor are sources of helpful information.

- ▶ **Associated Builders and Contractors, Workforce Development Department**

4250 North Fairfax Drive, 9th Floor, Arlington, VA 22203

Website: <http://www.abc.org> – Provides information about careers in many skilled trades as well as leads to education and training opportunities. The *Try Tools* web page has sections for high school students and for teachers and parents.

- ▶ **Associated General Contractors of America, Inc.**

2300 Wilson Boulevard, Suite 400, Arlington, VA 22201

Website: <http://www.agc.org> – The AGC offers students and teachers a broad range of helpful information and printed materials. Note in particular on the AGC website a page titled “Construction Force Work Path.” It leads to information about many careers in construction and to other useful websites. To find this page, go to the Education and Training section and click on Construction Futures.

- ▶ **Home Builders Institute**

1201 Fifteenth Street NW, Sixth Floor, Washington, DC 20005

Websites: <http://www.hbi.org> and <http://www.buildingcareers.org> – The Home Builders Institute is the workforce development arm of the National Association of Homebuilders. The two websites listed here provide helpful information about careers in the home construction industry, especially as relate to several building trades.

- ▶ **U.S. Department of Labor, Education and Training Administration**

200 Constitution Avenue NW, Washington, DC 20210

Website: <http://www.doleta.gov> – Under the Advancing Your Career tab, can be found information about skilled trade apprenticeship programs and background about careers in construction.



**Trade unions** have websites outlining training opportunities and other industry-related information. The list below is a representative sample of the larger trade unions.

▶ **International Brotherhood of Electrical Workers**

900 Seventh Street NW, Washington, DC 20001

Website: <http://www.ibew.org>

▶ **International Union of Bricklayers and Allied Craft Workers**

620 F Street NW, Washington, DC 20004

Website: <http://www.bacweb.org>

▶ **International Masonry Institute**

The James Brice House, 42 East Street, Annapolis, MD 21401

Website: <http://www.imiweb.org>

▶ **United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada**

United Association Building, 901 Massachusetts Avenue NW,  
Washington, DC 20001

Website: <http://www.ua.org>

▶ **United Brotherhood of Carpenters and Joiners of America**

50 F Street NW, Washington, DC 20001

Website: <http://www.carpenters.org>

This Fact Sheet, with some additions and modifications, is taken from the National Building Museum's *Building Blocks: Design Apprenticeship Program* curriculum.

