



2019

Edited by Ray F. Hicks



NATIONAL HOME IMPROVEMENT ESTIMATOR



**Labor Costs, Material Costs, City Cost Modifiers and
Selling Prices for All Home Improvement Projects**

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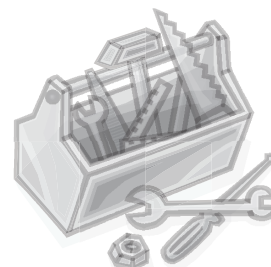
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Pricing Home Improvement Jobs

1



Estimating home improvement costs requires specialized skills. You can't price home improvement work the same way you'd price new construction. The proportion of labor expense is greater. There's far more risk because there are far more variables and unknowns. An example will make this clear.

Hanging doors in new construction is a 1-2-3 affair. You know ahead of time exactly what's required. You built the wall, installed the frame and know each door will fit right the first time. There won't be any surprises. An experienced estimator can forecast the cost of hanging a door in a new home with a high degree of certainty.

Now let's look at the same task on a home improvement project. First, remember that you may be hanging only one door. There's no chance to improve the production rate on second or later doors. Installing this door is probably different from the last door you installed on a similar project and will be different from your next door installation.

Work starts with removing the old door. That's probably not too hard — once you break through six coats of accumulated paint on the hinges. Let's assume you work carefully and don't damage the casing or trim. The next step is to install a blind Dutchman where the original hinges were attached. If the frame's badly chewed up from years of neglect and abuse, you'll have to remove and replace the entire frame. Don't forget that the building has settled over the years. The frame has probably twisted out of plumb. More time will be needed to shim and level the frame.

Finally the door is installed and swings smoothly. But the job still isn't finished. You have to paint the door to match and will certainly have to haul away the old door and the debris.

Every home improvement cost estimate comes with dozens of chances to make an expensive mistake. Surprises are inevitable and nearly all surprises will add to the cost, not reduce the cost. Estimating new construction is a snap by comparison.

All home improvement has similar problems:

- ❖ No chance for economies of scale (mass production),
- ❖ Difficulty in removing just enough of the old,
- ❖ Work doesn't follow the normal (from the ground, up) sequence of construction,
- ❖ Difficulty adding new materials to deteriorated or nonstandard existing materials,
- ❖ The need to match designs, colors and textures,
- ❖ Covering up for another contractor's mistakes,
- ❖ Struggling to get access to the place where the work is to be done,
- ❖ Protecting adjacent surfaces and pathway to the work area,
- ❖ Initial uncertainty about how much work is needed.

If you're an experienced home improvement contractor, you understand this already. Whether experienced or not, you know full well that accurate pricing is crucial to survival in the home improvement business. Unfortunately, most home improvement specialists have far less experience in pricing their work than in getting the work done. No wonder so many home improvement companies sink into obscurity.

But it doesn't have to be that way.

The chapters that follow explain how to price each type of home improvement work. Emphasis will be on avoiding risk — pricing pitfalls that can turn any home improvement contract into a financial nightmare.

No Price Fits All Jobs

There's no single way to arrive at the correct price for home improvement work. Neither is there a single correct price for most home improvement projects. But there are both good and bad ways to estimate prices and there are good and bad prices for any proposed job. Your task as a home improvement estimator is to produce consistently good estimates on most jobs. If you're already doing that, congratulations. You don't need this book. Return it where you bought it and get a refund. But if you're not, information in the following chapters will make or save you many times what you paid for the book.

It's accepted wisdom among home improvement specialists that salespeople need authority to quote prices when closing a sale. When trying to wrap up a deal, there's no substitute for having current cost information at your fingertips. That's especially true on larger jobs where you've prepared detailed plans and a written estimate. The owner will have questions and suggestions that change the job specs. If you want to close the sale then and there, you'd better know how much to add or subtract for each change the owner wants.

Most home improvement companies authorize salespeople to quote prices from an approved list in a price book. That simplifies the salesperson's job, eliminates most major errors, and saves the owner of the company from approving every item in every estimate. In our opinion, quoting from a price book is the only way to build sales volume in the home improvement business. That means every home improvement contractor needs a good price book.

Of course, the best price book for your company would be based on your actual cost experience — work done by your crews on your jobs with materials from your dealers and installed by your subcontractors. Since every contractor uses different crews, subcontractors and suppliers, every price book should be different. And, of course, prices in the company price book should be revised regularly to reflect current labor and material costs.

Having admitted that there's no substitute for developing your own price book, we'll suggest that you not bother. Most home improvement contractors don't have the time or patience to maintain current installed prices for thousands of repair and

remodeling items. Even if you did, spending hundreds of hours a year keeping a price book current would be a waste of time. Prices for home improvement work are usually negotiated on site. There's little value in keeping a book of exact costs if you have to cut a special deal to close each sale.

Instead, we suggest that you let this manual serve as your company price book. Using the prices in this book (and included software download) will eliminate most of the common estimating mistakes. If your labor costs are higher or if your crews aren't as skilled as most tradesmen, you may have to increase the selling prices listed here to make a reasonable profit. And, of course, sometimes you're going to have a job with costs that exceed what any reasonable estimate could have predicted. This manual isn't a substitute for the exercise of good judgment. That's always your job.

Cost Plus Markup Equals Selling Price

The figures in this manual show both costs to the contractor and a recommended selling price. The difference between your cost and your selling price is your markup. Markup varies widely, far more than either material cost or labor cost. You're the final authority on markup. You decide what markup fits best — based on market conditions, your client, and the profit you feel is reasonable. Once you decide on the "right" markup, it's easy to plug that percentage into the bid, assuming you use National Estimator.

Every construction contractor needs to distinguish between "markup" and "profit." Markup is what you add to estimated labor and material costs (usually called "hard costs") to find the selling price. Profit is what you have left when all bills have been paid. The two are very different. Profit is just the frosting on the cake.

Markup is also different from "margin." Figure 1-1 shows percentages of markup for various levels of hard costs. For example, if your markup on a \$20,000 job is 50 percent, the selling price will be \$30,000. The margin on that job is 33 percent, \$10,000 divided by the selling price of \$30,000. (Note the bottom row in Figure 1-1.) Margin is what's left after hard costs are recovered, and includes profit.

Markup vs. Margin				
Hard Cost	Price at 50% Markup	Price at 70% Markup	Price at 100% Markup	Price at 150% Markup
\$50	\$75	\$85	\$100	\$125
\$100	\$150	\$170	\$200	\$250
\$200	\$300	\$340	\$400	\$500
\$300	\$450	\$510	\$600	\$750
\$400	\$600	\$680	\$800	\$1,000
\$500	\$750	\$850	\$1,000	\$1,250
\$1,000	\$1,500	\$1,700	\$2,000	\$2,500
\$2,000	\$3,000	\$3,400	\$4,000	\$5,000
\$3,000	\$4,500	\$5,100	\$6,000	\$7,500
\$4,000	\$6,000	\$6,800	\$8,000	\$10,000
\$5,000	\$7,500	\$8,500	\$10,000	\$12,500
\$6,000	\$9,000	\$10,200	\$12,000	\$15,000
\$7,000	\$10,500	\$11,900	\$14,000	\$17,500
\$8,000	\$12,000	\$13,600	\$16,000	\$20,000
\$9,000	\$13,500	\$15,300	\$18,000	\$22,500
\$10,000	\$15,000	\$17,000	\$20,000	\$25,000
\$11,000	\$16,500	\$18,700	\$22,000	\$27,500
\$12,000	\$18,000	\$20,600	\$24,000	\$30,000
\$13,000	\$19,500	\$22,100	\$26,000	\$32,500
\$14,000	\$21,000	\$23,800	\$28,000	\$35,000
\$15,000	\$22,500	\$25,500	\$30,000	\$37,500
\$16,000	\$24,000	\$27,200	\$32,000	\$40,000
\$17,000	\$25,500	\$28,900	\$34,000	\$42,500
\$18,000	\$27,000	\$30,600	\$36,000	\$45,000
\$19,000	\$28,500	\$32,300	\$38,000	\$47,500
\$20,000	\$30,000	\$34,000	\$40,000	\$50,000
\$30,000	\$45,000	\$51,000	\$60,000	\$75,000
\$40,000	\$60,000	\$68,000	\$80,000	\$100,000
\$50,000	\$75,000	\$85,000	\$100,000	\$125,000
Hard Cost	33% Margin	41% Margin	50% Margin	60% Margin

Figure 1-1

Markup (based on cost) vs. Margin (based on selling price)

Many successful home improvement contractors find they can stay in business if hard costs are 59 percent of selling price. Hard costs include material expense, subcontract costs and labor (including taxes and insurance). The other 41 percent of selling price (“margin”) compensates the sales staff, covers overhead, supervision and contingency, and should yield a modest profit. From Figure 1-1, you can see that markup on hard costs has to be 70 percent to yield a margin of 41 percent.

To put this formula to work in your home improvement company, add 70 percent to your hard costs to find the selling price. Of course, some jobs need more markup and others can get by on less. A smaller job with more risk done for a demanding client may require greater markup. A larger job done mostly by subcontractors can usually carry a smaller markup.

Home improvement contractors have all the overhead of any business: office rent, telephone, owner’s salary, office salaries, legal and accounting expense, insurance, auto and truck expense, and more. But unlike other contractors, home improvement specialists routinely deal with high risk from both the unknown and the unknowable — at least until work actually begins. Since most of what you didn’t or couldn’t anticipate will inflate your costs, you’re assuming significant risk. That’s why markups for home improvement work have to be higher than for new construction.

Naturally, competition dictates markup. If you’re not getting enough work at 70 percent markup, maybe 70 percent is too much for your area. But remember that you shouldn’t have to bid remodeling work on a level playing field. New construction usually goes to the lowest responsible bidder. A creative salesman who follows the recommendations in this book has an advantage over lowball bidders who rely on price alone to sell their services.

If you have trouble using *National Estimator*, we’ll be glad to help, and we don’t charge you for it.

Free telephone assistance is available from 8 a.m. until 5 p.m. Pacific time Monday through Friday (except holidays). Call 760-438-7828, Ext. 2.

This Book Works Two Ways



When the *National Estimator* program has been installed, click Help on the menu bar to see a list of topics that will get you up and running. Or, go online to www.craftsman-book.com and click on Support, then Tutorials, to view an interactive tutorial for *National Estimator*.

Estimates That Work Two Ways

This manual is designed for use by both the owner of a home improvement business and by company sales staff. Prices shown in this manual include both hard costs (labor and material) and a recommended selling price (usually based on 70 percent markup). Sales staff will use the selling price.

Figure 1-2 shows the last page of an estimate for the Stillwel room addition, including 70 percent markup. The company estimator created this estimate from a job survey prepared by a sales representative. Figure 1-2 is for company use and was created in the National Estimator program.

Qty	Craft@Hours	Unit	Material	Labor	Equipment	Total
Roll & brush 1 coat of water base undercoat on interior flush doors						
Medium .3 MH/Door, 11.5 Doors/Gal						
3.00	2P@.9000	Ea	5.07	21.36	0.00	26.43
Roll & brush 1st finish coat of water base enamel on interior flush doors						
Medium .25 MH/Door, 12.5 Doors/Gal						
3.00	2P@.7500	Ea	5.39	17.80	0.00	23.18
Roll & brush 1 coat water base undercoat on vanity cabinet						
Medium 93 SF/MH, 250 SF/Gal						
0.90	2P@.9720	CSF	6.99	23.06	0.00	30.05
Roll & brush 1st finish coat of water base enamel on vanity cabinet						
Medium 103 SF/MH, 288 SF/Gal						
0.90	2P@.8740	CSF	7.02	20.70	0.00	27.72
Roll 1st coat of water base stain on rough sawn or resawn wood siding						
Medium 225 SF/MH, 213 SF/Gal						
17.00	2P@7.548	CSF	157.08	178.50	0.00	335.58
Roll 2nd coat of water base stain on rough sawn or resawn wood siding						
Medium 275 SF/MH, 273 SF/Gal						
17.00	2P@6.188	CSF	122.63	146.73	0.00	269.36
**Subtotal: Painting						
	40.7		1,014.54	973.48	0.00	1,988.00
Total Manhours, Material, Labor, and Equipment:						
	456.0		18,641.82	11,675.42	540.29	30,857.53
Total Only (Subcontract) Costs:						
						4,028.33
Subtotal:						34,885.85
70.00% Markup:						24,420.10
Estimate Total:						59,305.95

Figure 1-2

Estimate with a 70 percent markup shown

Figure 1-3 shows the last page of a proposal for the same job. This is what the customer sees. It was created by the Job Cost Wizard program. Both National Estimator and Job Cost Wizard are included in the free download that comes with this book. Notice that the total is nearly the same in both documents, \$59,305.95. Figure 1-2, the estimate, shows 70 percent markup on hard costs. Figure 1-3, the proposal, doesn't show the markup at all. Instead, markup has been distributed proportionately throughout each cost item in the job. Job Cost Wizard does this distribution at the click of a button.

Craftsman Construction		Proposal									
6058 Corte del Cedro Box 6500 Fairfield, GA 30456 856-3806		<table><tr><th>Date</th><th>Estimate #</th></tr><tr><td>8/3/19</td><td>494</td></tr><tr><th>Customer</th><th>Job</th></tr><tr><td>Bill Stillwel</td><td>Room Addition</td></tr></table>	Date	Estimate #	8/3/19	494	Customer	Job	Bill Stillwel	Room Addition	
Date	Estimate #										
8/3/19	494										
Customer	Job										
Bill Stillwel	Room Addition										
Description	Qty	Rate	Amount								
Roll & brush 1st finish coat of water base enamel on vanity cabinet. Medium 103 SF/MH, 288 SF/Gal											
Material, per CSF	0.90	13.26	11.94								
Labor, per CSF	0.90	39.09	35.18								
Roll 1st coat of water base stain on rough sawn or resawn wood siding. Medium 225 SF/MH, 213 SF/Gal											
Material, per CSF	17	15.71	267.04								
Labor, per CSF	17	17.85	303.45								
Roll 2nd coat of water base stain on rough sawn or resawn wood siding. Medium 275 SF/MH, 273 SF/Gal											
Material, per CSF	17	12.26	208.47								
Labor, per CSF	17	14.67	249.44								
*Painting subtotal			3,379.60								
*Project Subtotal			59,305.96								
*Project Total			59,305.96								

Figure 1-3

Proposal for the same job not showing the markup

Once an estimate is finished in the National Estimator program and saved to computer disk, press **Ctrl** on your keyboard and tap the letter **J** to convert the estimate into a proposal in Job Cost Wizard. You can't make changes in the Job Cost Wizard screen. But it's easy to toggle back to National Estimator program (press **Alt** and tap the **Tab** key), make a change, and then press **Ctrl-J** once again.

Job Cost Wizard offers dozens of choices on what you show and don't show in written proposals. Your bids can be long (full description for everything in the estimate) or short (only a summary of each category). You can show or hide labor and material cost detail. You can show or hide markup and profit.

Once work begins, you'll want to monitor job expenses to be sure actual costs remain consistent with estimated costs. If you use QuickBooks to pay bills and figure payroll, let QuickBooks do the comparisons for you. Job Cost Wizard exports the proposal to QuickBooks, where you can prepare progress invoices and track expenses against estimates.

The National Estimator program lets you change anything in the costbook or even add your own estimated costs. Make the *National Home Improvement Estimator* your collection point for all estimating and pricing information. Anything you add to the costbook shows up in red and can be migrated to later editions of this manual when available. The *National Home Improvement Estimator* starts out as your most useful estimating reference. What you add to the costbook will make it even more valuable.

Job Survey (Scope of Work)

Of course, neither a good price book nor a computer estimating program will solve all of your estimating problems. Computers seldom make mistakes in addition or multiplication. But nothing prevents you from making expensive estimating mistakes on your own. By far the most common estimating mistake will be omitting something essential to the job.

Get in the habit of completing an exhaustive job survey before beginning any estimate for home improvement work. Some of your estimates on a job may be too high. Other estimates on a job may be too low. With any luck, your over-estimates will roughly balance with your under-estimates, leaving the job total about where it should be. But the estimated price for anything omitted from a job survey is always zero. That's a 100 percent miss. It's hard to balance a complete miss with anything. A few of those can create a financial disaster.

Material Costs in This Book

Material costs for each item are listed in the column headed **Material**. These are neither retail nor wholesale prices. They are estimates of what most contractors who buy in moderate volume will pay suppliers as of mid-2018. Discounts may be available for purchases in larger volumes.

Add Delivery Expense to the material cost for other than local delivery of reasonably large quantities. Cost of delivery varies with the distance from source of supply, method of transportation, and quantity to be delivered. But most material dealers absorb the delivery cost on local delivery (5 to 15 miles) of larger quantities to good customers. Add the expense of job site delivery when it's a significant part of the material cost.

Add Sales Tax when sales tax will be charged to the contractor buying the materials. In some states, contractors have to collect sales tax based on the contract price. No matter what your state (or county) requires, National Estimator can handle the task. Click **Edit** on the National Estimator menu bar. Then click **Sales Tax**.

Waste and Coverage Loss is included in the installed material cost. The cost of many materials per unit after installation is greater than the purchase price for the same unit because of waste, shrinkage or coverage loss during installation. For example, about 120 square feet of nominal 1" x 4" square edge boards will be needed to cover 100 square feet of floor or wall. There's no coverage loss with plywood sheathing, but waste due to cutting and fitting will average about 6 percent.

Costs in the **Material** column of this book assume normal waste and coverage loss. Small and irregular jobs may require a greater waste allowance. Materials priced without installation (with no labor cost) don't include an allowance for waste and coverage except as noted.

Labor Costs for installing the material or doing the work described are listed in the column headed Labor. The labor cost per unit is the labor cost per hour multiplied by the manhours per unit shown after the @ sign in the Craft@Hrs column. Labor cost includes the basic wage, the employer's contribution to welfare, pension, vacation and apprentice funds, and all tax and insurance charges based on wages.

Supervision Expense to the general contractor isn't included in the labor cost. The cost of supervision and non-productive labor varies widely from job to job. Calculate the cost of supervision and non-productive labor and add this to the estimate.

Payroll Taxes and Insurance are included in the labor cost. See the following section for more on the "contractor's burden."

Manhours per Unit and the Craft performing the work are listed in the Craft@Hrs column. To find the units of work done per worker in an 8-hour day, divide 8 by the manhours per unit. To find the units done by a crew in an 8-hour day, multiply the units per worker per 8-hour day by the number of crew members.

Manhours include all productive labor normally associated with installing the materials described.

This will usually include tasks such as:

- ❖ Unloading and storing construction materials, tools and equipment on site.
- ❖ Moving tools and equipment from a storage area or truck on site at the beginning of the day.
- ❖ Returning tools and equipment to a storage area or truck on site at the end of the day.
- ❖ Normal time lost for work breaks.
- ❖ Planning and discussing the work to be performed.
- ❖ Normal handling, measuring, cutting and fitting.
- ❖ Keeping a record of the time spent and work done.
- ❖ Regular cleanup of construction debris.
- ❖ Infrequent correction or repairs required because of faulty installation.

Adjust the Labor Cost to the job you're figuring when your actual hourly labor cost is known or can be estimated. The labor costs listed in Figure 1-5 will apply within a few percent on many jobs. But labor costs may be much higher or much lower on the job you're estimating.

If the hourly wage rates listed in Figure 1-5 aren't accurate, divide your known or estimated cost per hour by the listed cost per hour. The result is your adjustment for any figure in the Labor column for that craft.

Adjust for Unusual Labor Productivity. Costs in the Labor column are for normal conditions: experienced craftsmen working on reasonably well-planned and managed home improvement projects with fair to good productivity. Labor estimates assume that materials are standard grade, appropriate tools are on hand, work done by other crafts is adequate, layout and installation are relatively uncomplicated, and working conditions don't slow progress.

Working conditions at the jobsite have a major effect on labor cost. Estimating experience and careful analysis can help you predict the effect of most changes in working conditions. Obviously, no single adjustment will apply on all jobs. But the adjustments that follow should help you produce more accurate labor estimates. More than one condition may apply on a job.

Jobsite conditions affect labor costs

- ❖ Add 10% to 15% when working temperatures are below 40 degrees or above 95 degrees.
- ❖ Add 30% to 35% when temperatures are below 20 degrees. Materials and tools are hard to handle. Bulky clothing restricts freedom of movement.
- ❖ Add 15% to 25% for work on a ladder or a scaffold, in a 36" crawl space, in a congested area, or remote from the material storage point.
- ❖ Add 50% for work in an 18" to 36" crawl space. Allow extra time for cleaning out the area before work begins.
- ❖ Add 200% if portions of the crawl space are less than 18". Allow extra time for passing tools and materials. Few contractors bid on work like this.
- ❖ Deduct 10% when the work is in an open area with excellent access and good light.
- ❖ Add 1% for each 10 feet that materials must be lifted above ground level.
- ❖ Add 5% to 50% for tradesmen with below-average skills. Deduct 5% to 25% for highly-motivated, highly-skilled tradesmen.
- ❖ Deduct 10% to 20% when an identical task is repeated many times for several days at the same site.
- ❖ Add 20% to 50% on small jobs where fitting and matching of materials is required, adjacent surfaces have to be protected and the job site is occupied during construction.
- ❖ Add 25% to 50% for work done following a major flood, fire, earthquake, hurricane or tornado while skilled tradesmen are not readily available. Material costs may also be higher after a major disaster.
- ❖ Add 10% to 35% for demanding specs, rigid inspections, unreliable suppliers, a difficult owner or an inexperienced architect.

Use an Area Modification Factor from pages 18 through 26 if your material, hourly labor or equipment costs are unknown and can't be estimated. Here's how: Use the labor and material costs in this manual without modification. Then add or deduct the percentages shown for labor, material and equipment.

Equipment Costs for small tools and expendable supplies (such as saws and tape) are usually considered overhead expense and are covered by your markup. Equipment costs for larger equipment (such as a compressor or backhoe) should be

based on the rental rate for the period needed. Equipment rental costs are included in sections where heavy equipment may be needed.

Labor and Material Costs Change. These costs were compiled in the fall of 2018 and projected to mid-2019 by adding a small percentage. This projection will be accurate for some materials and inaccurate for others. No one can predict material price changes accurately.

How Accurate Are These Figures? They're as accurate as possible considering that the estimators who wrote this book don't know your subcontractors or material suppliers, haven't seen the plans or specifications, don't know what building code applies or where the job is, had to project material costs at least six months into the future, and had no record of how much work the crew that will be assigned to the job can handle.

You wouldn't bid a job under those conditions. And we don't claim that all construction is done at these prices.

Estimating Is an Art, not a science. On many jobs the range between high and low bid will be 20 percent or more. There's room for legitimate disagreement on what the correct costs are, even when complete plans and specifications are available, the date and site are established, and labor and material costs are identical for all bidders.

No cost fits all jobs. Good estimates are custom-made for a particular project and a single contractor through judgment, analysis and experience.

This book isn't a substitute for judgment, analysis and sound estimating practice. It's an *aid* in developing an *informed opinion* of cost. If you're using this book as your sole cost authority for contract bids, you're reading more into these pages than the editors intend.

Use These Figures to compile preliminary estimates, when a "snap" bid is needed to close the deal, and when no actual costs are available. This book will reduce the chance of error or omission on bid estimates, speed "ball park" estimates, and be a good guide when there's no time to get a quote.

Where Do We Get These Figures? From the same sources all professional estimators use: material suppliers, material price services, analysis of plans, specifications, estimates and completed project costs, and both published and unpublished cost studies compiled by both private and government agencies. In addition, we conduct nationwide mail and phone surveys and have the use of several major national estimating databases.

We'll Answer Your Questions about any part of this book and explain how to apply these costs. Free telephone assistance is available from 8 a.m. until 5 p.m. Pacific time Monday through Friday except holidays. Phone 760-438-7828, Ext. 2. We don't accept collect calls and can't estimate the job for you. But if you need clarification on something in this manual, we can help.

Labor Costs and Crews

Throughout this manual you'll see a column headed *Craft@Hrs.* Letters and numbers in this column show our estimates of:

- ❖ Who will do the work (the craft code)
- ❖ An @ symbol which means at
- ❖ How long the work will take (manhours).

For example, in Chapter 4, page 70, you'll find estimates for installing BC plywood wall sheathing by the square foot. The Craft@Hrs column opposite 1/2" plywood wall sheathing shows:

B1@.016

That means we estimate the installation rate for crew B1 at 0.016 manhours per square foot. That's the same as 16 manhours per 1,000 square feet.

Figure 1-4 is a table that defines each of the craft codes used in this book. Notice that crew B1 is composed of two craftsmen: one laborer and one carpenter. To install 1,000 square feet of 1/2" BC wall sheathing at 0.016 manhours per square foot, that crew would need 16 manhours (one 8-hour day for a crew of two).

Notice also in the table that the cost per manhour for crew B1 is listed as \$33.51. That's the average for a laborer (listed at \$30.00 per hour) and a carpenter (listed at \$37.02 per hour): \$30.00 plus \$37.02 is \$67.02. Divide by 2 to get \$33.51, the average cost per manhour for crew B1.

In the table, the cost per manhour is the sum of hourly costs of all crew members divided by the number of crew members. That's the average cost per manhour.

Costs in the Labor column in this book are the product of the installation time (in manhours) multiplied by the cost per manhour. For example, in Chapter 4, the labor cost listed for 1/2" BC wall sheathing is \$0.54 per square foot. That's the installation time (0.016 manhours per square foot) multiplied by \$33.51, the average cost per manhour for crew B1.

Figure 1-5 shows hourly labor costs components — base wage, typical fringe benefits, payroll taxes, insurance and the total hourly cost.

The labor costs shown in Column 6 were used to compute the manhour costs for crews and the figures in the Labor column.

