
Carpet, Floor, and Tile Installers and Finishers

(O*NET 47-2041.00, 47-2042.00, 47-2043.00, 47-2044.00)

Significant Points

- About 42 percent of carpet, floor, and tile installers and finishers are self-employed.
- Most workers learn on the job.
- Projected job growth varies by specialty; for example, tile and marble setters will have faster than average job growth, while little change is expected in the employment of carpet installers.
- Employment is less sensitive to fluctuations in construction activity than other construction trades workers.

Nature of the Work

Carpet, tile, and other types of floor coverings not only serve an important basic function in buildings, but their decorative qualities also contribute to the appeal of the buildings. Carpet, floor, and tile installers and finishers lay floor coverings in homes, offices, hospitals, stores, restaurants, and many other types of buildings. Tile also may be installed on walls and ceilings.

Before installing carpet, *carpet installers* first inspect the surface to be covered to determine its condition and, if necessary, correct any imperfections that could show through the carpet or cause the carpet to wear unevenly. They measure the area to be carpeted and plan the layout, keeping in mind expected traffic patterns and placement of seams for best appearance and maximum wear.

When installing wall-to-wall carpet without tacks, installers first fasten a tackless strip to the floor, next to the wall. They then install the padded cushion or underlay. Next, they roll out, measure, mark, and cut the carpet, allowing for 2 to 3 inches of extra carpet for the final fitting. Using a device called a “knee kicker,” they position the carpet, stretching it to fit evenly on the floor and snugly against each wall and door threshold. They then cut off the excess carpet. Finally, using a power stretcher, they stretch the carpet, hooking it to the tackless strip to hold it in place. The installers then finish the edges using a wall trimmer.

Because most carpet comes in 12-foot widths, wall-to-wall installations require installers to join carpet sections together for large rooms. The installers join the sections using heat-taped seams—seams held together by a special plastic tape that is activated by heat.

On special upholstery work, such as stairs, carpet may be held in place with staples. Also, in commercial installations, carpet often is glued directly to the floor or to padding that has been glued to the floor.

Carpet installers use hand tools such as hammers, drills, staple guns, carpet knives, and rubber mallets. They also may use carpetlaying tools, such as carpet shears, knee kickers, wall trimmers, loop pile cutters, heat irons, and power stretchers.

Floor installers and *floor layers* lay floor coverings such as laminate, linoleum, vinyl, cork, and rubber for decorative pur-



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poses, or to deaden sounds, absorb shocks, or create air-tight environments. Although they also may install carpet, wood or tile, that is not their main job. Before installing the floor, floor layers inspect the surface to be covered and, if necessary, correct any deficiencies, such as a rotted or unlevelled sub-floor, in order to start with a sturdy, smooth, clean foundation. They measure and cut floor covering materials. When installing linoleum or vinyl, they may use an adhesive to cement the material directly to the floor. For laminate floor installation, workers may unroll and install a polyethylene film which acts as a moisture barrier, along with a thicker, padded underlayer which helps reduce noise. Cork and rubber floors often can be installed directly on top of the sub-floor without any underlayer. Finally, floor layers install the floor covering to form a tight fit.

After a carpenter installs a new hardwood floor or when a customer wants to refinish an old wood floor, floor sanders and finishers are called in to smooth any imperfections in the wood and apply finish coats of varnish or polyurethane. To remove imperfections and smooth the surface, they will scrape and sand wooden floors using floor sanding machines. They then inspect the floor and remove excess glue from joints using a knife or wood chisel and may further sand the wood surfaces by hand, using sandpaper. Finally, they apply sealant using brushes or rollers, often applying multiple coats.

Tile installers, tilesetters, and marble setters apply hard tile and marble to floors, walls, ceilings, countertops, patios, and roof decks. Tile and marble are durable, impervious to water, and easy to clean, making them a popular building material in bathrooms, kitchens, hospitals, and commercial buildings.