Craft Codes		
Craft Code	Cost Per Manhour	Crew Composition
B1	\$33.51	1 laborer, 1 carpenter
B2	\$34.68	1 laborer, 2 carpenters
B3	\$32.34	2 laborers, 1 carpenter
B4	\$37.07	1 laborer, 1 operating engineer, 1 reinforcing iron worker
B5	\$36.68	1 laborer, 1 carpenter, 1 cement mason, 1 operating engineer, 1 reinforcing iron worker
B6	\$32.58	1 laborer, 1 cement mason
B7	\$30.40	1 laborer, 1 truck driver
B8	\$36.14	1 laborer, 1 operating engineer
B9	\$32.72	1 bricklayer, 1 bricklayer's helper
BB	\$37.58	1 bricklayer
BC	\$37.02	1 carpenter
BE	\$40.19	1 electrician
BF	\$33.93	1 floor layer
BG	\$35.78	1 glazier
BH	\$27.85	1 bricklayer's helper
BL	\$30.00	1 laborer
BR	\$35.58	1 lather
BS	\$32.91	1 marblesetter
CF	\$35.16	1 cement mason
CT	\$34.97	1 mosaic & terrazzo worker
D1	\$36.06	1 drywall installer, 1 drywall taper
DI	\$36.09	1 drywall installer
DT	\$36.02	1 drywall taper
HC	\$29.09	1 plasterer helper
OE	\$42.27	1 operating engineer
P1	\$36.51	1 laborer, 1 plumber
PM	\$43.02	1 plumber
PP	\$33.91	1 painter, 1 laborer
PR	\$37.06	1 plasterer
PT	\$37.82	1 painter
R1	\$35.64	1 roofer, 1 laborer
RI	\$38.95	1 reinforcing iron worker
RR	\$41.27	1 roofer
SW	\$41.72	1 sheet metal worker
T1	\$32.65	1 tile layer, 1 laborer
TL	\$35.29	1 tile layer
TR	\$30.80	1 truck driver

Figure 1-4

Craft codes used in this manual

Hourly Labor Cost						
	1	2	3	4	5	6
Craft	Base wage per hour	Taxable fringe benefits (5.49% of base wage)	Insurance and employer taxes (%)	Insurance and employer taxes (\$)	Non-Taxable fringe benefits (4.85% of base wage)	Total hourly cost used in this book
Bricklayer	\$27.48	\$1.51	25.06%	\$7.26	\$1.33	\$37.58
Bricklayer's Helper	20.36	1.12	25.06	5.38	0.99	27.85
Building Laborer	20.78	1.14	32.27	7.07	1.01	30.00
Carpenter	25.85	1.42	31.17	8.50	1.25	37.02
Cement Mason	26.13	1.43	22.97	6.33	1.27	35.16
Drywall Installer	26.74	1.47	23.32	6.58	1.30	36.09
Drywall Taper	26.69	1.47	23.32	6.57	1.29	36.02
Electrician	30.65	1.68	19.17	6.37	1.49	40.19
Floor Layer	25.08	1.38	23.61	6.25	1.22	33.93
Glazier	26.08	1.43	25.47	7.01	1.26	35.78
Lather	26.83	1.47	21.12	5.98	1.30	35.58
Marble Setter	24.80	1.36	21.20	5.55	1.20	32.91
Millwright	26.29	1.44	21.09	5.85	1.28	34.86
Mosaic & Terrazzo Worker	26.35	1.45	21.20	5.89	1.28	34.97
Operating Engineer	30.93	1.70	24.95	8.14	1.50	42.27
Painter	27.74	1.52	24.65	7.21	1.35	37.82
Plasterer	26.46	1.45	28.21	7.87	1.28	37.06
Plasterer Helper	20.76	1.14	28.21	6.18	1.01	29.09
Plumber	31.69	1.74	24.08	8.05	1.54	43.02
Reinforcing Ironworker	27.78	1.53	28.27	8.29	1.35	38.95
Roofer	26.45	1.45	43.34	12.09	1.28	41.27
Sheet Metal Worker	30.19	1.67	25.74	8.24	1.47	41.72
Sprinkler Fitter	31.14	1.71	24.86	8.17	1.51	42.53
Tile Layer	26.59	1.46	21.20	5.95	1.29	35.29
Truck Driver	22.37	1.23	25.95	6.12	1.08	30.80

Figure 1-5

Components of hourly labor costs

It's important that you understand what's included in the figures in each of the six columns in the table. Here's an explanation:

Column 1, the base wage per hour, is the craftsman's hourly wage. These figures are representative of what many contractors will be paying craftsmen working on home improvement jobs in 2019.

Column 2, taxable fringe benefits, includes vacation pay, sick leave and other taxable benefits. These fringe benefits average 5.49 percent of the base wage for many construction contractors. This benefit is in addition to the base wage.

Column 3, insurance and employer taxes in percent, shows the insurance and tax rate for construction trades. The cost of insurance in this column includes workers' compensation and contractor's casualty and liability coverage. Insurance rates vary

widely from state to state and depend on a contractor's loss experience. Note that taxes and insurance increase the hourly labor cost by 30 to 35 percent for most trades. There is no legal way to avoid these costs.

Column 4, insurance and employer taxes in dollars, shows the hourly cost of taxes and insurance for each construction trade. Insurance and taxes are paid on the costs in both columns 1 and 2.

Column 5, non-taxable fringe benefits, includes employer paid non-taxable benefits such as medical coverage and tax-deferred pension and profit sharing plans. These fringe benefits average 4.85 percent of the base wage for many construction contractors. The employer pays no taxes or insurance on these benefits.

Column 6, the total hourly cost in dollars, is the sum of columns 1, 2, 4 and 5.

These hourly labor costs will apply within a few percent on many jobs. But wage rates may be much higher or lower in the area where you do business. We recommend using your actual labor cost rather than national averages. That's easy with the National Estimator program. When copying and pasting any cost to your estimate, adjust the assumed hourly labor cost to your actual cost. You need do this only once for each trade. And you can make this adjustment at any time. Any change you make is applied to that trade throughout the estimate.

Abbreviations			
4WD	four-wheel drive	EPA	Environmental Protection Agency
ABS	acrylonitrile butadiene styrene	F	Fahrenheit
AC	alternating current	GFCI	ground fault circuit interrupter
ACQ	Alkaline Copper Quat	GRS	galvanized rigid steel
ADA	Americans with Disabilities Act	H	height
ANSI	American Nat. Standards Institute	HOM	higher order mode
APP	atactic polypropylene	HP	horsepower
ASTM	Amer. Society for Testing Materials	HVAC	heating, ventilating & air cond.
AWG	American Wire Gauge	ID	inside diameter
BF	board foot	IMC	intermediate metal conduit
Btr	better	KD	kiln dried
Btu(s)	British thermal unit(s)	KO	knockout
C	Celsius/Centigrade	kW	kilowatt(s)
CF	cubic foot	L	length
CFM	cubic feet per minute	Lb(s)	pound(s)
CLF	100 linear feet	LF	linear foot
CPM	cycles per minute	LS	lump sum
CSF	100 square feet	MBF	1,000 board feet
CY	cubic yard	MDF	medium density fiberboard
d	penny	mm	millimeter(s)
D	depth	Mo	month
DWV	drain, waste & vent	MPH	miles per hour
Ea	each	MSF	1,000 square feet
EMT	electric metallic tube	NEC	National Electrical Code
		NEMA	National Electrical Manufacturer's Assoc.
		OC	spacing from center to center
		OD	outside diameter
		OSB	oriented strand board
		OSHA	Occupational Safety & Health Admin.
		oz.	ounce(s)
		PSI	pounds per square inch
		PVC	polyvinyl chloride
		R	thermal resistance
		S4S	surfaced 4 sides
		SBS	styrene butadiene styrene
		SF	square foot
		SFCA	(per) square foot of contact area
		Sq	100 square feet
		Std	standard
		SY	square yard
		T	thick
		T&G	tongue & groove edge
		UL	Underwriter's Laboratory
		USDA	United States Dept. of Agriculture
		UV	ultraviolet
		W	width
		X	by or times

Figure 1-6

Abbreviations used in this manual

Area Modification Factors

Construction costs are higher in some areas than in other areas. Add or deduct the percentages shown on the following pages to adapt the costs in this book to your jobsite. Adjust your cost estimate by the appropriate percentages in this table to find the estimated cost for the site selected. Where 0% is shown, it means no modification is required.

Modification factors are listed by state and province. Areas within each state are listed by the first three digits of the postal zip code. For convenience, one representative city is identified in each three-digit zip or range of zips. Percentages are based on the average of all data points in the table. Factors listed for each state and province are the average of all data in that state or province. Figures for the zips are the average of all information in that area. And figures in the Total column are the weighted average of factors for Labor, Material and Equipment.

The National Estimator program will apply an area modification factor for any five-digit zip you select. Click Utilities. Click Options. Then select the Area Modification Factors tab.

These percentages are composites of many costs and will not necessarily be accurate when estimating the cost of any particular part of a building. But when used to modify costs for an entire structure, they should improve the accuracy of your estimates.

Area Modification Factors

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Alabama Average		-1	-7	0	-4%
Anniston	362	-3	-13	-1	-8%
Auburn	368	-1	-8	0	-4%
Bellamy	369	-2	13	-1	5%
Birmingham	350-352	-3	8	-1	2%
Dothan	363	-1	-13	0	-7%
Evergreen	364	-1	-20	0	-10%
Gadsden	359	-4	-15	-1	-9%
Huntsville	358	1	-3	0	-1%
Jasper	355	-2	-16	-1	-8%
Mobile	365-366	-1	-3	0	-2%
Montgomery	360-361	-1	-3	0	-2%
Scottsboro	357	0	-8	0	-4%
Selma	367	-1	-10	0	-5%
Sheffield	356	-1	1	0	0%
Tuscaloosa	354	1	-9	0	-4%
Alaska Average		14	33	4	23%
Anchorage	995	16	38	5	26%
Fairbanks	997	16	40	5	27%
Juneau	998	18	20	6	19%
Ketchikan	999	3	36	1	18%
King Salmon	996	16	32	5	23%
Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Arizona Average		1	-9	0	-4%
Chambers	865	1	-19	0	-8%
Douglas	855	0	-18	0	-8%
Flagstaff	860	2	-17	1	-7%
Kingman	864	1	-11	0	-5%
Mesa	852	1	5	0	3%
Phoenix	850	1	6	0	3%
Prescott	863	3	-16	1	-6%
Show Low	859	2	-18	1	-7%
Tucson	856-857	0	-10	0	-5%
Yuma	853	0	5	0	2%
Arkansas Average		-2	-13	0	-7%
Batesville	725	0	-20	0	-9%
Camden	717	-4	1	-1	-2%
Fayetteville	727	0	-8	0	-4%
Fort Smith	729	-1	-14	0	-7%
Harrison	726	-1	-25	0	-12%
Hope	718	-3	-15	-1	-8%
Hot Springs	719	-2	-25	-1	-13%
Jonesboro	724	-1	-18	0	-9%
Little Rock	720-722	-1	-6	0	-3%
Pine Bluff	716	-4	-19	-1	-11%

Area Modification Factors

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Russellville	728	0	-9	0	-4%
West Memphis	723	-3	-1	-1	-2%
California Average		2	13	1	7%
Alhambra	917-918	3	15	1	8%
Bakersfield	932-933	1	4	0	2%
El Centro	922	1	-1	0	0%
Eureka	955	1	-11	0	-5%
Fresno	936-938	0	-5	0	-2%
Herlong	961	2	-7	1	-2%
Inglewood	902-905	3	16	1	9%
Irvine	926-927	3	24	1	13%
Lompoc	934	3	2	1	3%
Long Beach	907-908	3	17	1	9%
Los Angeles	900-901	3	13	1	8%
Marysville	959	1	-6	0	-2%
Modesto	953	1	2	0	1%
Mojave	935	0	11	0	5%
Novato	949	3	22	1	12%
Oakland	945-947	3	34	1	17%
Orange	928	3	22	1	12%
Oxnard	930	3	1	1	2%
Pasadena	910-912	4	16	1	9%
Rancho Cordova	956-957	2	6	1	4%
Redding	960	1	-8	0	-3%
Richmond	948	2	35	1	17%
Riverside	925	1	7	0	4%
Sacramento	958	1	6	0	3%
Salinas	939	3	-1	1	1%
San Bernardino	923-924	0	4	0	2%
San Diego	919-921	3	13	1	8%
San Francisco	941	3	55	1	27%
San Jose	950-951	3	33	1	17%
San Mateo	943-944	4	40	1	21%
Santa Barbara	931	3	11	1	7%
Santa Rosa	954	3	8	1	5%
Stockton	952	2	7	1	4%
Sunnyvale	940	3	39	1	20%
Van Nuys	913-916	3	14	1	8%
Whittier	906	3	14	1	8%
Colorado Average		2	1	1	1%
Aurora	800-801	3	11	1	7%
Boulder	803-804	3	5	1	4%
Colorado Springs	808-809	2	-3	1	0%
Denver	802	3	13	1	8%
Durango	813	1	-3	0	-1%
Fort Morgan	807	2	-6	1	-2%
Glenwood Springs	816	2	6	1	4%
Grand Junction	814-815	1	-1	0	0%
Greeley	806	3	8	1	5%
Longmont	805	3	1	1	2%
Pagosa Springs	811	0	-9	0	-4%
Pueblo	810	-1	2	0	0%
Salida	812	2	-15	1	-6%

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Connecticut Average		1	16	0	8%
Bridgeport	066	0	13	0	6%
Bristol	060	1	24	0	12%
Fairfield	064	2	17	1	9%
Hartford	061	0	23	0	11%
New Haven	065	1	15	0	7%
Norwich	063	0	7	0	3%
Stamford	068-069	4	21	1	12%
Waterbury	067	1	12	0	6%
West Hartford	062	1	9	0	5%
Delaware Average		1	3	0	2%
Dover	199	1	-9	0	-4%
Newark	197	2	10	1	6%
Wilmington	198	0	9	0	4%
District of Columbia					
Washington	200-205	3	23	1	12%
Florida Average		0	-10	0	-5%
Altamonte Springs	327	-1	-6	0	-3%
Bradenton	342	0	-12	0	-6%
Brooksville	346	0	-16	0	-7%
Daytona Beach	321	-2	-18	-1	-9%
Fort Lauderdale	333	3	1	1	2%
Fort Myers	339	0	-12	0	-6%
Fort Pierce	349	-2	-20	-1	-10%
Gainesville	326	-1	-18	0	-9%
Jacksonville	322	-1	-3	0	-2%
Lakeland	338	-3	-13	-1	-8%
Melbourne	329	-2	-15	-1	-8%
Miami	330-332	2	-1	1	1%
Naples	341	3	-8	1	-2%
Ocala	344	-3	-23	-1	-12%
Orlando	328	0	2	0	1%
Panama City	324	-2	-21	-1	-11%
Pensacola	325	-1	-17	0	-8%
Saint Augustine	320	-1	-4	0	-2%
Saint Cloud	347	0	-5	0	-2%
St Petersburg	337	0	-12	0	-6%
Tallahassee	323	0	-13	0	-6%
Tampa	335-336	-1	-1	0	-1%
West Palm Beach	334	1	-5	0	-2%
Georgia Average		-1	-7	0	-4%
Albany	317	-2	-10	-1	-6%
Athens	306	0	-11	0	-5%
Atlanta	303	3	23	1	12%
Augusta	308-309	-2	-2	-1	-2%
Buford	305	0	-5	0	-2%
Calhoun	307	-1	-19	0	-9%
Columbus	318-319	-1	-6	0	-3%
Dublin/Fort Valley	310	-3	-13	-1	-8%
Hinesville	313	-2	-11	-1	-6%
Kings Bay	315	-2	-19	-1	-10%

Area Modification Factors

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Macon	312	-2	-7	-1	-4%
Marietta	300-302	1	8	0	4%
Savannah	314	-1	-7	0	-4%
Statesboro	304	-2	-21	-1	-11%
Valdosta	316	-1	-1	0	-1%

Hawaii Average		17	25	6	20%
Aliamanu	968	17	29	6	22%
Ewa	967	17	23	6	20%
Halawa Heights	967	17	23	6	20%
Hilo	967	17	23	6	20%
Honolulu	968	17	29	6	22%
Kailua	968	17	29	6	22%
Lualualei	967	17	23	6	20%
Mililani Town	967	17	23	6	20%
Pearl City	967	17	23	6	20%
Wahiawa	967	17	23	6	20%
Waianae	967	17	23	6	20%
Wailuku (Maui)	967	17	23	6	20%

Idaho Average		0	-19	0	-9%
Boise	837	1	-12	0	-5%
Coeur d'Alene	838	0	-21	0	-10%
Idaho Falls	834	-1	-19	0	-9%
Lewiston	835	0	-24	0	-11%
Meridian	836	0	-19	0	-9%
Pocatello	832	-1	-20	0	-10%
Sun Valley	833	0	-18	0	-8%

Illinois Average		-1	9	0	4%
Arlington Heights	600	1	29	0	14%
Aurora	605	2	28	1	14%
Belleville	622	-2	2	-1	0%
Bloomington	617	1	-4	0	-1%
Carbondale	629	-3	-6	-1	-4%
Carol Stream	601	2	28	1	14%
Centralia	628	-3	-3	-1	-3%
Champaign	618	-1	-3	0	-2%
Chicago	606-608	2	31	1	15%
Decatur	623	-2	-13	-1	-7%
Galesburg	614	-2	-6	-1	-4%
Granite City	620	-3	11	-1	3%
Green River	612	-1	12	0	5%
Joliet	604	0	29	0	13%
Kankakee	609	-2	-4	-1	-3%
Lawrenceville	624	-4	-9	-1	-6%
Oak Park	603	3	35	1	18%
Peoria	615-616	-1	15	0	6%
Peru	613	0	4	0	2%
Quincy	602	3	31	1	16%
Rockford	610-611	-2	8	-1	3%
Springfield	625-627	-2	2	-1	0%
Urbana	619	-3	-6	-1	-4%

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Indiana Average		-2	-3	-1	-3%
Aurora	470	-1	-9	0	-5%
Bloomington	474	1	-6	0	-2%
Columbus	472	0	-9	0	-4%
Elkhart	465	-2	-7	-1	-4%
Evansville	476-477	-2	12	-1	4%
Fort Wayne	467-468	-3	1	-1	-1%
Gary	463-464	-4	23	-1	8%
Indianapolis	460-462	-1	10	0	4%
Jasper	475	-2	-14	-1	-8%
Jeffersonville	471	0	-11	0	-5%
Kokomo	469	-2	-15	-1	-8%
Lafayette	479	-2	-9	-1	-5%
Muncie	473	-4	-13	-1	-8%
South Bend	466	-4	0	-1	-2%
Terre Haute	478	-4	-2	-1	-3%

Iowa Average		-2	-4	-1	-3%
Burlington	526	0	2	0	1%
Carroll	514	-3	-20	-1	-11%
Cedar Falls	506	-1	-7	0	-4%
Cedar Rapids	522-524	0	5	0	2%
Cherokee	510	-2	4	-1	1%
Council Bluffs	515	-2	1	-1	-1%
Creston	508	-3	6	-1	1%
Davenport	527-528	-1	3	0	1%
Decorah	521	-2	-14	-1	-8%
Des Moines	500-503	-2	13	-1	5%
Dubuque	520	-2	-7	-1	-4%
Fort Dodge	505	-2	-5	-1	-3%
Mason City	504	0	-6	0	-3%
Ottumwa	525	0	-13	0	-6%
Sheldon	512	0	-15	0	-7%
Shenandoah	516	-3	-26	-1	-14%
Sioux City	511	-2	14	-1	5%
Spencer	513	-1	-14	0	-7%
Waterloo	507	-4	-1	-1	-3%

Kansas Average		-2	2	-1	0%
Colby	677	-1	-17	0	-8%
Concordia	669	-1	-25	0	-12%
Dodge City	678	-2	-7	-1	-4%
Emporia	668	-3	20	-1	8%
Fort Scott	667	-2	-11	-1	-6%
Hays	676	-2	-26	-1	-13%
Hutchinson	675	-3	-9	-1	-6%
Independence	673	-3	67	-1	29%
Kansas City	660-662	0	10	0	5%
Liberal	679	-2	33	-1	14%
Salina	674	-3	-11	-1	-7%
Topeka	664-666	-3	2	-1	-1%
Wichita	670-672	-2	-6	-1	-4%

Area Modification Factors

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Kentucky Average		-1	-8	0	-4%
Ashland	411-412	-4	-5	-1	-4%
Bowling Green	421	0	-11	0	-5%
Campton	413-414	-1	-23	0	-11%
Covington	410	-1	5	0	2%
Elizabethtown	427	-1	-20	0	-10%
Frankfort	406	1	13	0	7%
Hazard	417-418	-2	-19	-1	-10%
Hopkinsville	422	-2	-9	-1	-5%
Lexington	403-405	1	1	0	1%
London	407-409	-1	-13	0	-7%
Louisville	400-402	-1	5	0	2%
Owensboro	423	-2	-6	-1	-4%
Paducah	420	-2	2	-1	0%
Pikeville	415-416	-3	-14	-1	-8%
Somerset	425-426	0	-23	0	-11%
White Plains	424	-3	-6	-1	-4%

Louisiana Average		-1	2	-1	0%
Alexandria	713-714	-3	-1	-1	-2%
Baton Rouge	707-708	0	21	0	10%
Houma	703	-2	11	-1	4%
Lafayette	705	0	4	0	2%
Lake Charles	706	-2	16	-1	6%
Mandeville	704	-1	-5	0	-3%
Minden	710	-2	-8	-1	-5%
Monroe	712	-2	-14	-1	-8%
New Orleans	700-701	0	5	0	2%
Shreveport	711	-2	-6	-1	-4%

Maine Average		0	-10	0	-5%
Auburn	042	-1	-7	0	-4%
Augusta	043	-1	-9	0	-5%
Bangor	044	-1	-11	0	-6%
Bath	045	1	-15	0	-6%
Brunswick	039-040	1	-3	0	-1%
Camden	048	-1	-21	0	-10%
Cutler	046	-1	-15	0	-7%
Dexter	049	-1	-8	0	-4%
Northern Area	047	-2	-16	-1	-8%
Portland	041	2	2	1	2%

Maryland Average		1	3	0	2%
Annapolis	214	4	13	1	8%
Baltimore	210-212	-1	16	0	7%
Bethesda	208-209	3	24	1	13%
Church Hill	216	2	-10	1	-4%
Cumberland	215	-4	-12	-1	-8%
Elkton	219	2	-14	1	-5%
Frederick	217	1	13	0	7%
Laurel	206-207	2	15	1	8%
Salisbury	218	1	-14	0	-6%

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Massachusetts Average		2	23	1	12%
Ayer	015-016	1	11	0	6%
Bedford	017	3	30	1	15%
Boston	021-022	3	77	1	37%
Brockton	023-024	3	41	1	20%
Cape Cod	026	2	6	1	4%
Chicopee	010	1	14	0	7%
Dedham	019	2	36	1	18%
Fitchburg	014	2	21	1	11%
Hingham	020	3	37	1	19%
Lawrence	018	2	28	1	14%
Nantucket	025	3	16	1	9%
New Bedford	027	1	12	0	6%
Northfield	013	2	3	1	2%
Pittsfield	012	1	0	0	1%
Springfield	011	-1	18	0	8%

Michigan Average		-2	3	-1	1%
Battle Creek	490-491	-3	1	-1	-1%
Detroit	481-482	0	15	0	7%
Flint	484-485	-3	-5	-1	-4%
Grand Rapids	493-495	-2	4	-1	1%
Grayling	497	1	-17	0	-7%
Jackson	492	-3	1	-1	-1%
Lansing	488-489	-1	1	0	0%
Marquette	498-499	-1	7	0	3%
Pontiac	483	-3	29	-1	12%
Royal Oak	480	-2	18	-1	7%
Saginaw	486-487	-2	-9	-1	-5%
Traverse City	496	-1	-4	0	-2%

Minnesota Average		0	-1	0	-1%
Bemidji	566	-1	-11	0	-6%
Brainerd	564	0	-6	0	-3%
Duluth	556-558	-2	7	-1	2%
Fergus Falls	565	-1	-20	0	-10%
Magnolia	561	0	-18	0	-8%
Mankato	560	0	-8	0	-4%
Minneapolis	553-555	1	28	0	13%
Rochester	559	0	-3	0	-1%
St Cloud	563	-1	6	0	2%
St Paul	550-551	1	26	0	12%
Thief River Falls	567	0	-5	0	-2%
Willmar	562	-1	-11	0	-6%

Mississippi Average		-2	-11	-1	-6%
Clarksdale	386	-3	-16	-1	-9%
Columbus	397	-1	1	0	0%
Greenville	387	-4	-26	-1	-14%
Greenwood	389	-3	-18	-1	-10%
Gulfport	395	-2	-11	-1	-6%
Jackson	390-392	-3	-2	-1	-3%
Laurel	394	-3	-11	-1	-7%

Area Modification Factors

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
McComb	396	-2	-22	-1	-11%
Meridian	393	-2	8	-1	3%
Tupelo	388	-1	-13	0	-7%

Missouri Average

		-1	-5	0	-3%
Cape Girardeau	637	-2	-8	-1	-5%
Caruthersville	638	-1	-15	0	-7%
Chillicothe	646	-2	-7	-1	-4%
Columbia	652	1	-9	0	-4%
East Lynne	647	-1	10	0	4%
Farmington	636	-3	-15	-1	-8%
Hannibal	634	0	-4	0	-2%
Independence	640	-1	13	0	5%
Jefferson City	650-651	1	-11	0	-5%
Joplin	648	-2	-10	-1	-6%
Kansas City	641	-2	15	-1	6%
Kirksville	635	0	-33	0	-15%
Knob Noster	653	0	7	0	3%
Lebanon	654-655	-2	-23	-1	-12%
Poplar Bluff	639	-1	-21	0	-10%
Saint Charles	633	1	2	0	1%
Saint Joseph	644-645	-3	2	-1	-1%
Springfield	656-658	-2	-15	-1	-8%
St Louis	630-631	-2	20	-1	8%

Montana Average

		0	-7	0	-3%
Billings	590-591	0	-4	0	-2%
Butte	597	1	-7	0	-3%
Fairview	592	-1	27	0	12%
Great Falls	594	-1	-11	0	-6%
Havre	595	-1	-19	0	-9%
Helena	596	0	-4	0	-2%
Kalispell	599	1	-15	0	-6%
Miles City	593	-1	-15	0	-7%
Missoula	598	1	-14	0	-6%

Nebraska Average

		-1	-17	0	-8%
Alliance	693	-1	-21	0	-10%
Columbus	686	-1	-15	0	-7%
Grand Island	688	0	-18	0	-8%
Hastings	689	0	-20	0	-9%
Lincoln	683-685	0	-9	0	-4%
McCook	690	1	-21	0	-9%
Norfolk	687	-3	-19	-1	-10%
North Platte	691	0	-14	0	-6%
Omaha	680-681	-1	1	0	0%
Valentine	692	-2	-31	-1	-15%

Nevada Average

		2	0	1	1%
Carson City	897	2	-12	1	-4%
Elko	898	1	19	0	9%
Ely	893	2	-8	1	-3%
Fallon	894	2	-2	1	0%
Las Vegas	889-891	2	5	1	3%
Reno	895	2	-4	1	-1%

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
New Hampshire Average		1	-4	0	-1%
Charlestown	036	1	-11	0	-5%
Concord	034	1	-7	0	-3%
Dover	038	1	1	0	1%
Lebanon	037	2	-8	1	-3%
Littleton	035	-1	-12	0	-6%
Manchester	032-033	0	4	0	2%
New Boston	030-031	1	5	0	3%

New Jersey Average

		1	20	0	9%
Atlantic City	080-084	-2	12	-1	4%
Brick	087	2	2	1	2%
Dover	078	1	19	0	9%
Edison	088-089	1	28	0	13%
Hackensack	076	3	18	1	10%
Monmouth	077	3	22	1	12%
Newark	071-073	1	23	0	11%
Passaic	070	2	23	1	12%
Paterson	074-075	2	13	1	7%
Princeton	085	-2	24	-1	10%
Summit	079	3	32	1	16%
Trenton	086	-3	19	-1	7%

New Mexico Average

		0	-17	0	-8%
Alamogordo	883	-1	-22	0	-11%
Albuquerque	870-871	2	-8	1	-3%
Clovis	881	-2	-22	-1	-11%
Farmington	874	2	-4	1	-1%
Fort Sumner	882	-3	0	-1	-2%
Gallup	873	1	-17	0	-7%
Holman	877	2	-24	1	-10%
Las Cruces	880	-1	-17	0	-8%
Santa Fe	875	3	-20	1	-8%
Socorro	878	1	-32	0	-14%
Truth or Consequences	879	-2	-15	-1	-8%
Tucumcari	884	-1	-17	0	-8%

New York Average

		0	13	0	6%
Albany	120-123	-1	16	0	7%
Amityville	117	2	18	1	9%
Batavia	140	-3	5	-1	1%
Binghamton	137-139	-3	0	-1	-2%
Bronx	104	2	19	1	10%
Brooklyn	112	3	12	1	7%
Buffalo	142	-3	7	-1	2%
Elmira	149	-4	-1	-1	-3%
Flushing	113	3	30	1	15%
Garden City	115	3	29	1	15%
Hicksville	118	3	27	1	14%
Ithaca	148	-4	-6	-1	-5%
Jamaica	114	3	27	1	14%
Jamestown	147	-4	-11	-1	-7%
Kingston	124	0	-8	0	-4%
Long Island	111	3	62	1	30%

Area Modification Factors

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Montauk	119	1	15	0	7%
New York (Manhattan)	100-102	3	64	1	31%
New York City	100-102	3	64	1	31%
Newcomb	128	-1	2	0	0%
Niagara Falls	143	-4	-8	-1	-6%
Plattsburgh	129	1	-3	0	-1%
Poughkeepsie	125-126	1	2	0	1%
Queens	110	4	33	1	17%
Rochester	144-146	-3	8	-1	2%
Rockaway	116	3	18	1	10%
Rome	133-134	-3	-6	-1	-4%
Staten Island	103	3	15	1	8%
Stewart	127	-1	-9	0	-5%
Syracuse	130-132	-3	7	-1	2%
Tonawanda	141	-4	2	-1	-1%
Utica	135	-4	-8	-1	-6%
Watertown	136	-2	0	-1	-1%
West Point	109	1	11	0	6%
White Plains	105-108	3	27	1	14%

North Carolina Average		1	-9	0	-4%
Asheville	287-289	1	-16	0	-7%
Charlotte	280-282	1	15	0	7%
Durham	277	2	-3	1	0%
Elizabeth City	279	1	-18	0	-8%
Fayetteville	283	-1	-12	0	-6%
Goldsboro	275	1	-2	0	0%
Greensboro	274	1	-7	0	-3%
Hickory	286	-1	-17	0	-8%
Kinston	285	-1	-19	0	-9%
Raleigh	276	3	2	1	3%
Rocky Mount	278	0	-14	0	-6%
Wilmington	284	1	-14	0	-6%
Winston-Salem	270-273	0	-10	0	-5%

North Dakota Average		-1	10	0	4%
Bismarck	585	0	6	0	3%
Dickinson	586	-1	34	0	15%
Fargo	580-581	0	1	0	0%
Grand Forks	582	0	-3	0	-1%
Jamestown	584	-1	-7	0	-4%
Minot	587	-1	21	0	9%
Nekoma	583	-1	-20	0	-10%
Williston	588	-1	47	0	21%

Ohio Average		-2	2	-1	0%
Akron	442-443	-2	4	-1	1%
Canton	446-447	-2	-3	-1	-2%
Chillicothe	456	-2	-3	-1	-2%
Cincinnati	450-452	-1	7	0	3%
Cleveland	440-441	-3	11	-1	3%
Columbus	432	0	11	0	5%
Dayton	453-455	-3	6	-1	1%

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Lima	458	-3	-8	-1	-5%
Marietta	457	-2	-8	-1	-5%
Marion	433	-3	-9	-1	-6%
Newark	430-431	-1	8	0	3%
Sandusky	448-449	-1	-5	0	-3%
Steubenville	439	-3	6	-1	1%
Toledo	434-436	-1	16	0	7%
Warren	444	-4	-6	-1	-5%
Youngstown	445	-5	-1	-2	-3%
Zanesville	437-438	-2	0	-1	-1%

Oklahoma Average		-3	-7	-1	-5%
Adams	739	-2	-20	-1	-10%
Ardmore	734	-3	1	-1	-1%
Clinton	736	-3	-2	-1	-3%
Durant	747	-4	-20	-1	-11%
Enid	737	-4	-4	-1	-4%
Lawton	735	-3	-15	-1	-8%
McAlester	745	-4	-10	-1	-7%
Muskogee	744	-2	-16	-1	-8%
Norman	730	-2	-6	-1	-4%
Oklahoma City	731	-2	-4	-1	-3%
Ponca City	746	-3	1	-1	-1%
Poteau	749	-2	-13	-1	-7%
Pryor	743	-2	-11	-1	-6%
Shawnee	748	-4	-13	-1	-8%
Tulsa	740-741	-1	1	0	0%
Woodward	738	-4	15	-1	5%

Oregon Average		1	-9	1	-3%
Adrian	979	-1	-24	0	-12%
Bend	977	1	-11	0	-5%
Eugene	974	2	-9	1	-3%
Grants Pass	975	2	-13	1	-5%
Klamath Falls	976	2	-19	1	-8%
Pendleton	978	0	-7	0	-3%
Portland	970-972	2	19	1	10%
Salem	973	2	-7	1	-2%

Pennsylvania Average		-3	0	-1	-1%
Allentown	181	-2	8	-1	3%
Altoona	166	-3	-14	-1	-8%
Beaver Springs	178	-3	-8	-1	-5%
Bethlehem	180	-1	10	0	4%
Bradford	167	-4	-13	-1	-8%
Butler	160	-4	1	-1	-2%
Chambersburg	172	-1	-13	0	-7%
Clearfield	168	2	-8	1	-3%
DuBois	158	-2	-19	-1	-10%
East Stroudsburg	183	0	-11	0	-5%
Erie	164-165	-3	-10	-1	-6%
Genesee	169	-4	-5	-1	-4%
Greensburg	156	-4	-5	-1	-4%
Harrisburg	170-171	-2	8	-1	3%

Area Modification Factors

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Hazleton	182	-3	-3	-1	-3%
Johnstown	159	-4	-16	-1	-9%
Kittanning	162	-4	-9	-1	-6%
Lancaster	175-176	-2	1	-1	-1%
Meadville	163	-4	-16	-1	-9%
Montrose	188	-3	-6	-1	-4%
New Castle	161	-4	-1	-1	-3%
Philadelphia	190-191	-3	27	-1	11%
Pittsburgh	152	-4	17	-1	6%
Pottsville	179	-4	-12	-1	-8%
Punxsutawney	157	-4	-1	-1	-3%
Reading	195-196	-4	9	-1	2%
Scranton	184-185	-2	4	-1	1%
Somerset	155	-4	-16	-1	-9%
Southeastern	193	0	18	0	8%
Uniontown	154	-4	-9	-1	-6%
Valley Forge	194	-3	27	-1	11%
Warminster	189	-1	24	0	11%
Warrendale	150-151	-4	16	-1	5%
Washington	153	-4	23	-1	8%
Wilkes Barre	186-187	-3	2	-1	-1%
Williamsport	177	-3	-1	-1	-2%
York	173-174	-3	2	-1	-1%

Rhode Island Average		1	10	0	5%
Bristol	028	1	9	0	5%
Coventry	028	1	9	0	5%
Cranston	029	1	12	0	6%
Davisville	028	1	9	0	5%
Narragansett	028	1	9	0	5%
Newport	028	1	9	0	5%
Providence	029	1	12	0	6%
Warwick	028	1	9	0	5%

South Carolina Average		-1	-2	0	-1%
Aiken	298	0	9	0	4%
Beaufort	299	-1	-4	0	-2%
Charleston	294	-1	0	0	-1%
Columbia	290-292	0	-4	0	-2%
Greenville	296	0	17	0	8%
Myrtle Beach	295	0	-17	0	-8%
Rock Hill	297	-1	-11	0	-6%
Spartanburg	293	-2	-6	-1	-4%

South Dakota Average		-1	-12	0	-6%
Aberdeen	574	-1	-15	0	-7%
Mitchell	573	-1	-11	0	-6%
Mobridge	576	-2	-18	-1	-9%
Pierre	575	-2	-20	-1	-10%
Rapid City	577	-2	-14	-1	-8%

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Sioux Falls	570-571	0	-2	0	-1%
Watertown	572	-1	-7	0	-4%

Tennessee Average		0	-5	0	-2%
Chattanooga	374	-1	5	0	2%
Clarksville	370	1	2	0	1%
Cleveland	373	-1	-1	0	-1%
Columbia	384	-1	-14	0	-7%
Cookeville	385	0	-18	0	-8%
Jackson	383	-1	-3	0	-2%
Kingsport	376	0	-11	0	-5%
Knoxville	377-379	-1	-3	0	-2%
McKenzie	382	-1	-16	0	-8%
Memphis	380-381	-1	3	0	1%
Nashville	371-372	1	4	0	2%

Texas Average		-2	4	-1	1%
Abilene	795-796	-4	0	-1	-2%
Amarillo	790-791	-2	-2	-1	-2%
Arlington	760	-1	4	0	1%
Austin	786-787	1	10	0	5%
Bay City	774	-1	62	0	28%
Beaumont	776-777	-3	19	-1	7%
Brownwood	768	-3	-14	-1	-8%
Bryan	778	0	-6	0	-3%
Childress	792	-3	-28	-1	-14%
Corpus Christi	783-784	-2	17	-1	7%
Dallas	751-753	-1	15	0	6%
Del Rio	788	-3	4	-1	0%
El Paso	798-799	-3	-12	-1	-7%
Fort Worth	761-762	-1	5	0	2%
Galveston	775	-3	31	-1	13%
Giddings	789	0	-1	0	0%
Greenville	754	-3	9	-1	3%
Houston	770-772	-1	34	0	15%
Huntsville	773	-2	35	-1	15%
Longview	756	-2	4	-1	1%
Lubbock	793-794	-3	-11	-1	-7%
Lufkin	759	-3	-4	-1	-3%
McAllen	785	-3	-23	-1	-12%
Midland	797	-3	25	-1	10%
Palestine	758	-2	7	-1	2%
Plano	750	0	15	0	7%
San Angelo	769	-3	-9	-1	-6%
San Antonio	780-782	-2	5	-1	1%
Texarkana	755	-3	-15	-1	-8%
Tyler	757	-1	-15	0	-7%
Victoria	779	-2	5	-1	1%
Waco	765-767	-3	-2	-1	-3%
Wichita Falls	763	-3	-16	-1	-9%
Woodson	764	-3	-3	-1	-3%

Area Modification Factors

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Utah Average		1	-9	1	-3%
Clearfield	840	2	-3	1	0%
Green River	845	1	-7	0	-3%
Ogden	843-844	0	-19	0	-9%
Provo	846-847	2	-16	1	-6%
Salt Lake City	841	2	-1	1	1%
Vermont Average		1	-11	0	-5%
Albany	058	1	-16	0	-7%
Battleboro	053	1	-9	0	-4%
Beecher Falls	059	1	-19	0	-8%
Bennington	052	-1	-12	0	-6%
Burlington	054	3	5	1	4%
Montpelier	056	2	-10	1	-4%
Rutland	057	-1	-13	0	-7%
Springfield	051	-1	-11	0	-6%
White River Junction	050	1	-12	0	-5%
Virginia Average		0	-8	0	-4%
Abingdon	242	-2	-18	-1	-9%
Alexandria	220-223	3	18	1	10%
Charlottesville	229	1	-15	0	-6%
Chesapeake	233	0	-8	0	-4%
Culpeper	227	1	-12	0	-5%
Farmville	239	-2	-24	-1	-12%
Fredericksburg	224-225	1	-11	0	-5%
Galax	243	-2	-20	-1	-10%
Harrisonburg	228	1	-14	0	-6%
Lynchburg	245	-2	-17	-1	-9%
Norfolk	235-237	0	-4	0	-2%
Petersburg	238	-2	-5	-1	-3%
Radford	241	-1	-18	0	-9%
Reston	201	3	12	1	7%
Richmond	232	-1	5	0	2%
Roanoke	240	-1	-18	0	-9%
Staunton	244	0	-15	0	-7%
Tazewell	246	-3	-10	-1	-6%
Virginia Beach	234	1	-6	0	-2%
Williamsburg	230-231	0	-6	0	-3%
Winchester	226	0	9	0	4%
Washington Average		1	-2	1	0%
Clarkston	994	0	-18	0	-8%
Everett	982	2	2	1	2%
Olympia	985	2	-6	1	-2%
Pasco	993	0	2	0	1%
Seattle	980-981	3	21	1	11%
Spokane	990-992	0	-7	0	-3%
Tacoma	983-984	2	3	1	2%
Vancouver	986	2	4	1	3%

Location	Zip	Mat.	Lab.	Equip.	Total Wtd. Avg.
Wenatchee	988	1	-14	0	-6%
Yakima	989	0	-10	0	-5%
West Virginia Average		-2	-8	-1	-5%
Beckley	258-259	1	-11	0	-5%
Bluefield	247-248	-1	2	0	0%
Charleston	250-253	1	8	0	4%
Clarksburg	263-264	-3	-11	-1	-7%
Fairmont	266	0	-24	0	-11%
Huntington	255-257	-1	-7	0	-4%
Lewisburg	249	-2	-29	-1	-14%
Martinsburg	254	-1	-10	0	-5%
Morgantown	265	-3	-6	-1	-4%
New Martinsville	262	-2	-18	-1	-9%
Parkersburg	261	-3	5	-1	1%
Romney	267	-4	-10	-1	-7%
Sugar Grove	268	-3	-14	-1	-8%
Wheeling	260	-3	14	-1	5%
Wisconsin Average		-1	1	0	0%
Amery	540	0	-3	0	-1%
Beloit	535	0	10	0	5%
Clam Lake	545	-1	-17	0	-8%
Eau Claire	547	-1	-4	0	-2%
Green Bay	541-543	0	6	0	3%
La Crosse	546	-2	3	-1	0%
Ladysmith	548	-2	-1	-1	-2%
Madison	537	2	14	1	8%
Milwaukee	530-534	0	12	0	6%
Oshkosh	549	-1	9	0	4%
Portage	539	0	0	0	0%
Prairie du Chien	538	-2	-12	-1	-7%
Wausau	544	-1	-6	0	-3%
Wyoming Average		0	-1	0	-1%
Casper	826	-1	4	0	1%
Cheyenne/Laramie	820	1	-6	0	-2%
Gillette	827	-1	7	0	3%
Powell	824	0	-7	0	-3%
Rawlins	823	0	17	0	8%
Riverton	825	-1	-12	0	-6%
Rock Springs	829-831	0	2	0	1%
Sheridan	828	1	-8	0	-3%
Wheatland	822	0	-7	0	-3%
UNITED STATES TERRITORIES					
Guam		53	-21	-5	18%
Puerto Rico		2	-47	-5	-21%
VIRGIN ISLANDS (U.S.)					
St. Croix		18	-15	-4	2%
St. John		52	-15	-4	20%
St. Thomas		23	-15	-4	5%

Canadian Area Modification Factors

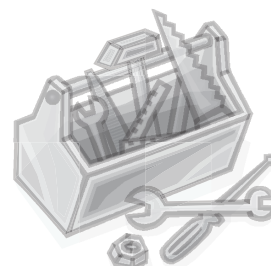
To find the cost in Canada in Canadian dollars, increase the costs in this book by the appropriate percentage listed below. These figures convert costs to Canadian dollars based on \$1.00 Canadian to \$0.76 U.S.

Location	Mat.	Lab.	Equip.	Total Wtd. Avg.
Alberta Average	26	-1	7	13%
Calgary	26	1	7	14%
Edmonton	25	2	7	14%
Fort McMurray	28	-7	7	12%
British Columbia Average	26	-15	7	7%
Fraser Valley	26	-16	7	6%
Okanagan	27	-18	7	6%
Vancouver	26	-11	7	9%
Manitoba Average	20	-22	5	0%
North Manitoba	20	-22	5	0%
Selkirk	20	-22	5	0%
South Manitoba	20	-22	5	0%
Winnipeg	20	-22	5	0%
New Brunswick	16	-47	3	-13%
Moncton	16	-47	3	-13%

Location	Mat.	Lab.	Equip.	Total Wtd. Avg.
Newfoundland/Labrador	19	-29	4	-3%
Nova Scotia Average	17	-36	4	-8%
Amherst	16	-36	3	-8%
Nova Scotia	17	-35	4	-7%
Sydney	17	-37	4	-8%
Ontario Average	22	-11	5	7%
London	22	-10	5	7%
Thunder Bay	24	-14	6	6%
Toronto	21	-9	5	7%
Quebec Average	19	-24	4	-1%
Montreal	19	-24	4	-1%
Quebec City	19	-24	4	-1%
Saskatchewan Average	23	-18	5	4%
La Ronge	24	-21	6	3%
Prince Albert	22	-20	5	2%
Saskatoon	22	-14	5	5%

Demolition

2



Nearly all home improvement projects require some breaking out and removing of existing materials and disposal of debris. Most will require protection of adjacent surfaces, taking safety precautions (such as setting up barricades), closing off doorways or windows, and normal cleanup. The demolition figures in this chapter include these tasks and will apply on most home improvement jobs that don't involve unusual conditions or complications. Costs will be higher when access to the work is limited, when your crew doesn't have complete control of the construction site, or when debris must be moved longer distances or around obstacles. All figures assume that debris is piled on site or in a bin. Add the cost of hauling to the nearest disposal site and tippage charges, if required. No salvage value is assumed except as noted.

Many of the following chapters include estimated costs to remove the old and replace with new materials of a similar description. For example, you'll find costs for removing shingles and replacing shingles in the roofing chapter. That's appropriate because they're part of the same task and usually performed by the same contractor. The estimates in this chapter are for demolition only and don't consider the cost of replacing what has been removed.

Of all construction tasks, demolition is probably the most difficult to estimate with any certainty. You're never sure what's in a wall to be demolished until the job begins. That's why it's best to exclude from your demolition bid what isn't in your estimate. Use the checklist to the right to help identify potential problems before they develop.

Demolition Checklist

- ☐ Can you anticipate any problem getting a demolition permit for this job?
- ☐ Is there a noise ordinance which will limit hours of operation or selection of equipment?
- ☐ Can the debris box be located close to the work?
- ☐ Can a trencher get to the job site?
- ☐ Is the site accessible to wheeled equipment?
- ☐ Will the debris have to be hand-carried to the roll-off box or gondola?
- ☐ Is there a direct route from the demolition site to the debris box?
- ☐ Will you need to re-route any plumbing, electrical, phone or gas lines?
- ☐ Will you need to remove and replace lawn sprinklers?
- ☐ Will you need to cut back or remove any bushes or trees?
- ☐ Will you have to remove and re-install a fence or gate?
- ☐ Does a septic tank or drain field extend into the site of construction?
- ☐ Can (must) materials generated from your project be recycled or salvaged?

	Day	Week	Month
Equipment Rental for Demolition.			
Air compressors, wheel-mounted			
16 CFM, shop type, electric	72.00	172.00	516.00
30 CFM, shop type, electric	77.00	237.00	711.00
80 CFM, shop type, electric	93.00	281.00	840.00
100 CFM, gasoline unit	115.00	345.00	969.00
125 CFM, gasoline unit	143.00	430.00	1,290.00
Paving breakers (no bits included) hand-held, pneumatic			
To 40 lb	47.00	150.00	331.00
41 - 55 lb	74.00	265.00	564.00
56 - 70 lb	63.00	215.00	474.00
71 - 90 lb	108.00	255.00	546.00
Paving breakers jackhammer bits			
Moil points, 15" to 18"	6.00	14.00	30.00
Chisels, 3"	7.00	17.00	44.00
Clay spades, 5-1/2"	10.00	23.00	62.00
Asphalt cutters, 5"	8.00	24.00	51.00
Pneumatic chippers, medium weight, 10 lb	32.00	94.00	261.00
Air hose rental, 50 LF section			
5/8" air hose	8.00	17.00	42.00
3/4" air hose	9.00	22.00	53.00
1" air hose	12.00	30.00	64.00
1-1/2" air hose	20.00	61.00	156.00
Dump truck rental rate plus mileage			
3 CY	385.00	1,020.00	1,920.00
5 CY	408.00	1,080.00	3,010.00
Hammer rental			
Electric brute breaker	63.00	258.00	773.00
Gas breaker	82.00	330.00	953.00
Demolition hammer, electric	64.00	256.00	650.00
Roto hammer, 7/8", electric	64.00	256.00	690.00
Roto hammer, 1-1/2", electric	62.00	248.00	600.00
Stump grinder, 9 HP	153.00	612.00	1,560.00
Brush chipper, trailer-mounted 40 HP	259.00	788.00	1,960.00
Chain saw, 18", gasoline	67.00	263.00	7.59.00
Chop saw, 14", electric	39.00	157.00	459.00
Backhoe/loader, wheel-mounted, diesel or gasoline			
1/2 CY bucket capacity, 55 HP	235.00	721.00	1,660.00
1 CY bucket capacity, 65 HP	217.00	670.00	2,020.00
1-1/4 CY bucket capacity, 75 HP	212.00	714.00	1,980.00
1-1/2 CY bucket capacity, 100 HP	378.00	1,040.00	2,660.00
Wheel loader, front-end load and dump, diesel			
3/4 CY bucket, 4WD, articulated	182.00	621.00	1,880.00
1 CY bucket, 4WD, articulated	321.00	993.00	2,620.00
2 CY bucket, 4WD, articulated	503.00	1,480.00	3,910.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Sitework Demolition						
Debris disposal and removal. Tipping charges for solid waste disposal at the dump vary from \$30 to \$120 per ton. For planning purposes, estimate waste disposal at \$75 per ton, plus the hauling cost. Call the dump or trash disposal company for actual charges. Typical costs are shown below.						
Dumpster, 3 CY trash bin, emptied weekly	—	Mo	—	—	330.00	—
Dumpster, 40 CY solid waste bin (lumber, drywall, roofing)						
Hauling cost, per load	—	Ea	—	—	230.00	—
Add to per load charge, per ton	—	Ton	—	—	55.00	—
Low-boy, 14 CY solid waste container (asphalt, dirt, masonry, concrete)						
Hauling cost, per load (7 CY maximum load)	—	Ea	—	—	230.00	—
Add to per load charge, per ton	—	Ton	—	—	55.00	—
Recycler fees. Recycling construction waste materials can substantially reduce disposal costs. Recycling charges vary from \$95 to \$120 per load, depending on the type of material and the size of the load. Add the cost of hauling to a recycling facility.						
Greenwaste	—	Ton	—	—	30.00	—
Asphalt, per load (7 CY)	—	Ea	—	—	100.00	—
Concrete, masonry or rock, per load (7 CY)	—	Ea	—	—	100.00	—
Dirt, per load (7 CY)	—	Ea	—	—	100.00	—
Mixed loads, per load (7 CY)	—	Ea	—	—	100.00	—
Bush and tree removal. Includes cutting into manageable pieces with power hand tools and dumping debris in a trash bin on site. Add the cost of power equipment rental, if needed.						
Shrubs and bushes, including stump removal.						
4' high, per each	BL@.750	Ea	—	22.50	22.50	38.30
Tree removal. Costs will vary widely depending on the condition, size, location and accessibility of the tree. Includes cutting into manageable pieces with power hand tools and dumping debris in a trash bin or chipper on site. Does not include stump removal or grinding. Add the cost of power equipment rental, bucket truck, and other specialized equipment if needed. Large shade tree removal may require a crew of 5 or more. Use \$2,000 as a minimum job charge for trees with a 36" diameter trunk and larger.						
8" to 12" diameter trunk	B8@2.50	Ea	—	90.40	90.40	154.00
13" to 18" diameter trunk	B8@3.50	Ea	—	126.00	126.00	214.00
19" to 24" diameter trunk	B8@5.50	Ea	—	199.00	199.00	338.00
25" to 36" diameter trunk	B8@7.00	Ea	—	253.00	253.00	430.00
Stump grinding, using a 9 HP wheel-mounted stump grinder						
6" to 10" diameter stump	B8@.800	Ea	—	28.90	28.90	49.10
11" to 14" diameter stump	B8@1.04	Ea	—	37.60	37.60	63.90
15" to 18" diameter stump	B8@1.30	Ea	—	47.00	47.00	79.90
19" to 24" diameter stump	B8@1.50	Ea	—	54.20	54.20	92.10
Fencing demolition. Remove chain link fence and cemented posts for disposal. These figures assume fencing is removed by cutting ties at posts and rails and rolling the fabric. These rolls can be heavy. A larger crew will be needed on larger jobs.						
To 6' high	BL@.100	LF	—	3.00	3.00	5.10
Remove chain link fence and cemented posts for salvage,						
To 6' high	BL@.120	LF	—	3.60	3.60	6.12
Remove board fence and cemented posts for disposal,						
To 6' high	BL@.100	LF	—	3.00	3.00	5.10

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Building Demolition						
Single-story room demolition. Includes breaking out a concrete or masonry foundation using pneumatic tools, breaking materials into manageable pieces with hand tools and handling debris to a trash bin on site. Includes the cost of erecting a temporary vapor barrier to seal the wall opening in the existing structure. Add the cost of wall patching on the remaining structure. Add the cost of equipment rental.						
Demolish a wood-frame addition built on a concrete slab, including grade beams. Use these figures to estimate the cost of demolishing an attached garage.						
Per square foot of floor area demolished	BL@.100	SF	—	3.00	3.00	5.10
Demolish a wood-frame addition built on a conventional foundation, including wood deck, stairs to grade, and the concrete or concrete block foundation.						
Per square foot of floor area demolished	BL@.120	SF	—	3.60	3.60	6.12
Detached garage demolition. Includes breaking materials into manageable pieces with hand tools and handling debris to a trash bin on site. No slab or foundation demolition included. No salvage of materials assumed.						
Frame garage with wood or aluminum siding						
One-car garage, to 10' wide by 22' deep	BL@16.5	Ea	—	495.00	495.00	842.00
Two-car garage, to 20' wide by 28' deep	BL@23.0	Ea	—	690.00	690.00	1,170.00
Frame garage with stucco siding						
One-car garage to 12' wide by 22' deep	BL@23.5	Ea	—	705.00	705.00	1,200.00
One-car to 16' wide by 22' deep	BL@28.5	Ea	—	855.00	855.00	1,450.00
Two-car garage to 22' wide by 28' deep	BL@42.5	Ea	—	1,280.00	1,280.00	2,180.00
Brick or block garage						
One-car garage to 12' wide by 22' deep	BL@23.0	Ea	—	690.00	690.00	1,170.00
One-car garage to 16' wide by 22' deep	BL@28.0	Ea	—	840.00	840.00	1,430.00
Two-car garage to 20' wide by 22' deep	BL@33.0	Ea	—	990.00	990.00	1,680.00
Gutting a building. Interior finish stripped back to the structural walls. Building structure to remain. No allowance for salvage value. These costs include loading and hauling up to 6 miles but no dump fees. Costs are per square foot of floor area based on 8' ceiling height. Add the cost of equipment rental. Figures in parentheses show the approximate "loose" volume of materials after demolition.						
Residential building (125 SF per CY)	BL@.100	SF	—	3.00	3.00	5.10
Building Component Demolition. Itemized costs for demolition of building components when building is being remodeled, repaired or rehabilitated and not completely demolished. Costs include protecting adjacent areas and normal clean-up. Costs are to break out the items listed and pile debris on site or in a bin.						
Brick wall demolition. Cost per square foot removed measured on one face. Removed using a pneumatic breaker. Add the cost of equipment rental. Figures in parentheses show the volume before and after demolition and weight of the materials after demolition.						
4" thick walls						
(60 SF per CY and 36 lbs. per SF)	BL@.061	SF	—	1.83	1.83	3.11
8" thick walls						
(30 SF per CY and 72 lbs. per SF)	BL@.110	SF	—	3.30	3.30	5.61

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Screens for vinyl-clad wood windows. White. By window nominal size						
2'0" x 3'0"	B1@.050	Ea	22.10	1.68	23.78	40.40
2'0" x 3'6"	B1@.050	Ea	25.30	1.68	26.98	45.90
2'4" x 3'0"	B1@.050	Ea	23.10	1.68	24.78	42.10
2'4" x 3'6"	B1@.050	Ea	25.20	1.68	26.88	45.70
2'4" x 4'0"	B1@.050	Ea	26.60	1.68	28.28	48.10
2'4" x 4'6"	B1@.050	Ea	32.70	1.68	34.38	58.40
2'4" x 4'9"	B1@.050	Ea	32.70	1.68	34.38	58.40
2'8" x 3'0"	B1@.050	Ea	25.20	1.68	26.88	45.70
2'8" x 3'6"	B1@.050	Ea	31.50	1.68	33.18	56.40
2'8" x 4'0"	B1@.050	Ea	32.60	1.68	34.28	58.30
2'8" x 4'6"	B1@.050	Ea	35.60	1.68	37.28	63.40
2'8" x 4'9"	B1@.050	Ea	34.70	1.68	36.38	61.80
3'0" x 3'0"	B1@.050	Ea	27.50	1.68	29.18	49.60
3'0" x 3'6"	B1@.050	Ea	28.00	1.68	29.68	50.50
3'0" x 4'0"	B1@.050	Ea	33.60	1.68	35.28	60.00
3'0" x 4'6"	B1@.050	Ea	35.30	1.68	36.98	62.90
3'0" x 4'9"	B1@.050	Ea	35.70	1.68	37.38	63.50
3'0" x 5'6"	B1@.050	Ea	37.50	1.68	39.18	66.60

Vinyl-clad wood awning windows, insulating glass. Prefinished pine interior. White vinyl exterior. For new construction. Add the cost of screens. By nominal (opening) size, width by height.