Prior to installation, tilesetters use measuring devices and levels to ensure that the tile is placed in a consistent manner. Tile varies in color, shape, and size, ranging in size from 1 inch to 24 or more inches on a side, so tilesetters sometimes prearrange tiles on a dry floor according to the intended design. This allows them to examine the pattern, check that they have enough of each type of tile, and determine where they will have to cut tiles to fit the design in the available space. To cover all ex-

Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-16	
				Number	Percent
Carpet, floor, and tile installers and finishers.....	47-2040	196,000	203,000	7,500	4
Carpet installers	47-2041	73,000	72,000	-900	-1
Floor layers, except carpet, wood, and hard tiles.....	47-2042	29,000	25,000	-3,500	-12
Floor sanders and finishers.....	47-2043	14,000	14,000	-300	-2
Tile and marble setters	47-2044	79,000	91,000	12,000	15

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

posed areas, including corners and around pipes, tubs, and wash basins, tilesetters cut tiles to fit with a machine saw or a special cutting tool. To set tile on a flat, solid surface such as drywall, concrete, plaster, or wood, tilesetters first use a tooth-edged trowel to spread a “thin set,” or thin layer of cement adhesive or “mastic,” a very sticky paste. They then properly position the tile and gently tap the surface with their trowel handle, rubber mallet, or a small block of wood to set the tile evenly and firmly. Spacers are used to maintain exact distance between tiles, and any excess thin set is wiped off the tile immediately after placement.

To apply tile to an area that lacks a solid surface, tilesetters nail a support of metal mesh or tile backer board to the wall or ceiling to be tiled. They use a trowel to apply a cement mortar—called a “scratch coat”—onto the metal screen, and scratch the surface of the soft mortar with a small tool similar to a rake. After the scratch coat has dried, tilesetters apply a brown coat of mortar to level the surface, and then apply mortar to the brown coat and place tile onto the surface. Hard backer board also is used in areas where there is excess moisture, such as a shower stall.

When the cement or mastic has set, tilesetters fill the joints with “grout,” which is very fine cement and includes sand for joints 1/8th of an inch and larger. They then apply the grout to the surface with a rubber-edged device called a grout float or a grouting trowel to fill the joints and remove excess grout. Before the grout sets, they wipe the tiles and finish the joints with a damp sponge for a uniform appearance.

Marble setters cut and set marble slabs in floors and walls of buildings. They trim and cut marble to specified sizes using a power wet saw, other cutting equipment, or handtools. After setting the marble in place, they polish the marble to high luster using power tools or by hand.

Work environment. Carpet, floor, and tile installers and finishers usually work indoors and have regular daytime hours. However, when floor covering installers need to work in occupied stores or offices, they may work evenings and weekends to avoid disturbing customers or employees. By the time workers install carpets, flooring, or tile in a new structure, most construction has been completed and the work area is relatively clean and uncluttered. Installing these materials is labor intensive; workers spend much of their time bending, kneeling, and reaching—activities that require endurance. The work can be very hard on workers’ knees and back. Carpet installers frequently lift heavy rolls of carpet and may move heavy furniture, which requires strength and can be physically exhausting. Safety regulations may require that they wear kneepads

or safety goggles when using certain tools. Carpet and floor layers may be exposed to fumes from various kinds of glue and to fibers of certain types of carpet.

Although workers are subject to cuts from tools or materials, falls from ladders, and strained muscles, the occupation is not as hazardous as some other construction occupations.

Training, Other Qualifications, and Advancement

The vast majority of carpet, floor, and tile installers and finishers learn their trade informally on the job. A few, mostly tile setters, learn through formal apprenticeship programs, which include classroom instruction and paid on-the-job training.

Education and training. Informal training for carpet installers often is sponsored by individual contractors. Workers start as helpers, and begin with simple assignments, such as installing stripping and padding, or helping to stretch newly installed carpet. With experience, helpers take on more difficult assignments, such as measuring, cutting, and fitting.

Tile and marble setters also learn their craft mostly through on-the-job training. They start by helping carry materials and learning about the tools of the trade. They then learn to prepare the subsurface for tile or marble. As they progress, they learn to cut the tile and marble to fit the job. They also learn to apply grout and sealants used in finishing the materials to give it its final appearance. Apprenticeship programs and some contractor-sponsored programs provide comprehensive training in all phases of the tilesetting and floor layer trades.