2'1" x 2'0"	B1@.500	Ea	218.00	16.80	234.80	399.00
3'1" x 2'0"	B1@.500	Ea	260.00	16.80	276.80	471.00
4'1" x 2'0"	B1@.500	Ea	284.00	16.80	300.80	511.00

Vinyl-clad wood casement windows, insulating glass. Prefinished pine interior. White or tan vinyl exterior. Tilt sash. For new construction. By nominal (opening) size, width by height. Add the cost of screens and hardware. Hinge operation as viewed from exterior.

2'1" x 3'0", right hinge	B1@.500	Ea	262.00	16.80	278.80	474.00
2'1" x 3'0", left hinge	B1@.500	Ea	262.00	16.80	278.80	474.00
2'1" x 3'6", right hinge	B1@.500	Ea	304.00	16.80	320.80	545.00
2'1" x 3'6", left hinge	B1@.500	Ea	304.00	16.80	320.80	545.00
2'1" x 4'0", right hinge	B1@.750	Ea	334.00	25.10	359.10	610.00
2'1" x 4'0", left hinge	B1@.750	Ea	334.00	25.10	359.10	610.00
2'1" x 5'0", right hinge	B1@.750	Ea	345.00	25.10	370.10	629.00
2'1" x 5'0", left hinge	B1@.750	Ea	345.00	25.10	370.10	629.00
4'1" x 3'0", left and right hinge	B1@.750	Ea	377.00	25.10	402.10	684.00
4'1" x 3'5", left and right hinge	B1@.750	Ea	524.00	25.10	549.10	933.00
4'1" x 4'0", left and right hinge	B1@.750	Ea	578.00	25.10	603.10	1,030.00
Add for casement hardware	—	Ea	15.30	—	15.30	—

Aluminum Windows

Aluminum single-hung vertical sliding white windows, insulating glass. White frame. Tilt-in removable sash. Dual sash weatherstripping. Includes screen. By nominal (opening) size, width by height. Nailing flange for new construction.

2' x 3'	B1@.500	Ea	64.20	16.80	81.00	138.00
2' x 5'	B1@1.00	Ea	91.00	33.50	124.50	212.00
2'8" x 5'	B1@1.00	Ea	99.20	33.50	132.70	226.00
3' x 3'	B1@1.00	Ea	79.70	33.50	113.20	192.00
3' x 4'	B1@1.00	Ea	93.50	33.50	127.00	216.00
3' x 5'	B1@1.25	Ea	107.00	41.90	148.90	253.00
3' x 6'	B1@1.25	Ea	120.00	41.90	161.90	275.00
4' x 3'	B1@1.00	Ea	105.00	33.50	138.50	235.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
4' x 4'	B1@1.50	Ea	130.00	50.30	180.30	307.00
5' x 3'	B1@1.50	Ea	124.00	50.30	174.30	296.00
5' x 4'	B3@2.00	Ea	148.00	64.70	212.70	362.00
6' x 4'	B3@2.00	Ea	174.00	64.70	238.70	406.00
8' x 4'	B3@2.00	Ea	225.00	64.70	289.70	492.00
Add for obscure glass in 2' windows	—	Ea	3.80	—	3.80	—

Aluminum single-hung vertical sliding bronze windows, insulating glass. Bronze frame. Better quality removable sash. Dual sash weatherstripping. Includes screen. By nominal (opening) size, width by height. Includes a window grid between the panes. Nailing flange for new construction.

2' x 3'	B1@.500	Ea	96.00	16.80	112.80	192.00
2' 8" x 3'	B1@.500	Ea	107.00	16.80	123.80	210.00
2' 8" x 4' 4"	B1@1.00	Ea	134.00	33.50	167.50	285.00
2' 8" x 5'	B1@1.00	Ea	147.00	33.50	180.50	307.00
3' x 3'	B1@1.00	Ea	116.00	33.50	149.50	254.00
3' x 4'	B1@1.00	Ea	135.00	33.50	168.50	286.00
3' x 4' 4"	B1@1.00	Ea	141.00	33.50	174.50	297.00
3' x 5'	B1@1.25	Ea	153.00	41.90	194.90	331.00
3' x 6'	B1@1.25	Ea	172.00	41.90	213.90	364.00

Aluminum single-hung vertical sliding windows, single glazed. Mill finish. Includes screen. By nominal (opening) size, width by height. Clear glass except as noted. Nailing flange for new construction.

2' x 1'	B1@.500	Ea	27.20	16.80	44.00	74.80
2' x 1', obscure glass	B1@.500	Ea	31.30	16.80	48.10	81.80
2' x 2'	B1@.500	Ea	37.40	16.80	54.20	92.10
2' x 2', obscure glass	B1@.500	Ea	38.50	16.80	55.30	94.00
2' x 3', obscure glass	B1@.500	Ea	60.70	16.80	77.50	132.00
3' x 2'	B1@.500	Ea	45.70	16.80	62.50	106.00
3' x 3'	B1@1.00	Ea	58.40	33.50	91.90	156.00
4' x 3'	B1@1.00	Ea	65.60	33.50	99.10	168.00
5' x 3'	B1@1.50	Ea	72.30	50.30	122.60	208.00
6' x 3'	B3@1.50	Ea	93.10	48.50	141.60	241.00

Aluminum horizontal sliding windows, single glazed. Right sash is operable when viewed from the exterior. With screen. 7/8" nailing fin setback for 3-coat stucco or wood siding. By nominal (opening) size, width by height. For new construction. Obscure glass is usually available in smaller (1' and 2') windows at no additional cost.

2' x 2', mill finish	B1@.500	Ea	34.70	16.80	51.50	87.60
2' x 2', bronze or white finish	B1@.500	Ea	47.70	16.80	64.50	110.00
3' x 1', mill finish	B1@.750	Ea	42.10	25.10	67.20	114.00
3' x 2', mill finish	B1@.750	Ea	42.10	25.10	67.20	114.00
3' x 3', mill finish	B1@1.00	Ea	50.70	33.50	84.20	143.00
3' x 3', bronze or white finish	B1@1.00	Ea	74.60	33.50	108.10	184.00
3' x 4', mill finish	B1@1.00	Ea	64.10	33.50	97.60	166.00
3' x 4', bronze or white finish	B1@1.00	Ea	89.80	33.50	123.30	210.00
4' x 3', mill finish	B1@1.00	Ea	64.30	33.50	97.80	166.00
4' x 3', bronze or white finish	B1@1.00	Ea	93.10	33.50	126.60	215.00
4' x 4', mill finish	B1@1.50	Ea	74.20	50.30	124.50	212.00
4' x 4', bronze or white finish	B1@1.50	Ea	108.00	50.30	158.30	269.00
5' x 3', mill finish	B3@1.50	Ea	81.10	48.50	129.60	220.00
5' x 4', mill finish	B3@1.50	Ea	83.10	48.50	131.60	224.00
5' x 4', bronze or white finish	B3@1.50	Ea	108.00	48.50	156.50	266.00
6' x 3', mill finish	B3@1.50	Ea	75.30	48.50	123.80	210.00
6' x 4', mill finish	B3@1.50	Ea	90.50	48.50	139.00	236.00
6' x 4', bronze or white finish	B3@1.50	Ea	109.00	48.50	157.50	268.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Aluminum horizontal sliding windows, insulated glass. Right sash is operable when viewed from the exterior. With screen. Nailing fin for new construction. By nominal (opening) size, width by height. Obscure glass is usually available in smaller (1' and 2') windows at no additional cost. White or bronze finish.						
2' x 2'	B1@.500	Ea	57.50	16.80	74.30	126.00
3' x 1'	B1@.750	Ea	57.40	25.10	82.50	140.00
3' x 2'	B1@.750	Ea	65.70	25.10	90.80	154.00
3' x 3'	B1@1.00	Ea	88.40	33.50	121.90	207.00
3' x 4'	B1@1.00	Ea	111.00	33.50	144.50	246.00
4' x 3'	B1@1.00	Ea	110.00	33.50	143.50	244.00
4' x 4'	B1@1.50	Ea	110.00	50.30	160.30	273.00
Add for colonial grid between the lites	—	%	15.0	—	—	—
Add for Low-E glass	—	%	15.0	—	—	—

Aluminum awning windows, insulated glass. With hardware and screen. Natural mill finish. For new construction. Nominal (opening) sizes, width by height.

19" x 26", two lites high	BC@.500	Ea	93.10	18.50	111.60	190.00
19" x 38-1/2", three lites high	BC@.750	Ea	112.00	27.80	139.80	238.00
19" x 50-1/2", four lites high	BC@.750	Ea	135.00	27.80	162.80	277.00
19" x 63", five lites high	BC@1.00	Ea	157.00	37.00	194.00	330.00
26" x 26", two lites high	BC@.750	Ea	116.00	27.80	143.80	244.00
26" x 38-1/2", three lites high	BC@.750	Ea	136.00	27.80	163.80	278.00
26" x 50-1/2", four lites high	BC@1.00	Ea	174.00	37.00	211.00	359.00
26" x 63", five lites high	BC@1.00	Ea	206.00	37.00	243.00	413.00
37" x 26", two lites high	BC@.750	Ea	135.00	27.80	162.80	277.00
37" x 38-1/2", three lites high	BC@1.00	Ea	155.00	37.00	192.00	326.00
37" x 50-1/2", four lites high	BC@1.00	Ea	178.00	37.00	215.00	366.00
37" x 63", five lites high	BC@1.00	Ea	242.00	37.00	279.00	474.00
53" x 26", two lites high	BC@1.00	Ea	159.00	37.00	196.00	333.00
53" x 38-1/2", three lites high	BC@1.00	Ea	181.00	37.00	218.00	371.00
53" x 50-1/2", four lites high	B3@1.50	Ea	235.00	48.50	283.50	482.00
53" x 63", five lites high	B3@1.50	Ea	277.00	48.50	325.50	553.00
Add for bronze finish	—	%	15.0	—	—	—
Add for enamel finish	—	%	10.0	—	—	—
Add for special order replacement window	—	%	100.0	—	—	—

Fixed aluminum windows (picture windows), insulating glass. Bronze or white enamel finish. For new construction. Wall opening (nominal) size, width by height.

24" x 20"	BC@.500	Ea	126.00	18.50	144.50	246.00
24" x 30"	BC@.500	Ea	150.00	18.50	168.50	286.00
24" x 40"	BC@.500	Ea	174.00	18.50	192.50	327.00
30" x 20"	BC@.750	Ea	154.00	27.80	181.80	309.00
30" x 30"	BC@.750	Ea	181.00	27.80	208.80	355.00
30" x 40"	BC@.750	Ea	215.00	27.80	242.80	413.00
30" x 50"	BC@1.00	Ea	261.00	37.00	298.00	507.00
30" x 60"	BC@1.00	Ea	283.00	37.00	320.00	544.00
36" x 20"	BC@.750	Ea	184.00	27.80	211.80	360.00
36" x 30"	BC@.750	Ea	270.00	27.80	297.80	506.00
36" x 40"	BC@1.00	Ea	272.00	37.00	309.00	525.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
36" x 50"	B1@1.50	Ea	237.00	50.30	287.30	488.00
36" x 60"	B1@1.50	Ea	386.00	50.30	436.30	742.00
40" x 20"	BC@.750	Ea	218.00	27.80	245.80	418.00
40" x 30"	BC@.750	Ea	274.00	27.80	301.80	513.00
40" x 40"	BC@1.00	Ea	319.00	37.00	356.00	605.00
48" x 20"	BC@.750	Ea	262.00	27.80	289.80	493.00
48" x 30"	BC@1.00	Ea	325.00	37.00	362.00	615.00
48" x 40"	BC@1.00	Ea	360.00	37.00	397.00	675.00
Add for storm sash, per square foot of glass	—	SF	8.88	—	8.88	—

Louvered aluminum (jalousie) windows. Single glazed, 4" clear glass louvers, including hardware. Jalousie windows are usually made to order and can be fabricated to any size.

18" x 24"	BC@1.00	Ea	70.20	37.00	107.20	182.00
18" x 36"	BC@1.00	Ea	100.00	37.00	137.00	233.00
18" x 48"	BC@1.00	Ea	124.00	37.00	161.00	274.00
18" x 60"	BC@1.00	Ea	163.00	37.00	200.00	340.00
24" x 24"	BC@1.00	Ea	79.00	37.00	116.00	197.00
24" x 36"	BC@1.00	Ea	115.00	37.00	152.00	258.00
24" x 48"	BC@1.00	Ea	145.00	37.00	182.00	309.00
24" x 60"	BC@1.50	Ea	189.00	55.50	244.50	416.00
30" x 24"	BC@1.00	Ea	94.60	37.00	131.60	224.00
30" x 36"	BC@1.00	Ea	136.00	37.00	173.00	294.00
30" x 48"	BC@1.50	Ea	172.00	55.50	227.50	387.00
30" x 60"	BC@1.50	Ea	218.00	55.50	273.50	465.00
36" x 24"	BC@1.00	Ea	102.00	37.00	139.00	236.00
36" x 36"	BC@1.50	Ea	150.00	55.50	205.50	349.00
36" x 48"	BC@1.50	Ea	189.00	55.50	244.50	416.00
36" x 60"	BC@1.50	Ea	246.00	55.50	301.50	513.00
40" x 24"	BC@1.00	Ea	119.00	37.00	156.00	265.00
40" x 36"	BC@1.50	Ea	166.00	55.50	221.50	377.00
40" x 48"	BC@1.50	Ea	215.00	55.50	270.50	460.00
40" x 60"	BC@1.50	Ea	274.00	55.50	329.50	560.00

Wood Windows

Wood double-hung windows. Treated western pine. Natural wood interior. 4-9/16" jamb width. 5/8" insulating glass. Weatherstripped. Stock units for new construction. Tilt-in, removable sash. With hardware. Nominal sizes, width by height.

2'0" x 3'2"	BC@.750	Ea	178.00	27.80	205.80	350.00
2'4" x 3'2"	BC@.750	Ea	221.00	27.80	248.80	423.00
2'4" x 4'6"	BC@.750	Ea	207.00	27.80	234.80	399.00
2'8" x 3'2"	BC@.750	Ea	203.00	27.80	230.80	392.00
2'8" x 3'10"	BC@.750	Ea	239.00	27.80	266.80	454.00
2'8" x 4'6"	BC@1.25	Ea	240.00	46.30	286.30	487.00
2'8" x 5'2"	BC@1.25	Ea	275.00	46.30	321.30	546.00
3'0" x 3'2"	BC@.750	Ea	208.00	27.80	235.80	401.00
3'0" x 4'6"	BC@1.25	Ea	275.00	46.30	321.30	546.00
3'0" x 5'2"	BC@1.25	Ea	249.00	46.30	295.30	502.00
2'8" x 4'6", twin	BC@1.25	Ea	498.00	46.30	544.30	925.00

Fixed octagon wood windows. Stock units for new construction. Installed in a pre-cut and framed opening.

24", insulated glass	BC@1.50	Ea	120.00	55.50	175.50	298.00
24", single glazed	BC@1.50	Ea	96.20	55.50	151.70	258.00
24", venting insulated glass	BC@1.50	Ea	168.00	55.50	223.50	380.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Angle bay windows. Fixed center lite and two double-hung flankers. 30-degree angle. Pine with aluminum cladding, insulated glass, screens, white or bronze finish, 4-9/16" wall thickness. Stock units for new construction. Nominal (opening) sizes, width by height. Add the cost of interior trim and installing or framing the bay window roof. See the figures that follow.						
6'4" x 4'8"	B1@4.00	Ea	1,740.00	134.00	1,874.00	3,190.00
7'2" x 4'8"	B1@4.00	Ea	1,740.00	134.00	1,874.00	3,190.00
7'10" x 4'8"	B1@4.50	Ea	1,900.00	151.00	2,051.00	3,490.00
8'6" x 4'8"	B1@4.50	Ea	2,180.00	151.00	2,331.00	3,960.00
8'10" x 4'8"	B1@4.50	Ea	2,230.00	151.00	2,381.00	4,050.00
9'2" x 4'8"	B1@5.00	Ea	2,230.00	168.00	2,398.00	4,080.00
9'10" x 4'8"	B1@5.00	Ea	2,050.00	168.00	2,218.00	3,770.00
Add for 45-degree angle windows	—	Ea	89.00	—	89.00	—
Add for roof framing kit	—	Ea	158.00	—	158.00	—

Bay window roof cover. Architectural copper roof system for standard angle bay windows. Includes hardware.

Stock units for new construction

Up to 48" width	SW@.500	Ea	679.00	20.90	699.90	1,190.00
49" to 60" width	SW@.500	Ea	771.00	20.90	791.90	1,350.00
61" to 72" width	SW@.600	Ea	864.00	25.00	889.00	1,510.00
73" to 84" width	SW@.600	Ea	1,050.00	25.00	1,075.00	1,830.00
85" to 96" width	SW@.600	Ea	1,050.00	25.00	1,075.00	1,830.00
97" to 108" width	SW@.700	Ea	1,140.00	29.20	1,169.20	1,990.00
109" to 120" width	SW@.700	Ea	1,230.00	29.20	1,259.20	2,140.00
121" to 132" width	SW@.800	Ea	1,430.00	33.40	1,463.40	2,490.00
133" to 144" width	SW@.800	Ea	1,520.00	33.40	1,553.40	2,640.00
145" to 156" width	SW@1.00	Ea	1,700.00	41.70	1,741.70	2,960.00
157" to 168" width	SW@1.00	Ea	1,700.00	41.70	1,741.70	2,960.00
Add for aged copper, brass or aluminum finish	—	%	20.0	—	—	—
Add for 24" to 26" projection	—	%	10.0	—	—	—
Add for 26" to 28" projection	—	%	15.0	—	—	—
Add for 28" to 30" projection	—	%	20.0	—	—	—
Add for brick soffit kit	—	%	45.0	—	—	—
Add for 90-degree bays	—	Ea	112.00	—	112.00	—

Casement bow windows. Insulated glass, assembled, with screens, weatherstripped, unfinished pine, 16" projection, 22" x 56" lites, 4-7/16" jambs. Add the cost of interior trim and installing or framing the bow window roof. Stock units for new construction. Generally a roof kit is required for projections of 12" or more. See the figures that follow.

8'1" wide x 4'8" (4 lites, 2 venting)	B1@4.75	Ea	1,840.00	159.00	1,999.00	3,400.00
8'1" wide x 5'4" (4 lites, 2 venting)	B1@4.75	Ea	2,000.00	159.00	2,159.00	3,670.00
8'1" wide x 6'0" (4 lites, 2 venting)	B1@4.75	Ea	2,130.00	159.00	2,289.00	3,890.00
10' wide x 4'8" (5 lites, 2 venting)	B1@4.75	Ea	2,250.00	159.00	2,409.00	4,100.00
10' wide x 5'4" (5 lites, 2 venting)	B1@4.75	Ea	2,430.00	159.00	2,589.00	4,400.00
10' wide x 6'0" (5 lites, 2 venting)	B1@4.75	Ea	2,660.00	159.00	2,819.00	4,790.00
Add for roof framing kit, 5 lites	—	Ea	146.00	—	146.00	—

Bow window wood roof kit. Framed wood roof kit for four panel bow window. Built with a 10 in 12 pitch, roof overhangs bay or bow 1" to 3". Includes hardware.

Up to 72" width	B1@.500	Ea	387.00	16.80	403.80	686.00
73" to 96" width	B1@.500	Ea	456.00	16.80	472.80	804.00
97" to 120" width	B1@.500	Ea	523.00	16.80	539.80	918.00
121" to 144" width	B1@.600	Ea	593.00	20.10	613.10	1,040.00
145" to 168" width	B1@.600	Ea	816.00	20.10	836.10	1,420.00
Add for 5 panel bow	—	Ea	73.20	—	73.20	—

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Bow or bay window roof, framed on-site. 1/2" plywood sheathing, fiberglass batt insulation, fascia board, cove molding, roof flashing, 15-pound felt, 240-pound seal-tab asphalt shingles, and cleanup.						
Up to 120" width	B1@3.50	Ea	87.50	117.00	204.50	348.00
Add per linear foot of width over 10'	B1@.350	LF	8.75	11.70	20.45	34.80

Storm Windows

Basement storm windows. White aluminum frame with removable plexiglass window. Clips on over aluminum or wood basement window. Screen included. Nominal window sizes, width by height.

32" x 14"	BC@.420	Ea	29.40	15.50	44.90	76.30
32" x 18"	BC@.420	Ea	30.50	15.50	46.00	78.20
32" x 22"	BC@.420	Ea	33.50	15.50	49.00	83.30

Aluminum storm windows. Removable glass inserts. Removable screen. Double-track. Includes weatherstripping. Adaptable to aluminum single-hung windows.

24" x 39", mill finish	BC@.420	Ea	41.00	15.50	56.50	96.10
24" x 39", white finish	BC@.420	Ea	41.00	15.50	56.50	96.10
24" x 55", mill finish	BC@.420	Ea	59.60	15.50	75.10	128.00
24" x 55", white finish	BC@.420	Ea	54.10	15.50	69.60	118.00
28" x 39", mill finish	BC@.420	Ea	40.20	15.50	55.70	94.70
28" x 39", white finish	BC@.420	Ea	42.70	15.50	58.20	98.90
28" x 47", white finish	BC@.420	Ea	47.30	15.50	62.80	107.00
28" x 55", mill finish	BC@.420	Ea	52.40	15.50	67.90	115.00
28" x 55", white finish	BC@.420	Ea	54.10	15.50	69.60	118.00
32" x 39", mill finish	BC@.420	Ea	44.10	15.50	59.60	101.00
32" x 39", white finish	BC@.420	Ea	50.40	15.50	65.90	112.00
32" x 47", white finish	BC@.420	Ea	64.60	15.50	80.10	136.00
32" x 55", mill finish	BC@.420	Ea	52.40	15.50	67.90	115.00
32" x 55", white finish	BC@.420	Ea	56.70	15.50	72.20	123.00
32" x 63", mill finish	BC@.420	Ea	65.10	15.50	80.60	137.00
32" x 63", white finish	BC@.420	Ea	54.60	15.50	70.10	119.00
32" x 75", white finish	BC@.420	Ea	70.80	15.50	86.30	147.00
36" x 39", mill finish	BC@.420	Ea	46.20	15.50	61.70	105.00
36" x 39", white finish	BC@.420	Ea	51.50	15.50	67.00	114.00
36" x 55", mill finish	BC@.420	Ea	54.60	15.50	70.10	119.00
36" x 55", white finish	BC@.420	Ea	58.80	15.50	74.30	126.00
36" x 63", mill finish	BC@.420	Ea	62.00	15.50	77.50	132.00
36" x 63", white finish	BC@.420	Ea	65.10	15.50	80.60	137.00

Window Accessories

Window sills, EasySills. Solid vinyl. Set with latex or solvent base adhesive. Hard scratch-resistant surface. Ultraviolet protection to prevent yellowing. Gloss finish.

3-1/2" x 3'	BC@.129	Ea	18.30	4.78	23.08	39.20
3-1/2" x 4'	BC@.172	Ea	24.80	6.37	31.17	53.00
3-1/2" x 5'	BC@.215	Ea	31.40	7.96	39.36	66.90
3-1/2" x 6'	BC@.258	Ea	39.40	9.55	48.95	83.20
4-1/4" x 3'	BC@.129	Ea	24.30	4.78	29.08	49.40
4-1/4" x 4'	BC@.172	Ea	31.00	6.37	37.37	63.50
4-1/4" x 5'	BC@.215	Ea	37.70	7.96	45.66	77.60
4-1/4" x 6'	BC@.258	Ea	48.60	9.55	58.15	98.90
5-1/2" x 3'	BC@.129	Ea	28.00	4.78	32.78	55.70
5-1/2" x 4'	BC@.172	Ea	35.70	6.37	42.07	71.50
5-1/2" x 5'	BC@.215	Ea	43.40	7.96	51.36	87.30
5-1/2" x 6'	BC@.258	Ea	55.90	9.55	65.45	111.00
6-1/4" x 3'	BC@.129	Ea	28.40	4.78	33.18	56.40

	Craft@Hrs	Unit	Material	Labor	Total	Sell
6-1/4" x 4'	BC@.172	Ea	39.20	6.37	45.57	77.50
6-1/4" x 5'	BC@.215	Ea	40.60	7.96	48.56	82.60
6-1/4" x 6'	BC@.258	Ea	52.30	9.55	61.85	105.00
Aluminum window mullions. White.						
38-1/4"	—	Ea	54.20	—	54.20	—
50-1/2"	—	Ea	65.80	—	65.80	—
62-7/8"	—	Ea	77.40	—	77.40	—
Replacement casement window operator handle. 9" arm. Casement opening direction when viewed from the exterior.						
Left, aluminum window	BC@.250	Ea	10.40	9.26	19.66	33.40
Right, aluminum window	BC@.250	Ea	10.40	9.26	19.66	33.40
Left, wood window	BC@.250	Ea	16.60	9.26	25.86	44.00
Right, wood window	BC@.250	Ea	16.60	9.26	25.86	44.00
Casement window lock handle. Universal casement window lock for aluminum or steel windows. Accepts a 1/8" security pin. Screws included						
Aluminum	BC@.250	Ea	4.14	9.26	13.40	22.80
Bronze finish, 5/16" bore size	BC@.250	Ea	4.17	9.26	13.43	22.80
White	BC@.250	Ea	4.17	9.26	13.43	22.80
Awning window operator handle.						
Left	BC@.250	Ea	13.20	9.26	22.46	38.20
Right	BC@.250	Ea	13.20	9.26	22.46	38.20
Jalousie window operator handle.						
Crank handle, 5/16"	BC@.250	Ea	3.82	9.26	13.08	22.20
Crank handle, 3/8"	BC@.250	Ea	3.82	9.26	13.08	22.20
T-handle, 5/16"	BC@.250	Ea	3.82	9.26	13.08	22.20
T-handle, 3/8"	BC@.250	Ea	3.82	9.26	13.08	22.20
Wood window sash spring. Replaces broken sash cords and eliminates window rattle. Includes two sash springs and two nail fasteners.						
Per pair	BC@.750	Ea	4.69	27.80	32.49	55.20
Sash balance.						
4-1/2-pound	BC@.360	Ea	19.90	13.30	33.20	56.40
6-pound	BC@.360	Ea	20.70	13.30	34.00	57.80
8-pound	BC@.360	Ea	21.50	13.30	34.80	59.20
10-pound	BC@.360	Ea	23.60	13.30	36.90	62.70
12-pound	BC@.360	Ea	24.60	13.30	37.90	64.40
Sash lift pull.						
Oil rubbed bronze	BC@.060	Ea	10.70	2.22	12.92	22.00
Satin nickel	BC@.060	Ea	10.70	2.22	12.92	22.00
Double-hung sash lock.						
Bronze	BC@.350	Ea	11.50	13.00	24.50	41.70
Oil rubbed bronze	BC@.350	Ea	11.80	13.00	24.80	42.20
White	BC@.350	Ea	10.50	13.00	23.50	40.00
Satin nickel	BC@.350	Ea	11.60	13.00	24.60	41.80
Double-hung window bolt.						
Brass	BC@.350	Ea	3.22	13.00	16.22	27.60

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Arch top louvered exterior shutters. Copolymer construction with molded-through color. Available in colors and paintable. Price per pair						
15" x 36"	BC@.200	Ea	31.50	7.40	38.90	66.10
15" x 39"	BC@.200	Ea	36.40	7.40	43.80	74.50
15" x 43"	BC@.200	Ea	36.70	7.40	44.10	75.00
15" x 48"	BC@.200	Ea	37.80	7.40	45.20	76.80
15" x 52"	BC@.320	Ea	42.00	11.80	53.80	91.50
15" x 55"	BC@.320	Ea	45.10	11.80	56.90	96.70
15" x 60"	BC@.320	Ea	49.30	11.80	61.10	104.00
15" x 64"	BC@.320	Ea	55.30	11.80	67.10	114.00
15" x 67"	BC@.320	Ea	64.30	11.80	76.10	129.00
15" x 72"	BC@.320	Ea	63.40	11.80	75.20	128.00
15" x 75"	BC@.320	Ea	65.10	11.80	76.90	131.00
Decorative shutter hardware	—	Ea	10.20	—	10.20	—
Lock fasteners	BC@.125	Ea	6.49	4.63	11.12	18.90

Classic window guards. Welded steel 1/2" square tubes with spear points and ornamentation. Add screws and brackets below. Width by height.

24" x 24"	BC@.500	Ea	37.00	18.50	55.50	94.40
24" x 36"	BC@.500	Ea	37.90	18.50	56.40	95.90
24" x 54"	BC@.500	Ea	61.00	18.50	79.50	135.00
30" x 54"	BC@.500	Ea	87.20	18.50	105.70	180.00
36" x 24"	BC@.500	Ea	54.70	18.50	73.20	124.00
36" x 36"	BC@.500	Ea	54.70	18.50	73.20	124.00
36" x 42"	BC@.750	Ea	54.70	27.80	82.50	140.00
36" x 48"	BC@.750	Ea	72.20	27.80	100.00	170.00
36" x 54"	BC@.750	Ea	65.60	27.80	93.40	159.00
42" x 42"	BC@.750	Ea	71.40	27.80	99.20	169.00
48" x 36"	BC@.750	Ea	71.40	27.80	99.20	169.00
48" x 48"	BC@.750	Ea	84.30	27.80	112.10	191.00
60" x 36"	BC@.750	Ea	90.60	27.80	118.40	201.00
60" x 48"	BC@.750	Ea	84.30	27.80	112.10	191.00
72" x 36"	BC@.750	Ea	84.30	27.80	112.10	191.00
1" one-way screws	—	Ea	5.98	—	5.98	—
3" one-way screws	—	Ea	7.55	—	7.55	—
4" one-way screws	—	Ea	7.55	—	7.55	—
Flush brackets	—	Ea	13.60	—	13.60	—
3" projection brackets	—	Ea	13.60	—	13.60	—
3" tee brackets	—	Ea	16.00	—	16.00	—
Connector pins	—	Ea	7.09	—	7.09	—

Aluminum window screen frame kits. For rescreening windows. White or bronze finish. Matching color corners snap into place. Add the cost of screen wire and spline. Labor includes removing the old screen, measuring, cutting and assembling the frame, measuring and cutting screen wire, pressing screen and spline into the frame channel, re-hanging the screen

5/16" frame, to 24" x 36" screen	BC@.750	Ea	11.00	27.80	38.80	66.00
5/16" frame, to 36" x 48" screen	BC@1.00	Ea	12.60	37.00	49.60	84.30
5/16" frame, to 48" x 60" screen	BC@1.25	Ea	13.90	46.30	60.20	102.00
7/16" frame, to 24" x 36" screen	BC@.750	Ea	11.40	27.80	39.20	66.60
7/16" frame, to 48" x 60" screen	BC@1.25	Ea	14.10	46.30	60.40	103.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Window screens, aluminum. Aluminum mill finish frame. Fiberglass mesh. For double-hung windows. Labor includes removing the old screen and re-hanging the new screen.						
2'0" x 3'2"	BC@.350	Ea	12.50	13.00	25.50	43.40
2'4" x 3'2"	BC@.350	Ea	12.80	13.00	25.80	43.90
2'4" x 4'6"	BC@.350	Ea	14.20	13.00	27.20	46.20
2'8" x 3'1"	BC@.350	Ea	19.90	13.00	32.90	55.90
2'8" x 3'2"	BC@.350	Ea	13.20	13.00	26.20	44.50
2'8" x 4'6"	BC@.350	Ea	21.60	13.00	34.60	58.80
2'8" x 5'2"	BC@.350	Ea	15.10	13.00	28.10	47.80
2'8" x 6'2"	BC@.350	Ea	17.20	13.00	30.20	51.30
3'0" x 3'1"	BC@.350	Ea	14.10	13.00	27.10	46.10
3'0" x 3'2"	BC@.350	Ea	13.60	13.00	26.60	45.20
3'0" x 4'6"	BC@.350	Ea	14.80	13.00	27.80	47.30
3'0" x 5'2"	BC@.350	Ea	15.50	13.00	28.50	48.50
3'0" x 6'2"	BC@.350	Ea	17.20	13.00	30.20	51.30

Aluminum screen rolls. Replaces worn-out screening on windows, patio doors and screened-in porches. Bright or charcoal.

36" x 7'	—	Ea	8.69	—	8.69	—
36" x 25'	—	Ea	24.10	—	24.10	—
48" x 7'	—	Ea	11.30	—	11.30	—
48" x 25'	—	Ea	31.80	—	31.80	—

Fiberglass screen rolls. Charcoal or gray.

36" x 7'	—	Ea	8.78	—	8.78	—
36" x 25'	—	Ea	9.78	—	9.78	—
48" x 25'	—	Ea	13.00	—	13.00	—
60" x 25'	—	Ea	20.60	—	20.60	—
72" x 25'	—	Ea	34.90	—	34.90	—
84" x 25'	—	Ea	28.80	—	28.80	—
96" x 25'	—	Ea	33.10	—	33.10	—

Screen patch. Self-stick.

3" x 3", aluminum	—	Ea	5.23	—	5.23	—
3" x 3", charcoal	—	Ea	5.23	—	5.23	—

Screen replacement splines. Black or gray.

0.125" x 25'	—	Ea	4.45	—	4.45	—
0.125" x 100'	—	Ea	8.38	—	8.38	—
0.140" x 25'	—	Ea	4.45	—	4.45	—
0.140" x 100'	—	Ea	5.75	—	5.75	—
0.160" x 25'	—	Ea	4.45	—	4.45	—
0.160" x 100'	—	Ea	8.38	—	8.38	—
0.175" x 25'	—	Ea	4.45	—	4.45	—
0.175" x 100'	—	Ea	8.38	—	8.38	—
0.190" x 25'	—	Ea	4.45	—	4.45	—
0.190" x 100'	—	Ea	8.90	—	8.90	—
0.210" x 25'	—	Ea	4.45	—	4.45	—
0.210" x 100', flat	—	Ea	8.37	—	8.37	—
0.220" x 25'	—	Ea	4.45	—	4.45	—
0.220" x 100'	—	Ea	10.50	—	10.50	—
0.250" x 25'	—	Ea	4.45	—	4.45	—

Roller spline tool.

Plastic handle	—	Ea	7.00	—	7.00	—
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	Craft@Hrs	Unit	Material	Labor	Total	Sell
Tilt sash window grille sets. Removable window grille system fits double-hung wood windows.						
2'0" x 3'2", 4 x 4 grille	BC@.250	Ea	15.50	9.26	24.76	42.10
2'4" x 3'2", 6 x 6 grille	BC@.250	Ea	23.60	9.26	32.86	55.90
2'4" x 4'6", 6 x 6 grille	BC@.250	Ea	23.60	9.26	32.86	55.90
2'8" x 3'2", 6 x 6 grille	BC@.250	Ea	23.60	9.26	32.86	55.90
2'8" x 3'10", 6 x 6 grille	BC@.250	Ea	23.60	9.26	32.86	55.90
2'8" x 4'6", 6 x 6 grille	BC@.250	Ea	23.60	9.26	32.86	55.90
2'8" x 5'2", 6 x 6 grille	BC@.250	Ea	23.60	9.26	32.86	55.90
2'8" x 6'2", 9 x 9 grille	BC@.250	Ea	23.60	9.26	32.86	55.90
3'0" x 3'2", 6 x 6 grille	BC@.250	Ea	23.60	9.26	32.86	55.90
3'0" x 3'10", 6 x 6 grille	BC@.250	Ea	23.60	9.26	32.86	55.90
3'0" x 4'6", 6 x 6 grille	BC@.250	Ea	23.60	9.26	32.86	55.90

Window Glazing

Single-strength replacement glass.

8" x 10", clear	BG@.246	Ea	2.03	8.80	10.83	18.40
9" x 12", clear	BG@.333	Ea	1.69	11.90	13.59	23.10
10" x 12", clear	BG@.370	Ea	1.84	13.20	15.04	25.60
12" x 14", clear	BG@.280	Ea	2.10	10.00	12.10	20.60
12" x 16", clear	BG@.322	Ea	3.48	11.50	14.98	25.50
12" x 18", clear	BG@.363	Ea	2.75	13.00	15.75	26.80
12" x 24", clear	BG@.296	Ea	5.74	10.60	16.34	27.80
12" x 30", clear	BG@.370	Ea	3.65	13.20	16.85	28.60
12" x 36", clear	BG@.444	Ea	6.10	15.90	22.00	37.40
12" x 36", obscure	BG@.444	Ea	7.61	15.90	23.51	40.00
14" x 20", clear	BG@.369	Ea	3.25	13.20	16.45	28.00
16" x 20", clear	BG@.329	Ea	4.74	11.80	16.54	28.10
16" x 28", clear	BG@.460	Ea	4.62	16.50	21.12	35.90
16" x 32", clear	BG@.525	Ea	5.55	18.80	24.35	41.40
16" x 36", clear	BG@.592	Ea	6.37	21.20	27.57	46.90
18" x 24", clear	BG@.444	Ea	3.98	15.90	19.88	33.80
18" x 36", clear	BG@.666	Ea	7.79	23.80	31.59	53.70
18" x 36", obscure	BG@.666	Ea	19.60	23.80	43.40	73.80
18" x 52", clear	BG@.962	Ea	11.50	34.40	45.90	78.00
20" x 24", clear	BG@.492	Ea	5.84	17.60	23.44	39.80
24" x 30", clear	BG@.555	Ea	9.23	19.90	29.13	49.50
24" x 36", clear	BG@.666	Ea	9.23	23.80	33.03	56.20
24" x 52", clear	BG@.961	Ea	15.00	34.40	49.40	84.00
28" x 36", clear	BG@.777	Ea	10.40	27.80	38.20	64.90
30" x 32", clear	BG@.739	Ea	9.79	26.40	36.19	61.50
30" x 36", clear	BG@.833	Ea	16.10	29.80	45.90	78.00
32" x 40", clear	BG@.985	Ea	13.20	35.20	48.40	82.30
36" x 48", clear	BG@1.30	Ea	21.20	46.50	67.70	115.00

Jalousie glass.

 Replacement horizontal panes or slats for a jalousie window.

4" x 36-1/4", clear	BG@.200	Ea	6.69	7.16	13.85	23.50
4-1/2" x 36-1/4", clear	BG@.200	Ea	6.58	7.16	13.74	23.40
4" x 24-7/32", obscure	BG@.200	Ea	5.44	7.16	12.60	21.40
4" x 36-7/32", obscure	BG@.200	Ea	6.69	7.16	13.85	23.50
4-1/2" x 36-7/32", obscure	BG@.200	Ea	8.02	7.16	15.18	25.80

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Remove and replace glazing putty. Using the existing glass pane. Heat old putty with a heat gun. Scrape out old putty. Refill the channel with putty.						
Pane to 4 square feet	BG@.250	Ea	—	8.95	8.95	15.20
Add per square foot over 4 SF	BG@.063	SF	—	2.25	2.25	3.83
Measure and cut glass to size. Single- or double-strength window glass.						
Per pane, to 4 square feet	BG@.167	Ea	—	5.98	5.98	10.20
Add for panes over 4 SF, per SF	BG@.042	SF	—	1.50	1.50	2.55
Remove and replace window glass set in putty. Remove sash. Hack out glass fragments. Heat old putty with a heat gun. Scrape out old putty. Pull glazing points. Set glass in putty bead. Reset glazing points. Fill channel with putty.						
Remove sash from frame and replace	BG@.400	Ea	—	14.30	14.30	24.30
Hack out glass fragments and putty	BG@.250	Ea	—	8.95	8.95	15.20
Set glass and putty, pane to 4 square feet	BG@.250	Ea	1.72	8.95	10.67	18.10
Set glass and putty, per SF over 4 SF	BG@.063	SF	.58	2.25	2.83	4.81
Remove window glass set in vinyl stops. Remove sash. Hack out glass fragments. No glass included. Per pane, width plus height. For example, the width plus height of a window pane measuring 24" x 36" is 60".						
To 40" width plus height	BG@.580	Ea	—	20.80	20.80	35.40
41" to 50" width plus height	BG@.640	Ea	—	22.90	22.90	38.90
51" to 60" width plus height	BG@.710	Ea	—	25.40	25.40	43.20
61" to 70" width plus height	BG@.900	Ea	—	32.20	32.20	54.70
81" to 90" width plus height	BG@1.00	Ea	—	35.80	35.80	60.90
Over 91" width plus height	BG@1.10	Ea	—	39.40	39.40	67.00
Set window glass in vinyl stops. No glass included. Add the cost of new vinyl bead, if required. Per pane, width plus height. For example, the width plus height of a window pane measuring 24" x 36" is 60".						
To 40" width plus height	BG@.580	Ea	—	20.80	20.80	35.40
41" to 50" width plus height	BG@.640	Ea	—	22.90	22.90	38.90
51" to 60" width plus height	BG@.710	Ea	—	25.40	25.40	43.20
61" to 70" width plus height	BG@.900	Ea	—	32.20	32.20	54.70
81" to 90" width plus height	BG@1.00	Ea	—	35.80	35.80	60.90
Over 91" width plus height	BG@1.10	Ea	—	39.40	39.40	67.00
Vinyl glazing bead.						
7/32" x 6', brown	—	Ea	2.07	—	2.07	—
7/32" x 6', gray	—	Ea	2.07	—	2.07	—
7/32" x 6', white	—	Ea	2.07	—	2.07	—
Glazing compound, 33®, DAP®. For face-glazing wood or metal window frames. Weather resistant. Smooth and ready mixed.						
1/2 pint	—	Ea	4.06	—	4.06	—
Pint	—	Ea	6.49	—	6.49	—
Quart	—	Ea	8.38	—	8.38	—
Gallon	—	Ea	28.70	—	28.70	—
Glazing compound. For face-glazing metal sash. Requires no painting. Gray.						
Quart	—	Ea	8.38	—	8.38	—
8 oz	—	Ea	4.74	—	4.74	—
Latex glazing compound, DAP®. Resists cracking, sagging, and chalking.						
10.3-ounce tube	—	Ea	5.75	—	5.75	—
Glazing points. Secures glass to sash before glazing putty is applied. Push-T style.						
Bundle	—	Ea	2.32	—	2.32	—

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Wheel glass cutter.						
Steel wheel	—	Ea	3.12	—	3.12	—
Glazing tools. 2-in-1 glazing tool has a slotted V-blade on one end to apply a smooth strip of putty. The other end has a heavy-duty 1-1/4" chisel edge to remove old putty and drive push-style glazing points.						
2-in-1 glazing tool	—	Ea	5.23	—	5.23	—
Pushmate for glazing points	—	Ea	11.50	—	11.50	—
Acrylic sheet cutter	—	Ea	3.50	—	3.50	—
6" nipping/running pliers	—	Ea	14.20	—	14.20	—
Glass Substitutes						
Acrylic sheet.						
.093", 11" x 14"	—	Ea	6.28	—	6.28	—
.093", 18" x 24"	—	Ea	13.60	—	13.60	—
.093", 20" x 32"	—	Ea	20.80	—	20.80	—
.093", 24" x 48"	—	Ea	33.60	—	33.60	—
.093", 30" x 36"	—	Ea	30.40	—	30.40	—
.093", 30" x 60"	—	Ea	60.60	—	60.60	—
.093", 36" x 48"	—	Ea	44.10	—	44.10	—
.118", 36" x 72"	—	Ea	86.40	—	86.40	—
.230", 48" x 96"	—	Ea	85.00	—	85.00	—
.236", 18" x 24"	—	Ea	24.10	—	24.10	—
.236", 24" x 48"	—	Ea	74.50	—	74.50	—
.236", 30" x 36"	—	Ea	70.30	—	70.30	—
Fabback acrylic mirror sheet. Ideal for ceilings, doors, children's rooms.						
.118", 24" x 48"	—	Ea	79.40	—	79.40	—
Polycarbonate sheet Plexiglas®, Lexan® XL-10. Impact-strength and long service life. UV-resistant surface. Suitable for vertical-glazing and overhead applications.						
.093" thick, 18" x 24"	—	Ea	23.10	—	23.10	—
.093" thick, 30" x 36"	—	Ea	47.40	—	47.40	—
.093" thick, 32" x 44"	—	Ea	51.40	—	51.40	—
.093" thick, 36" x 48"	—	Ea	113.00	—	113.00	—
.093" thick, 36" x 72"	—	Ea	111.00	—	111.00	—
White silicone plastic adhesive.						
White adhesive	—	Ea	9.51	—	9.51	—
Window Components						
Sliding window track lock with steel locking plate. For horizontal or vertical metal sliding windows.						
Aluminum key lock	BC@.250	Ea	9.44	9.26	18.70	31.80
Aluminum lever lock	BC@.250	Ea	3.43	9.26	12.69	21.60
Aluminum sash lock	BC@.250	Ea	3.64	9.26	12.90	21.90
White lever lock	BC@.250	Ea	3.43	9.26	12.69	21.60
Sliding window thumbscrew bar lock. Anti-lift-out bar. Securely locks window in closed or ventilating position.						
Reversible, aluminum	BC@.250	Ea	2.76	9.26	12.02	20.40
Reversible, white	BC@.250	Ea	2.76	9.26	12.02	20.40
Wood window flip lock. Mounts on vertical track. Stops double-hung window in vent position. Wedge flips out of the way to allow opening. Pack of two.						
Brass	BC@.250	Ea	2.54	9.26	11.80	20.10

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Window weatherstrip spring brass seal sets. Peel 'N Stick®, per linear foot per side.						
Double-hung window, head and sill	BC@.008	LF	1.84	.30	2.14	3.64
Add to remove and replace window sash	BC@.250	Ea	—	9.26	9.26	15.70
Casement window, head and sill	BC@.008	LF	.96	.30	1.26	2.14
Gray or black pile gasket	BC@.008	LF	.72	.30	1.02	1.73
Gray or black pile gasket with adhesive	BC@.006	LF	1.06	.22	1.28	2.18

Specialty Windows and Skylights

Window well, ScapeWEL. Meets code requirements for basement egress window. Snaps into place on-site. For new construction and remodeling, attaches directly to foundation. Two-tier. 41" projection from foundation. 48" high.

42" wide window, 3' window buck	B1@1.50	Ea	1,100.00	50.30	1,150.30	1,960.00
Polycarbonate well cover	—	Ea	494.00	—	494.00	—
54" wide window, 4' window buck	B1@1.50	Ea	1,180.00	50.30	1,230.30	2,090.00
Polycarbonate well cover	—	Ea	497.00	—	497.00	—
66" wide window, 5' window buck	B1@1.50	Ea	1,200.00	50.30	1,250.30	2,130.00
Polycarbonate well cover	—	Ea	551.00	—	551.00	—

Tubular skylights with install kit. Acrylic dome on the roof reflects sunlight down a light shaft, providing natural light for bathrooms and hallways. Use a 10"-diameter tube for rooms to 150 square feet and a 14"-diameter tube for rooms to 300 square feet. Use the composition flashing kit for asphalt shingle, slate, or wood shake roofs. Aluminum flashing kit is suitable for other surfaces with pitch from level to 12 in 12. Adjustable tubes make it easy to maneuver around obstacles. Kit contains material to complete a 48" installation from roof surface to interior ceiling surface. Fits between 16" or 24" on center rafters.

10" tube, aluminum flash kit	B1@3.00	Ea	232.00	101.00	333.00	566.00
10" tube, composition flash kit	B1@3.00	Ea	193.00	101.00	294.00	500.00
10" tube, tile or flat roof	B1@3.00	Ea	236.00	101.00	337.00	573.00
14" tube, aluminum flash kit	B1@3.00	Ea	350.00	101.00	451.00	767.00
14" tube, composition flash kit	B1@3.00	Ea	289.00	101.00	390.00	663.00
14" tube, tile or flat roof	B1@3.00	Ea	354.00	101.00	455.00	774.00

Remove an existing poly dome skylight. No salvage of materials. Includes disposal.

To 10 square feet	BL@2.65	Ea	—	79.50	79.50	135.00
Add per square foot over 10 square feet	BL@.210	SF	—	6.30	6.30	10.70
Remove and replace poly dome only	BL@1.00	SF	14.20	30.00	44.20	75.10

Cut roof opening for a skylight. Cut shingles and sheathing, install L-flashing. Self-flashing flush-mount skylights can be installed directly on a roof with a pitch of 3 in 12 or greater. Curb-mounted skylights require a roof curb. Add the cost of roof framing (doubled rafters and two headers) if required. Add the cost of framing a light well through the attic, if required. Add the cost of cutting and finishing a hole in the ceiling (including doubled joists and two headers) if required.

Measure and cut roof opening for skylight	BC@3.50	Ea	—	130.00	130.00	221.00
Frame roof curb	BC@2.00	Ea	24.40	74.00	98.40	167.00
Curb flashing for skylight	BC@1.25	Ea	96.50	46.30	142.80	243.00

Fixed flush-mount skylights, Velux. Low-E insulating laminated and tempered glass. Wood interior frame. Exterior aluminum cladding covers gaskets and sealants. Pre-mounted brackets allows adjustment for high or low profile roofing materials

15-5/16" x 46-3/8"	B1@3.42	Ea	253.00	115.00	368.00	626.00
21-1/2" x 27-1/2"	B1@3.42	Ea	208.00	115.00	323.00	549.00
21-1/2" x 38-1/2"	B1@3.42	Ea	260.00	115.00	375.00	638.00
21-1/2" x 46-3/8"	B1@3.42	Ea	291.00	115.00	406.00	690.00
30-5/8" x 38-1/2", Type 74	B1@3.42	Ea	311.00	115.00	426.00	724.00
30-5/8" x 38-1/2", Type 75	B1@3.42	Ea	263.00	115.00	378.00	643.00
30-5/8" x 46-7/8"	B1@3.42	Ea	355.00	115.00	470.00	799.00
30-5/8" x 55"	B1@3.42	Ea	396.00	115.00	511.00	869.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Fixed curb-mount skylights, Velux. Low-E insulating laminated and tempered glass. Adapts to curb size and roofing material. Anodized aluminum exterior frame with gasket. UV-resistant ABS inner frame.						
22-1/2" x 22-1/2"	B1@3.00	Ea	177.00	101.00	278.00	473.00
22-1/2" x 46-1/2"	B1@3.42	Ea	237.00	115.00	352.00	598.00
22-1/2" x 46-1/2", impact glass	B1@3.42	Ea	362.00	115.00	477.00	811.00
46-1/2" x 46-1/2"	B1@3.42	Ea	383.00	115.00	498.00	847.00

Venting flush-mount glass skylights, Velux. Low-E tempered insulating glass. Wood interior frame. Aluminum cladding. Thru-screen allows skylight operation without removing screen. Stainless steel scissor operator allows easy opening for maximum ventilation. Removable, integrated insect screen.

21-1/2" x 27-1/2"	B1@3.00	Ea	513.00	101.00	614.00	1,040.00
21-1/2" x 38-1/2"	B1@3.42	Ea	558.00	115.00	673.00	1,140.00
21-1/2" x 46-3/8"	B1@3.42	Ea	607.00	115.00	722.00	1,230.00
30-1/2" x 39"	B1@3.52	Ea	609.00	118.00	727.00	1,240.00
30-1/2" x 55-1/2"	B1@3.52	Ea	735.00	118.00	853.00	1,450.00
44-3/4" x 46-3/8"	B1@3.52	Ea	814.00	118.00	932.00	1,580.00

Venting flush-mount laminated glass skylights, Velux. Low-E tempered insulating glass. Wood interior frame. Aluminum cladding. Thru-screen allows skylight operation without removing screen. Stainless steel scissor operator allows easy opening for maximum ventilation. Removable, integrated insect screen.

21-1/2" x 27-1/2"	B1@3.00	Ea	542.00	101.00	643.00	1,090.00
21-1/2" x 38-1/2"	B1@3.42	Ea	601.00	115.00	716.00	1,220.00
21-1/2" x 46-3/8"	B1@3.42	Ea	654.00	115.00	769.00	1,310.00
30-5/8" x 38-1/2"	B1@3.42	Ea	688.00	115.00	803.00	1,370.00
30-5/8" x 46-3/8", Type 75	B1@3.52	Ea	366.00	118.00	484.00	823.00
30-5/8" x 46-3/8", Type 74	B1@3.52	Ea	656.00	118.00	774.00	1,320.00
30-5/8" x 55"	B1@3.52	Ea	645.00	118.00	763.00	1,300.00
44-3/8" x 46-3/8"	B1@3.52	Ea	922.00	118.00	1,040.00	1,770.00
Telescoping control rod, 6' to 10'	—	Ea	55.90	—	55.90	—

Fixed skylights. Folded corners. Watertight seal. 360-degree thermal break frame.

2' x 2', acrylic	B1@3.00	Ea	136.00	101.00	237.00	403.00
2' x 2', glass	B1@3.00	Ea	142.00	101.00	243.00	413.00
2' x 4', acrylic	B1@3.42	Ea	172.00	115.00	287.00	488.00
2' x 4', glass	B1@3.42	Ea	186.00	115.00	301.00	512.00
4' x 4', glass	B1@3.42	Ea	307.00	115.00	422.00	717.00

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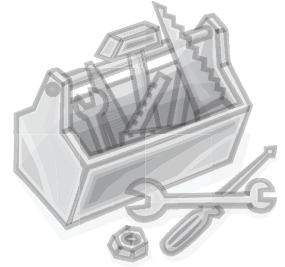
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Doors

9



The front entry door is the most important door in any home. It's usually visible from the street and always makes a first impression on visitors. Whether new or old, the front door should both look good and complement the style of the house.

If only cosmetic repairs are needed to an original door, that's the place to start. If the door is original, it's probably in perfect harmony with the exterior décor. Repairing the door saves the time and expense of finding exactly the right replacement door and hauling away the old door. Finding historically correct replacement doors for older homes can be difficult, and they're likely to be expensive. But if the door is already a replacement, then replacing it again probably won't do any harm.

How can you tell if the entry door is original? Replacement doors can be beautiful, but seldom harmonize with the home décor. For example, a light-colored oak flush door (popular in the 1960s) installed on a home built in the 1920s is an obvious replacement. Hanging a 21st century door doesn't modernize a 19th century home.