Other floor layers also learn on the job and begin by learning how to use the tools of the trade. They next learn to prepare surfaces to receive flooring. As they progress, they learn to cut and install the various floor coverings.

Other qualifications. Some skills needed to become carpet, floor, and tile installers and finishers include manual dexterity, eye-hand coordination, physical fitness, and a good sense of balance and color. The ability to solve basic arithmetic problems quickly and accurately also is required. In addition, reliability and a good work history are viewed favorably by contractors.

Advancement. Carpet, floor, and tile installers and finishers sometimes advance to become supervisors, salespersons, or estimators. In these positions, they must be able to estimate the time, money, and quantity of materials needed to complete a job.

Some carpet installers may become managers for large installation firms. Many carpet, floor, and tile installers and finishers who begin working for someone else eventually go into business for themselves as independent subcontractors.

For those who would like to advance, it is increasingly important to be able to communicate in both English and Spanish to relay instructions and safety precautions to workers with limited understanding of English; Spanish-speaking workers make up a large part of the construction workforce in many areas. Workers who want to advance to supervisor jobs or become contractors also need good English skills to deal with clients and subcontractors.

Employment

Carpet, floor, and tile installers and finishers held about 196,000 jobs in 2006. About 42 percent of all carpet, floor, and tile installers and finishers were self-employed, compared with 20 percent of all construction trades and related workers. The following tabulation shows 2006 wage-and-salary employment by specialty:

Tile and marble setters	79,000
Carpet installers	73,000
Floor layers, except carpet, wood, and hard tiles.....	29,000
Floor sanders and finishers.....	14,000

Many carpet installers work for flooring contractors or floor covering retailers. Most salaried tilesetters are employed by tilesetting contractors who work mainly on nonresidential construction projects, such as schools, hospitals, and office buildings. Most self-employed tilesetters work on residential projects.

Although carpet, floor, and tile installers and finishers are employed throughout the Nation, they tend to be concentrated in populated areas where there are high levels of construction activity.

Job Outlook

Employment of carpet, floor, and tile installers and finishers is expected to grow more slowly than the average for all occupations. Job growth and opportunities, however, will differ among the individual occupations.

Employment change. Overall employment is expected to grow by 4 percent between 2006 and 2016, more slowly than the average for all occupations. Tile and marble setters, the largest specialty, will experience faster than average job growth because population and business growth will result in more construction of shopping malls, hospitals, schools, restaurants, and other structures in which tile is used extensively. Tiles, including those made of glass, slate, and mosaic, and other less traditional materials, are also becoming more popular, particularly in the growing number of more expensive homes.

Carpet installers, the second largest specialty, will have little or no job growth as residential investors and homeowners increasingly choose hardwood floors because of their durability, neutral colors, and low maintenance, and because owners feel these floors will add to the value of their homes. Carpets, on the other hand, stain and wear out faster than wood or tile, which contributes to the decreased demand for carpet installation. Nevertheless, carpet will continue to be used in nonresidential structures such as schools, offices, and hospitals. Also, many multifamily structures will require or recommend carpet because it provides sound dampening.

Workers who install other types of flooring, including laminate, cork, rubber, and vinyl, should experience rapidly declining employment because these materials are used less often and are often laid by other types of construction workers. Employment of floor sanders and finishers—a small specialty—is projected to have little or no job growth due to the increasing use of prefinished hardwood flooring and because their work is heavily concentrated in the relatively small niche market of residential remodeling. There should be some employment growth, however, resulting from restoration of damaged hardwood floors, which is typically more cost effective than installing new floors.

Job prospects. In addition to employment growth, job openings are expected for carpet, floor, and tile installers and finishers because of the need to replace workers who leave the occupation. The strenuous nature of the work leads to high replacement needs because many of these workers do not stay in the occupation long.

Few openings will arise for vinyl and linoleum floor installers because the number of these jobs is comparatively small and because homeowners can increasingly take advantage of easy application products, such as self-adhesive vinyl tiles.