Repair or Replace

Balance the cost of repair against the cost of buying and hanging a new door of similar quality. Obviously, repair makes sense when the cost is substantially less than the cost of replacement. Figure 9-1 shows extra-wide French doors set with thick, beveled glass. These doors were very dirty and the bottoms scarred and damaged. Brushing them with detergent removed the grime, and the damage on the bottoms was taken care of by simply covering them with brass kickplates. Two hours of work and a \$50 investment salvaged doors that might cost thousands to duplicate.

The most common problem with entry doors is a deteriorated finish. Peeling paint or alligatored varnish will turn an otherwise attractive door into an eyesore. A bad finish alone isn't an adequate reason to replace an entry door. If the door has a varnish finish that has darkened, wash it before you make a decision about stripping the finish. If the door has been waxed, the finish may be nothing more than dirty. Wax collects dirt and darkens as it ages. That makes the door ugly. But dirty wax also helps protect the finish below. You may find a perfect gem under that wax.



Figure 9-1
Repaired French doors

Scrub a small area with a powerful detergent such as Formula 409® or Fantastic®. If you see the color changing dramatically, dirt and wax buildup could be the source of the problem. In that case, it's worth cleaning the entire door. Refinishing may not be needed.

Refinishing an Entry Door

If a door has to be refinished, a heat gun is the best tool for stripping the finish. Heat softens the old paint or varnish, making it easy to scrape off. Stripping like this is easier if you lay the door flat across two sawhorses. Once the paint is off, you can apply either paint or varnish. If it's a quality wood door, varnishing will bring out the beauty of the wood.

If you elect to varnish, begin by washing the door with acetone to remove residue that escaped the heat gun. Residue won't show through paint, but it will show through varnish. When using acetone, wear rubber or neoprene gloves to avoid skin irritation, and work in a well-ventilated area to reduce the risk from fumes.

Pour some acetone into a jar with a screw-on lid. Dip a piece of extra-fine steel wool in the acetone (synthetic steel wool may be an even better choice). Then gently scrub the door surface. Work only on a few square inches at a time. Don't scrub hard; let the acetone do the work. You'll see residue dissolve and the original wood surface appear. After a few minutes of scrubbing, the steel wool will get clogged with old paint or varnish. Rinse the steel wool in acetone. Then continue scrubbing. Be sure to keep the jar of acetone capped between dips. Acetone evaporates very quickly.

Before applying varnish, examine the wood tone. Do you like the color? If it's too light, you might want to stain it. If it's too dark, consider bleaching. Light sanding may also lighten the tone a little. Expect to spend about six hours on a door that requires paint stripping, acetone wash and a coat of varnish. But when you're done, the door will probably be as good as new.

If the door is damaged, painting it may be a better choice. Paint will hide repairs that varnish and stain won't. Varnish will work over minor repairs, such as nail holes filled with wood putty, but larger repairs, like a filled-in hole from an old deadbolt, will show through varnish. Wood putty doesn't absorb stain the same way wood does.

If staining the door is essential, buy colored wood putty that matches the stain selected. The patch will still be visible, but not as apparent.

Antiquing

An antique finish is a painted-on wood grain. When done correctly, the results can be surprisingly believable. You have to look very closely to notice that the finish isn't actually wood grain. Antiquing kits come with complete instructions and all the materials needed, including a special tool for making the fake wood grain.

Antiquing is time-consuming. Any antiqued surface requires three coats: a base coat, the antique wood-grain coat, and a finish coat of varnish. Each coat has to dry overnight before the next coat is applied. Figure about three hours to antique an entry door, not including any other repairs.

Antique finishes are fragile and not recommended for high traffic surfaces. But if the door is too damaged for varnish and painting isn't an option, antiquing will replicate the look and feel of wood grain.

Repairing Holes

Holes are common in older doors. They range from small nail holes, such as used to hang holiday decorations, to abandoned bore holes as big as your fist. Holes of up to about 1/2" can be filled with wood putty. From a foot or two away, the repair won't be noticeable. Repairing larger holes requires a different strategy.

Don't consider a door ruined just because an amateur butchered it trying to install a security lock — or a thief smashed it trying to defeat the same lock. Large holes are fairly easy to fix if you know how. Even a ragged hole the size of a softball can be fixed.

Rather than replace the door, buy a gallon of auto body filler, such as Bondo®. It's strong, weatherproof, workable, paintable, and cheap. A gallon goes a long way. Auto body filler is a gooey, clay-like material. The hardener comes in a separate tube. Mix body filler and hardener on a flat surface such as a piece of scrap wood or heavy cardboard. Do the mixing with a putty knife. Be careful not to get Bondo on your skin, as it burns. And keep anything valuable that's nearby well protected, as it's almost impossible to remove once it's hardened. The more hardener you add to the mix, the faster it hardens. Add too much hardener and it sets in seconds.

Body filler is semi-liquid and will ooze and run when applied to a vertical surface. So lay the door down flat across two sawhorses. If the hole you're repairing goes completely through the door, form the underside of the patch with a piece of cardboard. The form material will bond to the door, so if you use wood for a form, you'll end up having to chisel it off. Cardboard will easily peel off the door. Then you can just sand away the residue.

Fill the hole completely with the first layer of body filler. If you have hills and valleys, let the filler harden, then fill in the valleys. In auto body work, three layers are considered the minimum. When repairing doors, two coats will usually do the job.

Use a Surform plane to smooth out hardened body filler. A Surform plane has hundreds of little cutting teeth. Each tooth trims away a little material. You can work at any angle and not have to worry about cutting too deep. The Surform cuts away hills and blobs in seconds, leaving a flat, although rough, surface. When you're done planing, the surface will look like someone clawed the material with fingernails. Use a power sander with coarse sandpaper to smooth out the marks left by the Surform. The result will be a smooth, strong, solid surface.



Figure 9-2

Door has been patched with Bondo®

You'll have to paint this type of repair. It won't take a stain. However, once the door is painted, the repair will be completely invisible. Don't try to bore or drill through the body filler to install a lockset. It's likely to break loose. Bore for a new lockset either above or below the repair, never in exactly the same place.

If you have to install the lock at the same height, turn the door around (outside to inside) so the hinge edge becomes the lock edge and vice versa. Since the hinge edge has never been bored for a lock, you'll have clean wood to work with. The problem, of course, is that the hinge edge has been mortised for hinges. Fill the old hinge mortise cuts with body filler and make new mortise cuts for hinges on the other edge. This adds about a half hour to the task.

Body filler comes in handy when replacing a mortise lock with a modern cylinder lockset. You can buy a lock conversion kit for this. The kit includes an escutcheon plate that fastens over and covers the old mortise hole. The new cylinder lockset mounts in the plate. Unfortunately, these plates aren't very strong and don't offer much protection against forced entry. Although it's more work to plug the mortise void with body filler and bore for a new circular lockset, the finished product is stronger and far more attractive.

Figure 9-2 shows a door repaired with Bondo® after it was kicked in. The old mortise lock burst out, leaving a huge, ragged hole. Figure 9-3 shows the same door, flipped inside to out, painted, and hung with new hinges and lockset. The complete job, including repair, painting, and hanging, took approximately four hours and was much less expensive than a new door.



Figure 9-3

Repaired door, painted and installed

Rebuilding an Entry Door

Most wood doors are assembled from panels. Figure 9-4 shows an exploded view of door panels. The top and bottom rails are each one piece, and each side is one panel. Each divider between panels is a single piece. The more panels a door has, the more pieces there are. All these pieces are held together with glue. Weather and moisture cause the glue to deteriorate, usually along the lower half of the door.

If an entry door is coming apart but is otherwise worthy of repair, you'll have to disassemble the door and rebuild it. Estimate the time required at about six hours for most doors. The door will be off the hinges for a day or two, so you'll need to board up the opening.

Rebuilding a door with bad joints is a lot like repairing an old piece of furniture that has come unglued. First, take it completely apart. Pry the joints apart carefully, working from the edges to minimize tool marks on the more visible door parts. Most joints will come apart easily. All joints have small, interlocking pieces that are glued together. Try not to break

these joints. If a joint can't be pried apart easily, look for small nails driven into the joint at right angles. Remove these nails very carefully to avoid damaging the joint.

Outside rails are the hardest to get apart. That's where the strength of the door is — or rather, was. Once you get the outside rails apart, the center panels and rails will usually fall right out.

Usually, most of the glue in failing joints has turned to powder. In order for the new glue to form a tight bond in the joint, you'll need to thoroughly clean out all the old, powdery glue. Wipe the visible powder away; then remove any remaining glue residue with a sanding disc. You may need to do a little hand sanding where the sanding disc can't reach.

Reassembling the Door

When you've removed the old glue, reglue and reassemble the door. Lay the door flat and make sure that all the corners are straight and true. Once the glue has set, you won't be able to straighten anything. Use a good carpenter's glue and bar clamps to hold the joints firmly in place. Be careful to wipe up any glue drips — once dry, these are hard to remove. Leave the door undisturbed overnight.

If any joints were damaged in the disassembly process, add strength by driving screws through the joint. Use long, thin 8" to 10" wood screws. Working from the edge of the door, pre-drill a hole through the weak joint. The screw should be long enough to go through one rail and into the next. Dip the screw in glue and drive it snug. Since you're driving from the edge of the door, the screw heads will only show when the door is open. Adding screws will substantially strengthen the door.

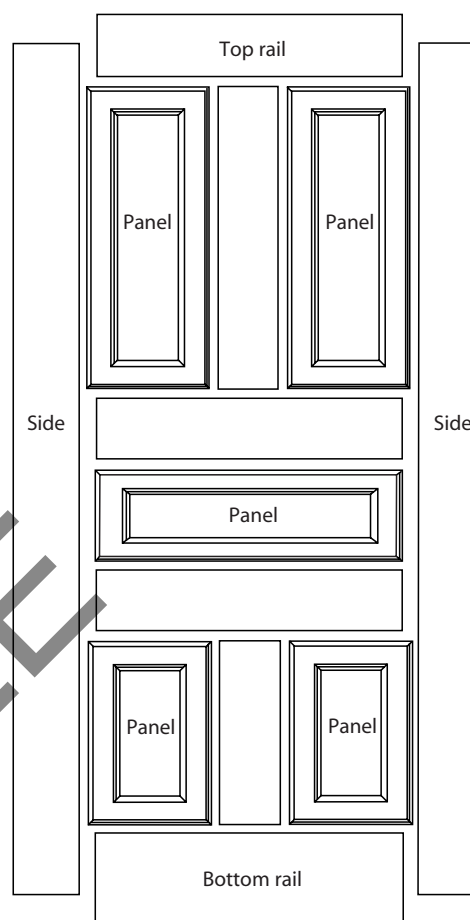


Figure 9-4
Diagram of a panel door

Framing and Replacing Exterior Doors

Entry doors usually measure 6'8" high by 3' wide by 1³/₄" thick. Side and rear doors should be at least 2'6" wide. Rough opening height should be the height of the door plus 2¹/₄" above the finish floor. The width of the rough opening should be the width of the door plus 2¹/₂". For a 3' door opening, make the header out of two lengths of 2" x 6" set with two 16d nails driven into the studs on each side. If the stud space on each side of the door isn't accessible, toenail the header to studs. Cripple studs (door bucks) support the header on each side of the opening.

If you're framing a new door opening, install a prehung door assembly complete with jamb, hinges and threshold. Prehung doors cost a little more than slab doors, but reduce the labor cost.

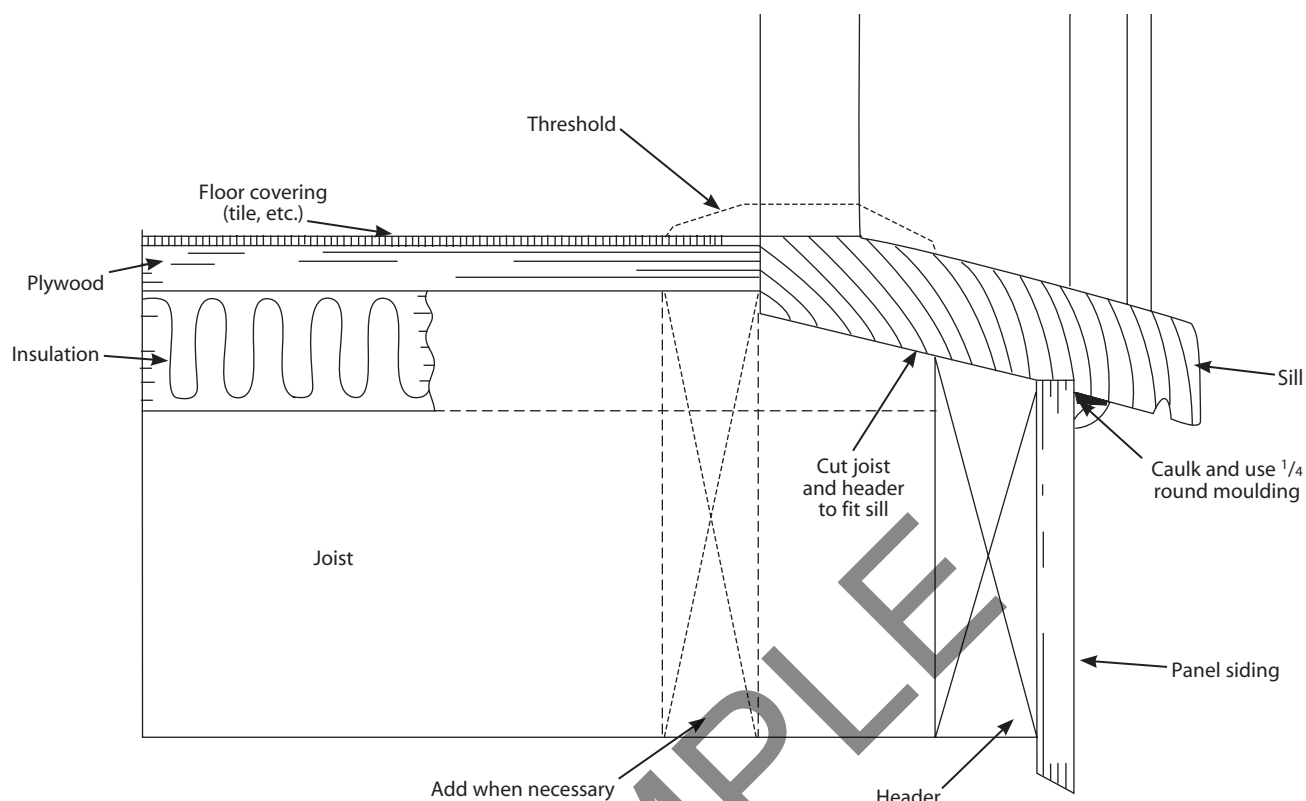


Figure 9-5

Door installation at sill

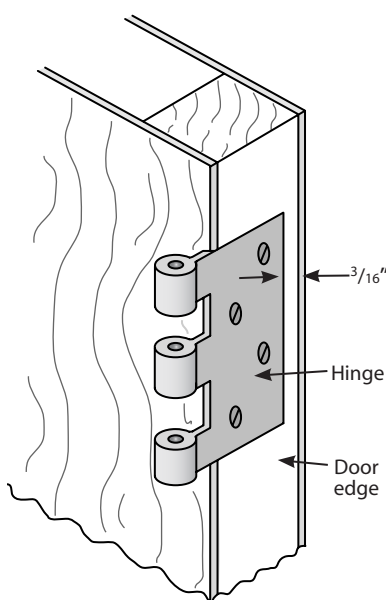


Figure 9-6

Installation of door hinges

In a new installation, you may have to trim floor joists and the joist header to receive the sill. The top of the sill should be the same height as the finish floor so the threshold can be installed over the joint. See Figure 9-5. Shim the sill when necessary so it's fully supported by floor framing. When joists run parallel to the sill, install headers and a short support member at the edge of the sill. Install the threshold over the joint by nailing with finishing nails.

When the opening is ready for installation, apply a ribbon of caulking sealer down each side and above the door opening. This caulk should seal the gap between the wall and the door casing. Set the door frame in the opening and secure it by nailing through the side and head casing. Nail the hinge side first.

Exterior doors should have a solid core. Hollow-core doors offer little security and warp too much during cold weather to use on the exterior. If a door has to be trimmed to fit the frame, cut on the hinge edge. Mortise hinges into the edge of the door with about $\frac{3}{16}$ " or $\frac{1}{4}$ " back spacing. See Figure 9-6. Use $3\frac{1}{2}$ " by $3\frac{1}{2}$ " loose-pin hinges on exterior doors that swing in. Use non-removable pins on out-swinging doors. Use three hinges (rather than two) on solid core doors to minimize warping.

Figure 9-7 shows standard door clearances. Measure the opening width and plane the edge for proper side clearances. Slightly bevel each door edge that fits against the stop. If necessary, square and trim the top of the door for proper fit. In cold climates, exterior doors should have weather seals.

Interior Doors

Most interior doors get heavy use. But they don't have many moving parts and tend to be durable. Sticking or binding with the jamb and failure to latch are the most common problems. Sticking or binding will rarely be the result of heavy use or abuse. The most common cause is movement in the building frame. Settling at the foundation, shrinkage of framing lumber or heavy floor loads can warp the frame out of square and cause a door to bind. In most cases, minor adjustments will solve the problem.

To remedy a binding door, first find the point of contact. You'll usually see scuff marks where the door and jamb are rubbing together. Here are some simple repairs.

- ❖ *Binding on the top or lock edge.* Use a hand plane to remove $\frac{1}{8}$ " of door where you see scuff marks. Some paint touch-up will be needed where the door edge was sanded or planed off.
- ❖ *Binding on the hinge side.* The hinges may be routed too deeply, causing the door to "bounce" open if the latch doesn't catch. Loosen the hinge leaf enough to add a shim under the leaf. Then re-tighten the leaf screws.
- ❖ *Scraping at the bottom edge.* The frame may be out of square, or a thicker floor cover has been installed. Plane or saw off enough door edge to provide floor clearance.
- ❖ *The latch doesn't close — interior door.* Remove the strike plate and adjust the position slightly or shim it out slightly. To replace the latch, you may need longer screws. Before replacing the old screws, try inserting a filler (such as a wood matchstick) into the old screw hole. Then drive the screw in the same hole. If the latch is secure, you're done.

Doors will also bind when they absorb excess moisture during humid weather. This is a symptom of the door not being completely sealed at the edges. Sealing the edges with paint or varnish should solve the problem.

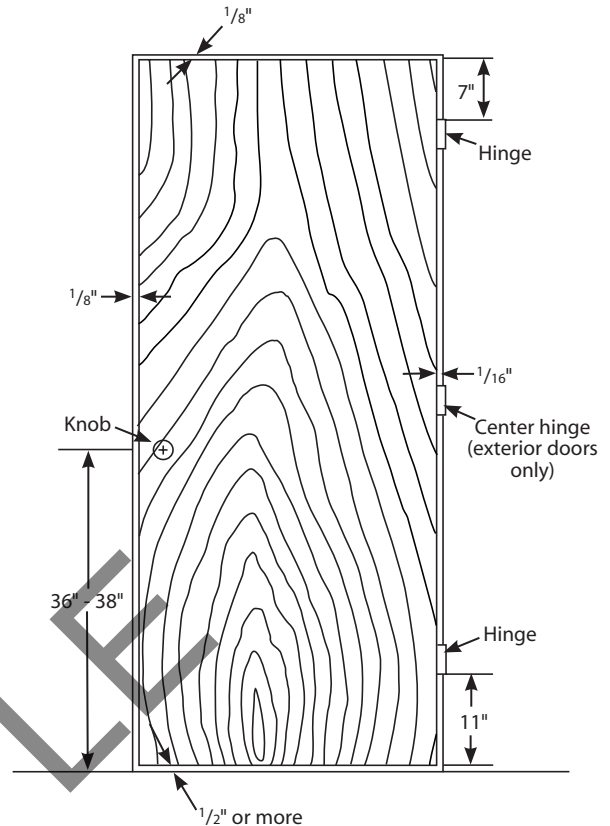


Figure 9-7
Door clearances

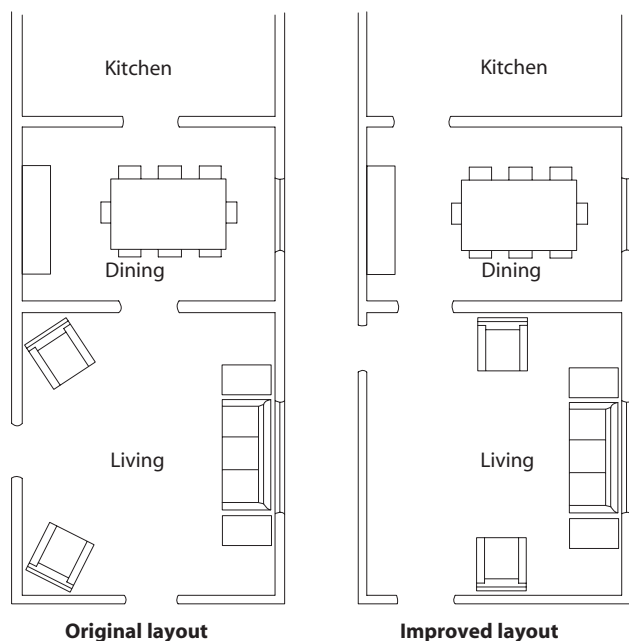


Figure 9-8

Relocation of doors to direct traffic to one side of the rooms

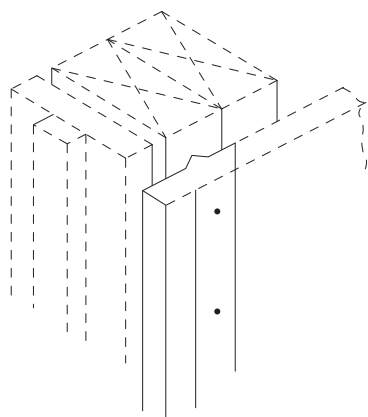


Figure 9-9

Metal casing used with drywall

Making Changes

Adding or moving a door can make navigating a home more convenient. Traffic through a room should be at the edges, not through the middle. Many older homes have doors centered in a wall, which cuts the wall space in two and makes furniture arrangement difficult. Moving a door opening from the middle of a wall space to the corner of the room will usually add livability to a home. See Figure 9-8. In some cases, simply closing up a doorway is the best choice. If you relocate a door to a corner of the room, be sure the new door swings against the nearest wall (rather than into the open room) and away from the light switch (so the switch is just inside the doorway). Also keep in mind that entire walls (affecting each adjoining room) may need to be re-drywalled when relocating a door. If it's a loadbearing wall, you'll need to allow room for installation of the header. Be sure you and your customer are aware of the additional costs and complexities involved before deciding to relocate a door.

Rough opening dimensions for interior doors are the same as rough opening dimensions for exterior doors. The opening width is the door width plus $2\frac{1}{2}$ ". The opening height is the door height plus $2\frac{1}{4}$ " above the finished floor. The head jamb and two side jambs are the same width as the overall wall thickness where wood casing is used. Where metal casing is used with drywall (Figure 9-9), the jamb width is the same as the stud depth.

Installation goes faster if you hang the door in the jamb before setting the frame in the wall. Let the door act as a jig around which you assemble the jambs. To save time, buy jambs in precut sets. The jamb should be about $\frac{1}{8}$ " wider than the thickness of the finished wall. That's probably $4\frac{9}{16}$ " for a 2" x 4" stud wall, or $6\frac{9}{16}$ " for a 2" x 6" stud wall. The jamb height is $\frac{3}{8}$ " less than the rough opening height. Fit the door to the frame, using the clearances shown earlier in Figure 9-7. Bevel the edges slightly where the door meets the stops. Cutting and assembling the jamb will take about a half hour.

Before installing the door, temporarily set the narrow wood strips used as stops. Stops are usually $\frac{7}{16}$ " thick and from $1\frac{1}{2}$ " to $2\frac{1}{4}$ " wide. See Figure 9-10. Cut a mitered joint where the stops meet at the head and side jambs. A 45-degree bevel cut 1" to $1\frac{1}{2}$ " above the finish floor (as in Figure 9-10) will eliminate a dirt pocket and make cleaning easier. This is called a sanitary stop.

Rout or mortise the hinges into the edge of the door with a $\frac{3}{16}$ " to $\frac{1}{4}$ " back spacing. Adjust the hinge, if necessary, so screws penetrate into solid wood. For interior doors, use two 3" x 3" loose-pin hinges. If a router isn't available, mark the hinge

outline and depth of cut. Then remove just enough wood with a chisel so that the surface of the hinge is flush with the remainder of the door edge.

Place the door in the opening. Block the door in place with proper clearances all around. Then mark the location of the door hinges on the jamb. Remove the door from the opening and rout or chisel the jamb to the thickness of the hinge half. Install the hinge halves on the jamb.

Setting hinges on the door and jamb will require about an hour if you're using hand tools. If a router and door jig are available, reduce that time by about half.

Place the door in the opening and insert the hinge pins. Plumb and fasten the hinge side of the frame first. Drive shingle wedge sets between the side jamb and the rough door buck to plumb the jamb. Place a wedge set opposite the latch, each hinge and at intermediate locations. Nail the jamb with pairs of 8d nails at each wedge. Then fasten the opposite jamb the same way. When the door jamb is secure, cut off the shingle wedges flush with the wall. Allow about a half hour to set the door and jamb in the frame and nail the assembly in place.

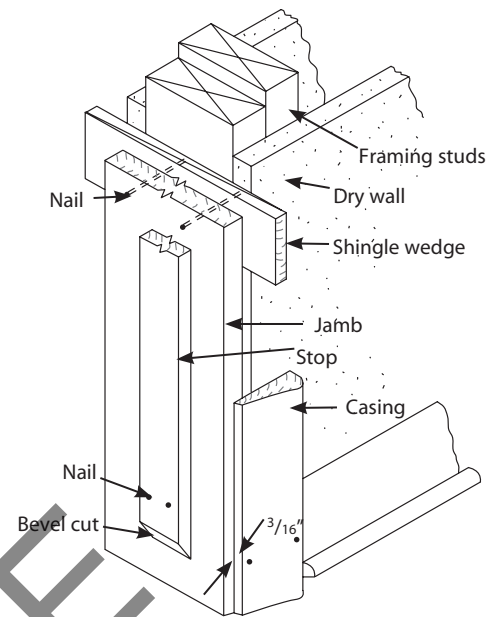


Figure 9-10
Installation of sanitary stop

Door Locksets

Many doors come pre-bored for the lockset. There are four types of locksets:

1. Decorative entry keyed locksets;
2. Common keyed locks;
3. Privacy locksets with an inside lock button and a safety slot that allows opening from the outside; and
4. Passage latch sets with no lock.

There are also dummy knobs that merely attach to the face of the door.

After the lockset has been installed, mark the location of the latch on the jamb. Do this with the door nearly closed. Then mark an outline for the strike plate at this position. Rout the jamb so the strike plate will be flush with the face of the jamb. See Figure 9-11. Installing the lockset and setting the strike will take about 15 minutes, assuming the door is already bored for a lockset. If you have to drill the door for a cylinder lock, allow 45 minutes. Routing for a mortise lockset will take over an hour.

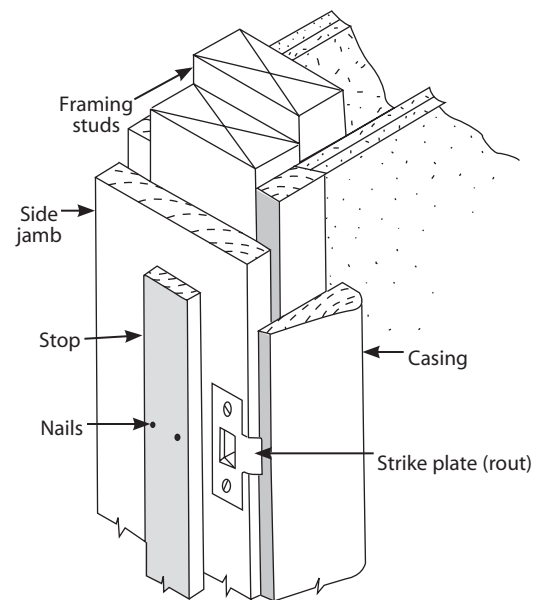


Figure 9-11
Installation of strike plate

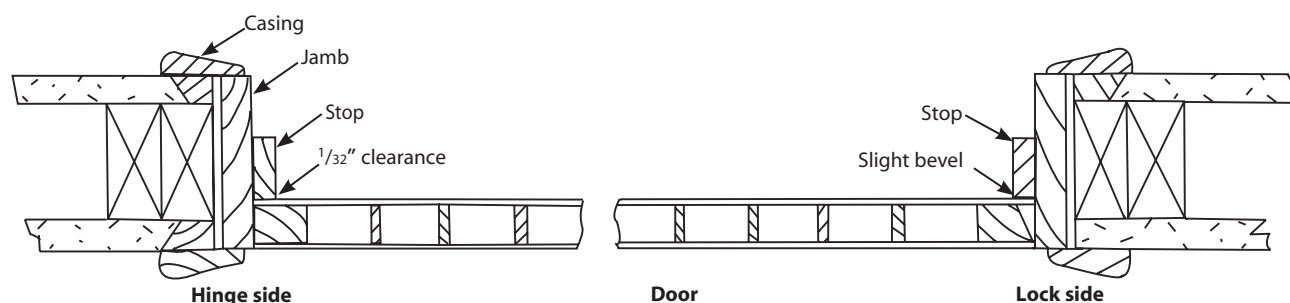


Figure 9-12

Location of stops

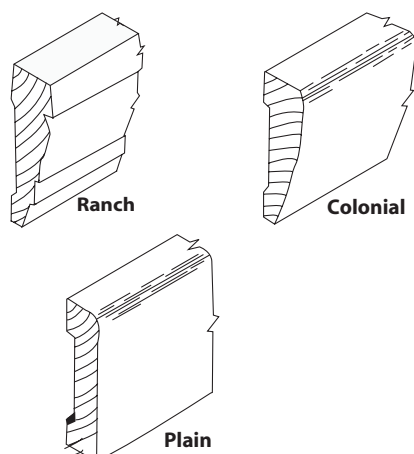


Figure 9-13

Styles of door casings

The stops, which were temporarily tacked in place, can now be permanently installed. Nail the stop on the lock side first, setting it against the door face when the door is fully latched. Nail the stops with 1½"-long finishing nails or brads spaced in pairs about 16" apart. The stop at the hinge side of the door should have a clearance of 1/32" (Figure 9-12). Allow 15 minutes to set the stops in place.

Setting the Trim

Casing is the trim set around a door or window opening. Most casing is from ½" to ¾" thick and from 2¼" to 3½" wide. Figure 9-13 shows three popular casing profiles.

Set the casing back about 3/16" from the face of the jamb. (Refer back to Figure 9-10.) Nail casing with 6d or 7d finishing nails, depending on the thickness of the casing. Space nails in pairs about 16" apart. Casings with molded profiles need a mitered joint where the head and side casings join (Figure 9-14 A). Rectangular casings can be butt-jointed (Figure 9-14 B). With metal casing, fit the casing over the drywall, position the sheet properly, then nail through the drywall and casing into the stud behind. See Figure 9-15. Use the same type of nails and spacing as for drywall alone. Setting casing on both sides of the door will take about an hour.

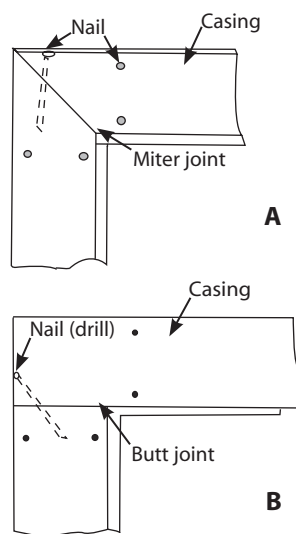


Figure 9-14

Casing joints

Hanging a Slab Door

In round numbers, allow about two hours for routine assembly and hanging of a slab door in a rough wall opening. Here's a breakdown:

- ❖ Cut and fit the jamb, 30 minutes
- ❖ Set hinges on the door and jamb, 15 minutes
- ❖ Install jambs and hang the door, 15 minutes

Install the lockset and strike, 15 minutes

Set door stop on the jamb, 15 minutes

Set casing on two sides, 30 minutes

Add 15 minutes for a French door

Add 30 minutes for setting a threshold

An experienced finish carpenter using a pneumatic nailer, router and door jig may be able to cut this time in half.

But as mentioned at the start of Chapter 1, your typical door replacement job may be anything but routine.

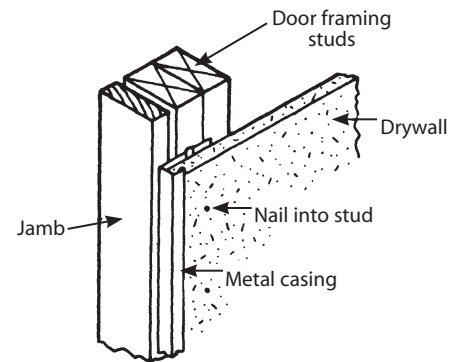


Figure 9-15

Metal casing

- ❖ Work starts with removing the old door. That's probably not too hard — once you break through several coats of accumulated paint on the hinges. One whack with a hammer should work wonders.
- ❖ Check the opening for plumb and square. Allow an extra hour or more if you have to align the framing. If the wall is way out of plumb, you may have a serious structural problem that requires reframing the entire wall.
- ❖ If hinge butts are loose, stripped out or poorly aligned, the next step may be installing a blind Dutchman on the jamb where the original hinges were attached.
- ❖ If the jamb is badly chewed up from years of neglect and abuse, you'll have to remove and replace the entire frame.
- ❖ In any case, you'll have to refinish the door and repair cosmetic defects in the interior and exterior wall finish.
- ❖ Finally, you have to haul away the old door and debris.

The pages that follow show a labor estimate of 1.45 hours for hanging a new exterior slab door. That estimate includes setting three hinges on the door and jamb, fitting and hanging the door in an existing cased opening, checking the operation and making minor adjustments as required to the stop, jamb or strike. Add the cost of removing the old door, reframing the opening, repairs to the existing jamb, resetting the latch and strike, and replacing interior casing or exterior brick mold, if required.

The labor estimate for hanging an interior slab door is 1.15 hours and includes setting two hinges on the door and jamb and hanging the door in an existing cased opening. Add the cost of removing the old door, reframing the opening, repairs to the existing jamb, resetting the latch and strike, and replacing casing on two sides, if required.

Prehung doors are a better choice for most jobs and offer obvious advantages.

Prehung Doors

Prehung doors (door, hinges, jamb and casing) cost a little more than slab doors (the door alone) but save money on labor because they require less cutting and fitting. Prehung doors come with the hinges attached, casing set, jamb assembled and door bored for a lockset. Exterior prehung doors usually include an adjustable threshold. The main jamb is attached to the door and is installed from one side of the opening. The other half of the jamb installs from the other side of the opening. When assembled, the two halves fit snugly together. Split jamb prehung doors have a tongue-and-groove joint behind the jamb stop that adjusts to fit the actual wall thickness. The casing will extend about 2" beyond the door edge at both the head and side jambs.

Prehung doors are easy to install. Allow about 45 minutes for an interior prehung door and 60 minutes for an exterior prehung door, assuming the opening is plumb, square and flush. But the door you order has to be exactly the door you need. It's impractical to make changes at the jobsite. All of the following are set at the mill:

Identify the "hinge" of a prehung door by opening it away from you. Right-hand (or right-hinge) doors swing out of the way to the right when fully open. Left-hand doors swing to the left. Inward swing is most common for exterior doors.

- ❖ Door width and height
- ❖ Left or right hinge
- ❖ Inward or outward swing
- ❖ Jamb depth that matches the finished wall thickness
- ❖ Bore diameter and setback.

Closet Doors

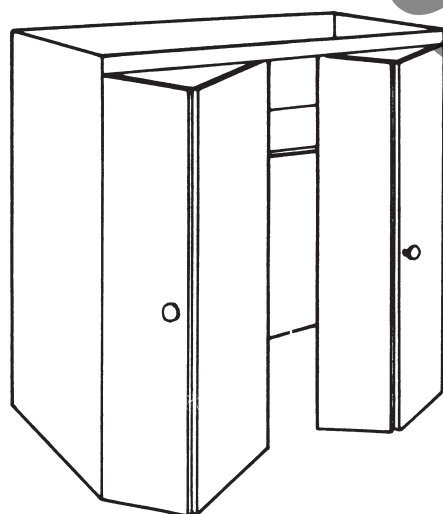


Figure 9-16

Double-hinged door set for full-width opening closet

Old homes tend to have larger rooms, higher ceilings and completely inadequate closet space, at least by 21st century standards. Even if there's enough closet space, it may not be well arranged for good use. Adding or rearranging closet space is a popular home improvement project.

One easy closet improvement is to replace a conventional single closet door with doors that open the full width of the closet. You'll need to remove the wall finish and enough studs to provide the opening needed for accordion, bypass or bi-fold doors (Figure 9-16). If the closet wall is a loadbearing wall, install a header across the new opening: two 2 x 8s for a 5' opening; two 2 x 10s for a 6' opening; or two 2 x 12s for an 8' opening. No header is needed for non-loadbearing walls. Frame the opening the same as for any new door opening. The rough opening should be 2 1/2" wider than the door or set of doors.

You can also make closets more useful by adding or altering shelves and clothes rods. The usual closet has one rod with a single shelf above. If hanging space is limited, install a second clothes

rod about halfway between the existing rod and the floor. This type of space is good for children's clothing, shirts and folded pants. Support a new shelf or rod with 1" x 4" cleats nailed to the closet end walls. Nail these cleats with three 6d nails at each end of the closet and at the intermediate stud. Shelf ends can rest directly on these cleats. Attach clothes rods to the same cleats that support the shelf. A long closet rod may sag in the middle when supported with nothing but end cleats. In that case, add steel support brackets fastened to studs at the back of the closet.

New Closet Space

A plywood wardrobe cabinet is an economical and practical alternative to building a conventional closet with studs, drywall and casing. Figure 9-17 shows a simple plywood wardrobe built against a wall. For extra convenience, install additional shelves, drawers and doors.

Build wardrobe closets from $\frac{5}{8}$ " or $\frac{3}{4}$ " plywood or particleboard supported on cleats. Use a 1" x 4" top rail and back cleat. Fasten the cleat to the back wall. Fasten the sidewalls to a wall stud. Toenail base shoe molding to the floor to hold the bottoms of the sidewalls in place. Add shelves and closet poles as needed. Then enclose the space with bi-fold doors.

Plan for a coat closet near both the front and rear entrances. There should be a cleaning closet in the work area, and a linen closet in the bedroom area. Each bedroom needs a closet. In most real estate listings, you can't refer to a room as a "bedroom" unless it has a closet. If bedrooms are large, it's a simple matter to build a closet across one end of the room. Build partition walls with 2 x 3 or 2 x 4 framing lumber covered with gypsum board. Provide a cased opening for the closet doors.

In a small house, look for wasted space at the end of a hallway or at a wall offset. If the front door opens directly into the living room, consider building a coat closet beside or in front of the door to form an entry (Figure 9-18). In a story-and-a-half house, build closets in attic space where headroom is too limited for occupancy.

Closets used for hanging clothes should be about 24" deep. Shallower closets can be useful with appropriate hanging fixtures. Deeper closets need rollout hanging rods. To make the best use of closet space, plan for a full-front opening.

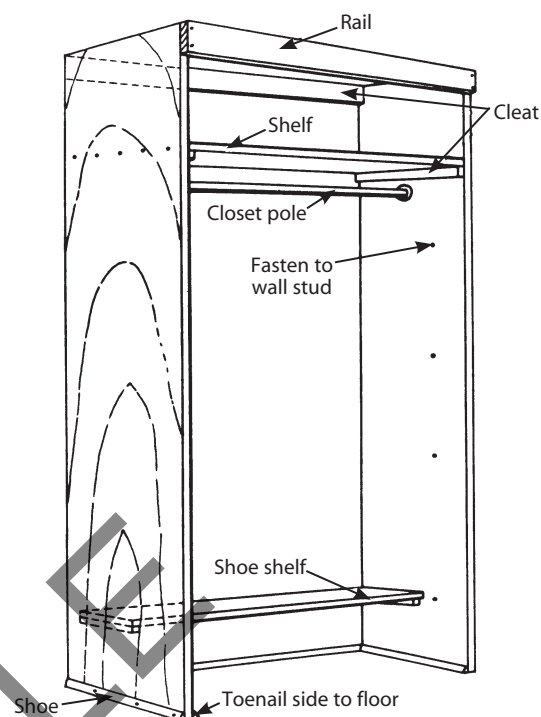
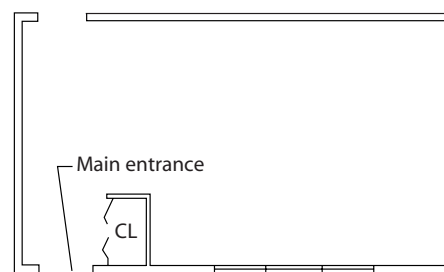
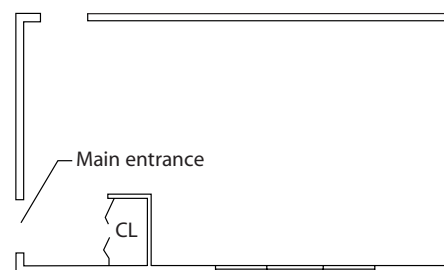


Figure 9-17
Wardrobe closet



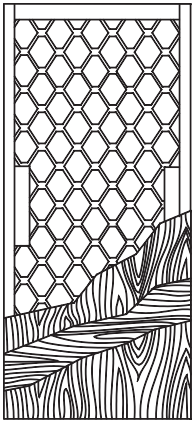
Closet beside entrance



Closet in front of entrance

Figure 9-18

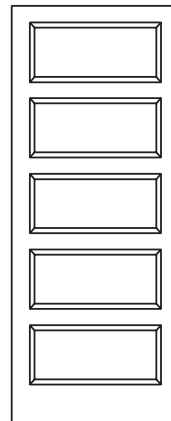
Entry formed by coat closet



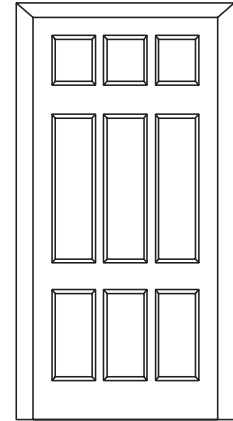
Hollow core door



Solid core door

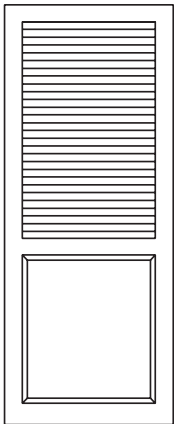


French door, 5 lites

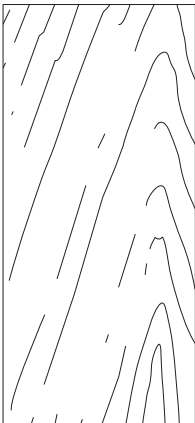


Colonial 9-panel door

Door Terms

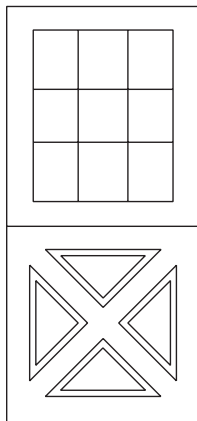


Half louver door

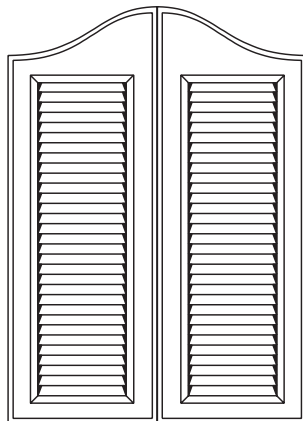


Flush door

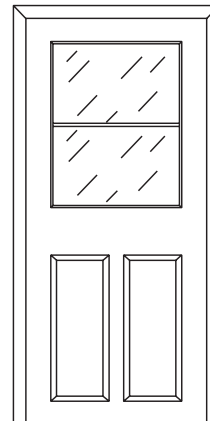
- ❖ Interior doors are usually 1³/₈" thick and have a “hollow” core. A wood frame is filled with a matrix of corrugated paper and covered with a thin veneer.
- ❖ Exterior doors are usually 1³/₄" thick and solid core — again a thin veneer laid over a frame, but with some other material filling the door cavity. This filler could be foam or composition board or even lumber. Other popular exterior door choices include solid wood, steel and fiberglass.
- ❖ French doors are mostly glass, with one to as many as fifteen panes set in wood sash.
- ❖ Insulated French doors have dual layers of glass, usually with a dividing grille installed between layers.
- ❖ Colonial doors have raised decorative wood panels that resemble doors popular in colonial America. Six or nine panels are most common.
- ❖ Flush doors are smooth and flat, with no decorative treatment.
- ❖ Louver doors include wood louvers that allow air to circulate but obscure vision, an advantage for enclosing a closet, pantry or water heater.
- ❖ Grilles (grids) are laid over the glass in a single-pane French door to create the illusion of multiple glass panes.
- ❖ Paint grade doors are usually primed at the factory and are designed to be painted after installation.
- ❖ Unfinished doors can be stained or given a clear coating, such as urethane, to enhance the beauty of the wood.



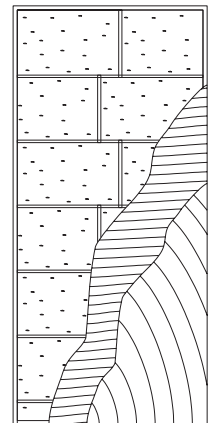
Crossbuck door



Bar doors

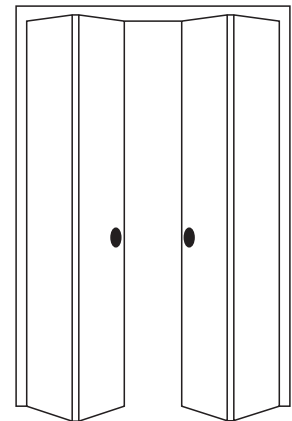


Ventilating door

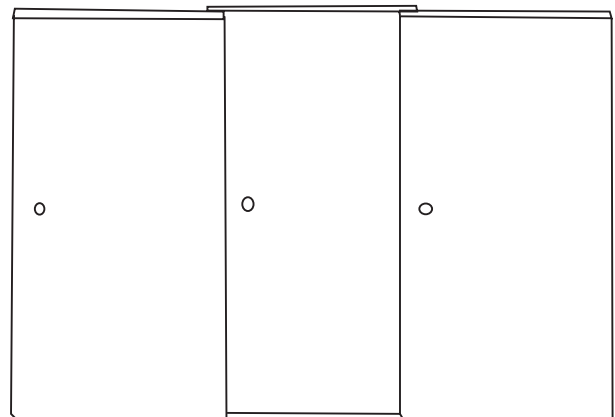


Fire door

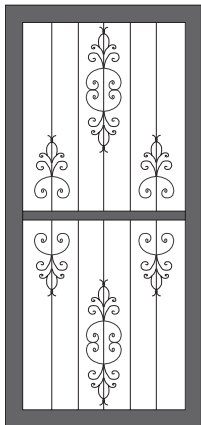
- ❖ Entry doors are decorative exterior doors, often with glass panels set in a border of brass casing.
- ❖ Slab doors are the door alone, as distinguished from prehung doors which are sold with jamb, hinges, trim and threshold attached.
- ❖ Prehung doors are sold as a package with the door, jamb, hinges, and trim already assembled.
- ❖ Brick mold (also called stucco mold) is the casing around each side and head on the exterior side of an exterior door. Prehung doors are sold either with or without brick mold.
- ❖ Crossbuck doors have a raised X design in the bottom half of the door.
- ❖ Bar (café) doors are familiar to everyone who has seen a Western movie.
- ❖ Ventilating doors include a window that can be opened.
- ❖ Fire doors carry a fire rating and are designed to meet building code requirements for specialized occupancies, such as hotel rooms or dormitories. Code also requires that fire doors be used between a house and an attached garage, and that an automatic door closer is installed.
- ❖ Bi-fold doors on closets fold in half when open, revealing nearly the full interior.
- ❖ Bypass closet doors slide left or right, never revealing more than one-half of the interior.



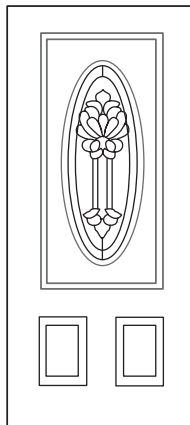
Bi-fold doors



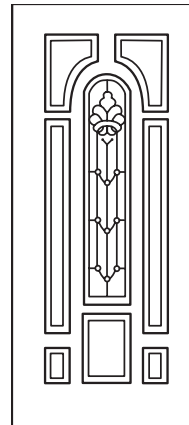
Bypass doors



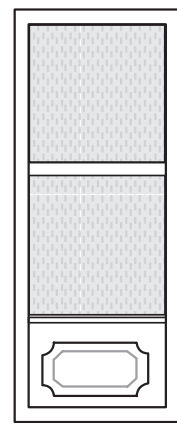
Security door



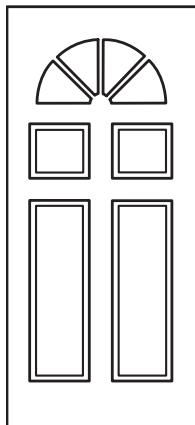
$\frac{3}{4}$ oval lite door



Arch lite panel door



Self-storing storm door



Fan lite panel door

- ❖ Hardboard doors are made of composition wood veneer, the least expensive material available.
- ❖ Casing is the trim around each side and head of an interior door. Casing covers the joint between jamb and wall.
- ❖ Finger joint trim is made from two or more lengths of wood joined together with a finger-like joint that yields nearly as much strength as trim made of a single, solid piece.
- ❖ Hardwood doors are finished with a thin layer of true hardwood veneer.
- ❖ Lauan doors are finished with a veneer of Philippine hardwood from the mahogany family.
- ❖ Stiles and rails form the framework of a flush door. Stiles are vertical and every door has two — a lock stile and the hinge stile. Rails run horizontally at the top and bottom of the door.
- ❖ Molded face doors have decorative molding applied to at least one side.

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Exterior Doors						
Cut wall and frame exterior door opening, install slab door and trim. Includes temporary wall bracing and closure, header, trimmer studs, exterior flush slab door (\$80), frame, threshold, three hinges, stop, brick mold, casing, cylinder lockset (\$93.00), and weatherstrip. Add the cost of debris removal, painting, and floor and wall finish if needed.						
36" x 80" slab exterior door	BC@10.7	Ea	548.00	396.00	944.00	1,600.00
Remove and replace single exterior slab door and trim. Includes removing the existing door, trim and jamb, aligning the rough frame, installing exterior flush slab door (\$80), frame, threshold, three hinges, stop, brick mold, casing, cylinder lockset (\$93.00), and weatherstrip. Add the cost of debris removal and painting.						
Single door, stud wall	BC@6.40	Ea	487.00	237.00	724.00	1,230.00
Single door, masonry wall	BC@7.35	Ea	493.00	272.00	765.00	1,300.00
Remove and replace double exterior slab doors and trim. Includes removing the existing doors, trim and jamb, aligning the rough frame, installing two exterior 6-panel slab doors (\$117), frame, threshold, six hinges, stop, brick mold, casing, cylinder lockset (\$80.00), two surface slide bolts, and weatherstrip.						
Double door, stud wall, per pair	BC@8.75	Ea	877.00	324.00	1,201.00	2,040.00
Double door, masonry wall, per pair	BC@9.75	Ea	906.00	361.00	1,267.00	2,150.00
Remove, clean, refinish and reinstall exterior slab door. Includes removing door finish on all six sides with heat gun and solvent, filling small voids, sanding and refinishing with varnish or stain and sealer, and rehanging the door.						
Single door	PT@6.00	Ea	20.70	227.00	247.70	421.00
Double door	PT@11.0	Ea	34.50	416.00	450.50	766.00
Refinish jamb and trim, per opening	PT@2.00	Ea	20.70	75.60	96.30	164.00
Add for antique finish, per door	PT@1.50	Ea	27.60	56.70	84.30	143.00
Door repairs.						
Remove set of three hinge pins	BC@.067	Ea	—	2.48	2.48	4.22
Install set of three hinge pins	BC@.091	Ea	—	3.37	3.37	5.73
Patch 6" hole with body filler	BC@4.00	Ea	30.40	148.00	178.40	303.00
Align strike plate with latch bolt	BC@.500	Ea	—	18.50	18.50	31.50
Plane 1/8" off door edge	BC@.250	Ea	—	9.26	9.26	15.70
Loosen and reset one hinge butt	BC@.333	Ea	—	12.30	12.30	20.90
Touch-up painting	PT@.250	Ea	2.91	9.46	12.37	21.00
Install exterior slab door in an existing framed and cased opening. Includes minor repair to the jamb (blind Dutchman), three hinges, flush slab door (\$65.00), stop, cylinder lockset (\$80.00), and weatherstrip.						
36" x 80" exterior door	BC@3.10	Ea	292.00	115.00	407.00	692.00
Remove and replace exterior door casing, jamb and stop. Includes frame, stop, and casing on one side only. Per door opening.						
Door opening to 36" x 80"	BC@1.50	Ea	156.00	55.50	211.50	360.00
Remove and replace exterior slab door, on existing hinges. Includes exterior 6-panel slab door (\$117.00) and cylinder lockset (\$80.00).						
36" x 80" exterior door	BC@1.90	Ea	213.00	70.30	283.30	482.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Oak finished wall cabinets. Pre-assembled. Raised veneer center panel framed with 3/4"-thick solid oak. 12" deep. Arched top rail. With hardware.						
12" wide x 30" high, 1 door	BC@.640	Ea	116.00	23.70	139.70	237.00
15" wide x 30" high, 1 door	BC@.640	Ea	161.00	23.70	184.70	314.00
27" wide x 30" high, corner	BC@.770	Ea	182.00	28.50	210.50	358.00
30" wide x 15" high, 2 doors	BC@.770	Ea	124.00	28.50	152.50	259.00
30" wide x 18" high, 2 doors	BC@.770	Ea	146.00	28.50	174.50	297.00
30" wide x 30" high, 2 doors	BC@.910	Ea	186.00	33.70	219.70	373.00
36" wide x 15" high, 2 doors	BC@.910	Ea	149.00	33.70	182.70	311.00
36" wide x 30" high, 2 doors	BC@.910	Ea	211.00	33.70	244.70	416.00

Oak finished utility top cabinet. Pre-assembled. Raised veneer center panel framed with 3/4"-thick solid oak. 24" deep. Two doors. Arched top rail. With hardware.

18" wide x 48" high	BC@.910	Ea	248.00	33.70	281.70	479.00
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Finished oak cabinet trim.

Crown mold, 8' long	BC@.750	Ea	64.20	27.80	92.00	156.00
Toe kick, 8' long	BC@.750	Ea	24.80	27.80	52.60	89.40
Universal fill strip, 3" x 30"	BC@.500	Ea	19.60	18.50	38.10	64.80

Maple finished base cabinets. Pre-assembled. Veneer arched raised center panel framed with 2"-wide, 3/4"-thick solid maple. Base cabinet doors have a square raised center panel. Drawer fronts are 3/4"-thick solid maple. 34-1/2" high x 24" deep. With hardware.