Employment of carpet, floor, and tile installers and finishers is slightly less sensitive to changes in construction activity than most other construction occupations because much of the work involves replacing worn carpet and other flooring in existing buildings. However, workers in these trades may still experience periods of unemployment when the overall level of construction falls. On the other hand, shortages of these workers may occur in some areas during peak periods of building activity.

Earnings

In May 2006, the median hourly earnings of wage and salary carpet installers were \$16.62. The middle 50 percent earned between \$12.06 and \$23.26. The lowest 10 percent earned less than \$9.46, and the top 10 percent earned more than \$31.11. The median hourly earnings of carpet installers working for building finishing contractors were \$17.17, and \$15.69 for those working in home furnishings stores. Carpet installers are paid either on an hourly basis or by the number of yards of carpet installed.

Median hourly earnings of wage and salary floor layers except carpet, wood, and hard tiles were \$16.44 in May 2006. The middle 50 percent earned between \$12.71 and \$23.78. The lowest 10 percent earned less than \$9.77, and the top 10 percent earned more than \$32.32.

Median hourly earnings of wage and salary floor sanders and finishers were \$13.89 in May 2006. The middle 50 percent earned between \$10.84 and \$18.47. The lowest 10 percent earned less than \$9.08, and the top 10 percent earned more than \$24.21.

Median hourly earnings of wage and salary tile and marble setters were \$17.59 in May 2006. The middle 50 percent earned between \$13.16 and \$23.50. The lowest 10 percent earned less than \$10.26, and the top 10 percent earned more than \$29.95.

Earnings of carpet, floor, and tile installers and finishers vary greatly by geographic location and by union membership status.

Some carpet, floor, and tile installers and finishers belong to the United Brotherhood of Carpenters and Joiners of America. Some tilesetters belong to the International Union of Bricklayers and Allied Craftsmen, and some carpet installers belong to the International Brotherhood of Painters and Allied Trades.

Apprentices and other trainees usually start out earning about half of what an experienced worker earn; their wage rates increase as they advance through the training program.

Related Occupations

Carpet, floor, and tile installers and finishers measure, cut, and fit materials to cover a space. Workers in other occupations involving similar skills, but using different materials, include brickmasons, blockmasons, and stonemasons; carpenters; cement masons, concrete finishers, segmental pavers, and terrazzo workers; drywall installers, ceiling tile installers, and tapers; painters and paperhangers; roofers; and sheet metal workers.

Sources of Additional Information

For details about apprenticeships or work opportunities, contact local flooring or tilesetting contractors or retailers, locals of the unions previously mentioned, or the nearest office of the State apprenticeship agency or employment service. Apprenticeship information is also available from the U.S. Department of Labor's tollfree helpline: (877) 872-5627.

For general information about the work of carpet installers and floor layers, contact:

- Floor Covering Installation Contractors Association, 7439 Milwood Dr., West Bloomfield, MI 48322.

Internet: <http://www.fcica.com/index2.html>

Additional information on training for carpet installers and floor layers is available from:

- Finishing Trades Institute, International Union of Painters and Allied Trades, 1750 New York Ave. NW., Washington, DC 20006. Internet: <http://www.finishingtradesinstitute.org>

For general information about the work of tile installers and finishers, contact:

- International Union of Bricklayers and Allied Craftworkers, International Masonry Institute, The James Brice House, 42 East St., Annapolis, MD 21401. Internet: <http://www.imiweb.org>
- National Association of Home Builders, Home Builders Institute, 1201 15th St. NW., Washington, DC 20005.

Internet: <http://www.hbi.org> and <http://www.nahb.org>

For more information about tile setting and tile training, contact:

- National Tile Contractors Association, P.O. Box 13629, Jackson, MS 39236. Internet: <http://www.tile-assn.com>

For information concerning training of carpet, floor, and tile installers and finishers, contact:

- United Brotherhood of Carpenters and Joiners of America, 50 F St. NW., Washington, DC 20001.

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

For general information on apprenticeships and how to get them, see the *Occupational Outlook Quarterly* article "Apprenticeships: Career training, credentials—and a paycheck in your pocket," in print at many libraries and career centers and online at: <http://www.bls.gov/opub/ooq/2002/summer/art01.pdf>