12" wide, 1 door	BC@.640	Ea	167.00	23.70	190.70	324.00
15" wide, 1 door	BC@.640	Ea	176.00	23.70	199.70	339.00
15" wide, 3-drawer base	BC@.640	Ea	249.00	23.70	272.70	464.00
18" wide, 1 door	BC@.770	Ea	188.00	28.50	216.50	368.00
18" wide, 3-drawer base	BC@.770	Ea	266.00	28.50	294.50	501.00
24" wide, 2 doors	BC@.770	Ea	224.00	28.50	252.50	429.00
30" wide, 2 doors	BC@.910	Ea	268.00	33.70	301.70	513.00
36" sink base	BC@.770	Ea	256.00	28.50	284.50	484.00
36" wide, 2 doors	BC@.910	Ea	290.00	33.70	323.70	550.00
45" wide blind base	BC@.910	Ea	296.00	33.70	329.70	560.00

Maple finished wall cabinets. Pre-assembled. Veneer arched raised center panel framed with 2"-wide, 3/4"-thick solid maple. The top rail has a gentle arch. 12" deep. With hardware.

12" wide x 30" high, 1 door	BC@.640	Ea	121.00	23.70	144.70	246.00
15" wide x 30" high, 1 door	BC@.640	Ea	132.00	23.70	155.70	265.00
18" wide x 30" high, 1 door	BC@.770	Ea	144.00	28.50	172.50	293.00
24" wide x 30" high, 1 door	BC@.770	Ea	174.00	28.50	202.50	344.00
24" wide x 30" high, angle corner	BC@.770	Ea	223.00	28.50	251.50	428.00
27" wide x 30" high, blind corner	BC@.770	Ea	186.00	28.50	214.50	365.00
30" wide x 30" high, 2 doors	BC@.910	Ea	195.00	33.70	228.70	389.00
36" wide x 30" high, 2 doors	BC@.910	Ea	226.00	33.70	259.70	441.00
36" wide x 30" high, easy reach corner	BC@.910	Ea	338.00	33.70	371.70	632.00
30" wide x 15" high, 2 doors	BC@.770	Ea	136.00	28.50	164.50	280.00
36" wide x 15" high, 2 doors	BC@.770	Ea	165.00	28.50	193.50	329.00
30" wide x 18" high, 2 doors	BC@.770	Ea	153.00	28.50	181.50	309.00

Maple finished utility top cabinet. Pre-assembled. Veneer arched raised center panel framed with 2"-wide, 3/4"-thick solid maple. 24" deep. With hardware.

18" x 48" high	BC@.910	Ea	263.00	33.70	296.70	504.00
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	Craft@Hrs	Unit	Material	Labor	Total	Sell
Maple finished cabinet trim.						
Crown molding, 8' long	BC@.750	Ea	64.40	27.80	92.20	157.00
Toe kick, 8' long	BC@.750	Ea	25.30	27.80	53.10	90.30
Universal filler, 3" x 30"	BC@.500	Ea	19.80	18.50	38.30	65.10

Custom Countertops

Laminated plastic countertops. Custom-fabricated straight, U- or L-shaped tops (such as Formica, Textolite or Wilsonart) on a particleboard base. 22" to 25" wide. Cost per LF of longest edge (either back or front) in solid colors with 3-1/2" to 4" backsplash.

Accent color front edge	B1@.181	LF	32.10	6.07	38.17	64.90
Full wrap (180 degree) front edge	B1@.181	LF	25.20	6.07	31.27	53.20
Inlaid front and back edge	B1@.181	LF	40.60	6.07	46.67	79.30
Rolled drip edge (post formed)	B1@.181	LF	25.20	6.07	31.27	53.20
Square edge, separate backsplash	B1@.181	LF	17.80	6.07	23.87	40.60

Additional costs for laminated countertops

Add for contour end splash	—	Ea	28.60	—	28.60	—
Add for drilling 3 plumbing fixture holes	—	LS	11.90	—	11.90	—
Add for half round corner	—	Ea	34.20	—	34.20	—
Add for mitered corners	—	Ea	25.10	—	25.10	—
Add for quarter round corner	—	Ea	23.90	—	23.90	—
Add for seamless tops	—	Ea	34.40	—	34.40	—
Add for sink, range or chop block cutout	—	Ea	9.18	—	9.18	—
Add for square end splash	—	Ea	20.30	—	20.30	—
Add for textures, patterns	—	%	20.0	—	—	—

Solid surface countertops. Many brands available, including Corian, Wilsonart and Avenite. Tops are cut from acrylic or polyester-acrylic sheets measuring 1/2" or 3/4" thick, 30" to 36" wide and 12' long. The estimates below include cutting, polishing, sink and range cutouts and a flat polish edge. Color groups are usually offered with distinct edge treatments. Group 1 colors are light shades with little texture and a matte finish. Group 2 colors include darker colors and stone textures. Group 3 colors are extra dark or bright and include high-gloss surfaces. Solid surface countertops are set directly on cabinets with silicone adhesive.

Color Group 1, Basic edge	B1@.128	SF	56.20	4.29	60.49	103.00
Color Group 1, Custom edge	B1@.128	SF	60.80	4.29	65.09	111.00
Color Group 1, Premium edge	B1@.128	SF	65.50	4.29	69.79	119.00
Color Group 2, Basic edge	B1@.128	SF	63.10	4.29	67.39	115.00
Color Group 2, Custom edge	B1@.128	SF	73.50	4.29	77.79	132.00
Color Group 2, Premium edge	B1@.128	SF	68.90	4.29	73.19	124.00
Color Group 3, Basic edge	B1@.128	SF	72.00	4.29	76.29	130.00
Color Group 3, Custom edge	B1@.128	SF	83.70	4.29	87.99	150.00
Color Group 3, Premium edge	B1@.128	SF	79.20	4.29	83.49	142.00
Add for delivery (typical)	—	Ea	168.00	—	168.00	—
Add for integral sink, one basin	—	Ea	402.00	—	402.00	—
Add for integral sink, two basins	—	Ea	522.00	—	522.00	—
Add for radius or beveled edge	—	LF	8.03	—	8.03	—

	Craft@Hrs	Unit	Material	Labor	Total	Sell
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Granite countertops. Granite countertop work is generally done by a specialist. Custom made to order from a template. 22" to 25" wide. Per square foot of top and backsplash overall dimension, including measuring, cutting, and flat-edge polishing. Add the cost of edge detail as itemized below and jobsite delivery. 3/4" granite weighs about 30 pounds per square foot. 1-1/4" granite weighs about 45 pounds per square foot. 3/4" tops should be set on 3/4" plywood and set in silicone adhesive every two feet. 1-1/4" granite tops can be set directly on base cabinets with silicone adhesive.

Most 3/4" (2cm) granite tops	B1@.128	SF	44.30	4.29	48.59	82.60
Most 1-1/4" (3cm) granite tops	B1@.128	SF	58.50	4.29	62.79	107.00
Add for 1/2" beveled edge	—	LF	8.03	—	8.03	—
Add for backsplash seaming and edging	—	LF	14.30	—	14.30	—
Add for cooktop overmount cutout	—	Ea	148.00	—	148.00	—
Add for delivery (typical)	—	Ea	172.00	—	172.00	—
Add for eased edge	—	LF	5.74	—	5.74	—
Add for electrical outlet cutout	—	Ea	40.20	—	40.20	—
Add for faucet holes	—	Ea	29.80	—	29.80	—
Add for full bullnose edge	—	LF	23.00	—	23.00	—
Add for half bullnose edge	—	LF	11.00	—	11.00	—
Add to remove existing non-ceramic top	BL@.135	SF	—	4.05	4.05	6.89
Add to remove existing ceramic tile top	BL@.230	SF	—	6.90	6.90	11.70
Add for rounded corners	—	Ea	34.50	—	34.50	—
Add for undermount sink, polished	—	Ea	345.00	—	345.00	—

Engineered stone countertops. Custom made from a template. Quartz particles with acrylic or epoxy binder. Trade names include Crystalite, Silestone and Cambria. Per square foot of top and backsplash surface.

Small light chips, 3/4" square edge	B1@.128	SF	56.20	4.29	60.49	103.00
Large dark chips, 3/4" square edge	B1@.128	SF	60.00	4.29	64.29	109.00
Add for 1-1/2" bullnose edge	—	LF	55.10	—	55.10	—
Add for 1-1/2" ogee edge	—	LF	65.50	—	65.50	—
Add for 3/4" bullnose edge	—	LF	28.60	—	28.60	—
Add for 3/4" ogee edge	—	LF	37.90	—	37.90	—
Add for delivery (typical)	—	Ea	169.00	—	169.00	—
Add for electrical outlet cutout	—	Ea	34.50	—	34.50	—
Add for radius corner or end	—	Ea	208.00	—	208.00	—
Add to remove existing laminated top	BL@.135	Ea	—	4.05	4.05	6.89
Add for sink cutout	—	Ea	286.00	—	286.00	—

Stock Kitchen Countertops

Post-formed double-radius plastic laminate countertop. Standard laminate. 3" backsplash. 25" width. Substrate is 3/4" industrial grade particleboard.

5' long	BC@1.00	Ea	68.40	37.00	105.40	179.00
6' long	BC@1.20	Ea	80.20	44.40	124.60	212.00
6' long, left-hand miter	BC@1.20	Ea	80.20	44.40	124.60	212.00
6' long, right-hand miter	BC@1.20	Ea	80.20	44.40	124.60	212.00
8' long	BC@1.60	Ea	105.00	59.20	164.20	279.00
10' long	BC@2.00	Ea	134.00	74.00	208.00	354.00
10' long, left-hand miter	BC@1.60	Ea	134.00	59.20	193.20	328.00
10' long, right-hand miter	BC@1.60	Ea	134.00	59.20	193.20	328.00
End cap kit	BC@.250	Ea	14.60	9.26	23.86	40.60
End splash	BC@.250	Ea	16.60	9.26	25.86	44.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Post-formed double-radius premium plastic laminate countertop. 3" backsplash. 25" width. Substrate is 3/4" industrial grade particleboard. Exceeds ANSI A161.2 standard for countertops.						
5' long	BC@1.00	Ea	67.70	37.00	104.70	178.00
6' long	BC@1.20	Ea	80.80	44.40	125.20	213.00
6' long, left-hand miter	BC@1.20	Ea	88.70	44.40	133.10	226.00
6' long, right-hand miter	BC@1.20	Ea	88.70	44.40	133.10	226.00
8' long	BC@1.60	Ea	110.00	59.20	169.20	288.00
10' long	BC@2.00	Ea	141.00	74.00	215.00	366.00
10' long, left-hand miter	BC@2.00	Ea	141.00	74.00	215.00	366.00
10' long, right-hand miter	BC@2.00	Ea	141.00	74.00	215.00	366.00
End cap kit	BC@.250	Ea	14.60	9.26	23.86	40.60
End splash	BC@.250	Ea	16.60	9.26	25.86	44.00

Miter bolt kit. Joins 2 mitered tops. Includes 4 miter bolts, packet of glue, and instructions.

Kit	—	Ea	8.38	—	8.38	—
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Cabinet Knobs, Pulls and Hinges

Round ceramic knob. Quality porcelain. Classic style. Fasteners included.

1", white	BC@.060	Ea	1.77	2.22	3.99	6.78
1-1/4", white	BC@.060	Ea	1.88	2.22	4.10	6.97
1-3/8", white	BC@.060	Ea	1.96	2.22	4.18	7.11
1-1/2", white	BC@.060	Ea	2.09	2.22	4.31	7.33
1-1/2", white with apple decal	BC@.060	Ea	2.30	2.22	4.52	7.68
1-1/2", white with pear decal	BC@.060	Ea	2.52	2.22	4.74	8.06
1-1/2", white with plum decal	BC@.060	Ea	2.52	2.22	4.74	8.06

Classic cabinet knob. 30mm diameter.

Black nickel	BC@.060	Ea	3.23	2.22	5.45	9.27
Brushed red antique	BC@.060	Ea	3.42	2.22	5.64	9.59
Matte blue	BC@.060	Ea	3.28	2.22	5.50	9.35
Matte red	BC@.060	Ea	3.28	2.22	5.50	9.35
Pearl gold	BC@.060	Ea	3.10	2.22	5.32	9.04
Satin chrome	BC@.060	Ea	3.12	2.22	5.34	9.08

Brushed antique satin cabinet knob. Striking brushed; lacquered antique finish. 30mm diameter. Fasteners included.

Bronze	BC@.060	Ea	3.14	2.22	5.36	9.11
Copper, red	BC@.060	Ea	3.13	2.22	5.35	9.10
Nickel	BC@.060	Ea	3.01	2.22	5.23	8.89

Decorative star cabinet knob.

Black	BC@.060	Ea	3.33	2.22	5.55	9.44
Nickel	BC@.060	Ea	4.43	2.22	6.65	11.30
Pewter	BC@.060	Ea	3.34	2.22	5.56	9.45

Round cabinet knob. Lacquered black chrome finish. Fasteners included.

1-1/4" diameter	BC@.060	Ea	3.14	2.22	5.36	9.11
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	Craft@Hrs	Unit	Material	Labor	Total	Sell
Round knob.						
1-3/8", almond	BC@.060	Ea	1.09	2.22	3.31	5.63
1-3/8", black	BC@.060	Ea	1.03	2.22	3.25	5.53
1-3/8", green	BC@.060	Ea	1.03	2.22	3.25	5.53
1-3/8", speckled black	BC@.060	Ea	1.03	2.22	3.25	5.53
Satin nickel knob. Lacquered, brushed satin finish. Traditional styling. Fasteners included.						
1-1/4", round	BC@.060	Ea	3.14	2.22	5.36	9.11
1-3/4" x 1-1/16", oval	BC@.060	Ea	2.07	2.22	4.29	7.29
Brass-plated cabinet knob. Decorative knob. Lacquered; polished brass plate. Classic style. Fasteners included.						
1" diameter	BC@.060	Ea	3.66	2.22	5.88	10.00
1-1/4" diameter	BC@.060	Ea	3.66	2.22	5.88	10.00
1-1/4" diameter, ringed design	BC@.060	Ea	3.66	2.22	5.88	10.00
Brass-plated knob with insert. Decorative knob. Lacquered; polished brass plate. Decorative beveled edge. Fasteners included. 1-1/4" diameter.						
Frost maple insert	BC@.060	Ea	2.42	2.22	4.64	7.89
High-gloss white ceramic insert	BC@.060	Ea	2.19	2.22	4.41	7.50
Medium oak wood insert	BC@.060	Ea	2.13	2.22	4.35	7.40
Natural wood round knob. Unfinished solid birch. Pre-sanded. Perfect for refinishing. Fasteners included. Limited lifetime warranty.						
1" diameter	BC@.060	Ea	1.03	2.22	3.25	5.53
1-1/4" diameter	BC@.060	Ea	1.03	2.22	3.25	5.53
1-1/2" diameter	BC@.060	Ea	1.66	2.22	3.88	6.60
1-3/4" diameter	BC@.060	Ea	1.55	2.22	3.77	6.41
2" diameter	BC@.060	Ea	1.76	2.22	3.98	6.77
Circle swirl knob. Distressed finish. Fasteners included. Limited lifetime warranty.						
4/5" x 1-1/3", black finish	BC@.060	Ea	3.55	2.22	5.77	9.81
33mm, rustic pewter patina finish	BC@.060	Ea	3.57	2.22	5.79	9.84
Solid brass and chrome knob. Polished brass with bright chrome for a contemporary look. High-quality lacquered solid brass. Classic style. Fasteners included.						
1-1/4", 2 tone	BC@.060	Ea	5.45	2.22	7.67	13.00
Solid brass knob. High-quality lacquered solid brass. Fasteners included.						
1-3/16" x 3/4", oval	BC@.060	Ea	2.50	2.22	4.72	8.02
1-1/4", round	BC@.060	Ea	2.50	2.22	4.72	8.02
1-3/8", round	BC@.060	Ea	3.08	2.22	5.30	9.01
1-1/2", round, rope design	BC@.060	Ea	2.71	2.22	4.93	8.38
Small forked branch knob.						
Black	BC@.060	Ea	3.52	2.22	5.74	9.76
Antique brass target knob. Round. Provincial ringed design with antiqued finish. Fasteners included.						
1-1/8" diameter	BC@.060	Ea	1.25	2.22	3.47	5.90
1-5/16" diameter	BC@.060	Ea	1.55	2.22	3.77	6.41

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Round backplate. For knobs.						
1-1/4", chrome	BC@.020	Ea	1.75	.74	2.49	4.23
1-1/4", polished brass	BC@.020	Ea	1.76	.74	2.50	4.25
Birdcage knob. 50mm diameter.						
Antique pewter	BC@.060	Ea	3.12	2.22	5.34	9.08
Flat black	BC@.060	Ea	3.12	2.22	5.34	9.08
Birdcage bail pull. 96mm post spacing.						
Antique pewter	BC@.120	Ea	5.37	4.44	9.81	16.70
Flat black	BC@.120	Ea	5.37	4.44	9.81	16.70
Brass pull with oak insert. Medium oak insert. Traditional die-cast spoon-foot design. Matching knob sold separately. Fasteners included. 3" post spacing.						
Oak and antique brass	BC@.120	Ea	3.13	4.44	7.57	12.90
Oak and polished brass	BC@.120	Ea	3.13	4.44	7.57	12.90
Birdcage wire pull. 3" post spacing.						
Flat black	BC@.120	Ea	4.18	4.44	8.62	14.70
Pewter	BC@.120	Ea	4.18	4.44	8.62	14.70
Bow pull. Versatile design. Classic style for kitchen or bath. Fasteners included. 96mm post spacing.						
Lacquered black nickel	BC@.120	Ea	2.61	4.44	7.05	12.00
Lacquered brass	BC@.120	Ea	2.86	4.44	7.30	12.40
Fusilli pull. Shallow S design. Fasteners included. Limited lifetime warranty. 96mm post spacing.						
Black nickel	BC@.120	Ea	3.96	4.44	8.40	14.30
Bright chrome	BC@.120	Ea	4.10	4.44	8.54	14.50
Brushed bronze antique	BC@.120	Ea	4.19	4.44	8.63	14.70
Brushed satin antique red	BC@.120	Ea	4.72	4.44	9.16	15.60
Brushed satin chrome	BC@.120	Ea	4.18	4.44	8.62	14.70
Brushed satin nickel	BC@.120	Ea	4.18	4.44	8.62	14.70
Flat black	BC@.120	Ea	4.18	4.44	8.62	14.70
Pearl gold	BC@.120	Ea	4.88	4.44	9.32	15.80
Satin gold	BC@.120	Ea	4.88	4.44	9.32	15.80
White decorative cabinet pull. Durable epoxy coating. Classic style for kitchen or bath. Fasteners included. 3" post spacing.						
Minaret	BC@.120	Ea	2.62	4.44	7.06	12.00
Spoon-foot	BC@.120	Ea	3.19	4.44	7.63	13.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Chrome decorative cabinet pull. Fasteners included. Limited lifetime warranty. 3" post spacing.						
Tapered bow, bright lacquered, polished chrome	BC@.120	Ea	2.08	4.44	6.52	11.10
Die-cast, spoon-foot, bright polished chrome	BC@.120	Ea	2.46	4.44	6.90	11.70
Ornate beaded, lacquered, polished chrome	BC@.120	Ea	2.62	4.44	7.06	12.00
Satin nickel decorative cabinet pull. Lacquered, brushed satin nickel finish. Fasteners included. 3" post spacing.						
Die-cast spoon-foot	BC@.120	Ea	3.13	4.44	7.57	12.90
Fan-design foot	BC@.120	Ea	2.92	4.44	7.36	12.50
Brass-plated pull with ceramic insert. High-gloss non-porous ceramic insert. Traditional die-cast spoon-foot design. 3" post spacing.						
Almond insert	BC@.120	Ea	3.11	4.44	7.55	12.80
White insert	BC@.120	Ea	3.13	4.44	7.57	12.90
S-swirl pull. Distressed die-cast rust-resistant finish. Fasteners included. Limited lifetime warranty. 3" post spacing.						
Pewter, small	BC@.120	Ea	4.27	4.44	8.71	14.80
Solid brass wire pull. 96mm post spacing.						
2-tone	BC@.120	Ea	5.41	4.44	9.85	16.70
Brass-plated spoon-foot pull. Lacquered, polished brass finish. Traditional die-cast spoon-foot design. Fasteners included. 3" post spacing.						
Smooth	BC@.120	Ea	2.95	4.44	7.39	12.60
Wire cabinet pull. Fasteners included. By post spacing.						
3", black nickel	BC@.120	Ea	2.69	4.44	7.13	12.10
3", flat black	BC@.120	Ea	2.34	4.44	6.78	11.50
3", polished chrome	BC@.120	Ea	2.89	4.44	7.33	12.50
3", satin chrome	BC@.120	Ea	2.92	4.44	7.36	12.50
3", solid brass	BC@.120	Ea	2.85	4.44	7.29	12.40
3", white	BC@.120	Ea	2.09	4.44	6.53	11.10
3-1/2", satin chrome	BC@.120	Ea	3.13	4.44	7.57	12.90
3-1/2", white	BC@.120	Ea	1.98	4.44	6.42	10.90
4", white	BC@.120	Ea	2.08	4.44	6.52	11.10
35mm Euro face frame overlay cabinet hinge. For face frame cabinets with 5/8" overlay cabinet doors. Nickel-plated stamped steel cup and zinc die-cast mounting plate. Three-way adjustable. Door opening angle 100 degrees. Fasteners included. Labor assumes cabinet is already cut for this type of hinge.						
Per hinge	BC@.250	Ea	2.52	9.26	11.78	20.00
Pack of 10	BC@1.25	Ea	25.20	46.30	71.50	122.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Semi-concealed cabinet hinge. For face frame cabinets using 3/8" inset doors. Fasteners included. Pack of two.						
Antique brass	BC@.250	Ea	2.89	9.26	12.15	20.70
Chrome	BC@.250	Ea	2.59	9.26	11.85	20.10
Polished brass	BC@.250	Ea	2.26	9.26	11.52	19.60

Semi-concealed self-closing cabinet hinge. For face frame cabinets using 3/8" inset doors. Wrought steel.

Self-closing spring. Fasteners included.

Antique brass	BC@.250	Pr	3.13	9.26	12.39	21.10
Black nickel	BC@.250	Pr	3.14	9.26	12.40	21.10
Chrome	BC@.250	Pr	3.13	9.26	12.39	21.10
Polished brass	BC@.250	Pr	3.13	9.26	12.39	21.10
White	BC@.250	Pr	3.13	9.26	12.39	21.10
White, pack of 20	BC@5.50	Ea	20.90	204.00	224.90	382.00

Stainless Steel Sinks

Stainless steel single bowl sink, Neptune Series, Elkay. Heavy-gauge stainless steel. Four-hole faucet drilling.

Faucet and accessories sold separately. Bright satin finish. 25" long x 22" wide.

5-1/2" deep	P1@.600	Ea	42.50	21.90	64.40	109.00
6" deep	P1@.600	Ea	47.10	21.90	69.00	117.00
7" deep	P1@.600	Ea	71.10	21.90	93.00	158.00
8" deep	P1@.600	Ea	104.00	21.90	125.90	214.00

Stainless steel double bowl sink, Neptune Series, Elkay. Heavy-gauge nickel bearing stainless steel. Full

undercoating to deaden sound and prevent condensation. Exclusive hand-mounting fasteners. 3-1/2" drain openings. Brilliant finish with highlights. 33" x 22". Four-hole faucet drilling. Faucet and accessories sold separately.

5-1/2" deep, double bowl	P1@.600	Ea	42.00	21.90	63.90	109.00
6" deep, double bowl	P1@.600	Ea	73.40	21.90	95.30	162.00
8" deep, double bowl	P1@.600	Ea	104.00	21.90	125.90	214.00
7" deep, small and large bowls	P1@.600	Ea	128.00	21.90	149.90	255.00

Stainless steel single bowl sink, Signature Series, Elkay. Drop-in single bowl sink. Made from nickel bearing type 302 stainless steel. 3" radius vertical corners. 8-1/4"-deep bowl with mirror-finished interior deck. Machine-ground satin-finished bowls with satin highlighted outer rim edge and bowl radius. Fully undercoated for sound deadening. Self-rimming installation. Four holes. Drain openings are 3-1/2".

25" x 22", 20 gauge	P1@.600	Ea	115.00	21.90	136.90	233.00
25" x 22", 18 gauge	P1@.600	Ea	180.00	21.90	201.90	343.00
33" x 22", 18 gauge	P1@.600	Ea	209.00	21.90	230.90	393.00

Stainless steel double bowl sink, Signature Series, Elkay. Drop-in double bowl sink. Self-rimming installation.

3" radius vertical coved corners. Machine-ground satin-finished bowls and satin highlighted outer rim edge and bowl radius. Mirror-finished interior deck. Sound Guard undercoat prevents condensation and ensures quiet operation.

Four holes. 3-1/2" drain openings, 33" long x 22" wide, 8-1/4" deep.

20 gauge	P1@.600	Ea	201.00	21.90	222.90	379.00
18 gauge	P1@.600	Ea	253.00	21.90	274.90	467.00
Offset appearance	P1@.600	Ea	222.00	21.90	243.90	415.00
Dual level, 7-1/2" deep	P1@.600	Ea	226.00	21.90	247.90	421.00

Stainless steel kitchen sink, Kohler. 20 gauge with sound deadening. Undercoating reduces disposal noise, minimizes condensation and maintains water temperature. Stain- and corrosion-resistant. Self-rimming, four-hole installation. Faucet sold separately.

25" x 22", single bowl	P1@.600	Ea	148.00	21.90	169.90	289.00
33" x 22", double bowl	P1@.600	Ea	186.00	21.90	207.90	353.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Stainless steel double bowl sink, Staccato, Kohler. 8" basin depth. Double equal basins. Four-hole punched. 18 gauge. Faucet sold separately.						
33" x 22"	P1@.600	Ea	321.00	21.90	342.90	583.00
Stainless steel kitchen sink, Banner. Standard-gauge stainless steel. Rounded corners. Self-rimming design. Includes sink clips. Faucet, sprayer, and strainers sold separately. Five-year limited warranty.						
25" x 22", 7" depth, single bowl	P1@.600	Ea	228.00	21.90	249.90	425.00
33" x 22", 6" depth, double buffed bowl	P1@.600	Ea	149.00	21.90	170.90	291.00
33" x 22", 7" depth, double bowl	P1@.600	Ea	206.00	21.90	227.90	387.00
33" x 22", 8" depth, double bowl	P1@.600	Ea	294.00	21.90	315.90	537.00
Sink mounting clips and screws, U-channel. For use with Elkay Signature and Neptune sinks.						
Clips	—	Ea	10.00	—	10.00	—
Enameled Steel Sinks						
Double bowl kitchen sink. White enameled steel with four faucet holes. Self-rimming installation.						
33" x 22" x 7-1/2", White	P1@.750	Ea	203.00	27.40	230.40	392.00
Cast Iron Sinks						
Dumont double bowl cast iron sink, Eljer. White enameled cast iron. 33" x 22" x 8" deep.						
Self-rimming	P1@.750	Ea	298.00	27.40	325.40	553.00
Tile-in installation	P1@.750	Ea	297.00	27.40	324.40	551.00
Mayfield cast iron single bowl sink, Kohler. Self-rimming. 25" x 22" x 8". Four-hole drilling.						
Almond	P1@.750	Ea	269.00	27.40	296.40	504.00
White	P1@.750	Ea	208.00	27.40	235.40	400.00
Double bowl cast iron sink, Kohler. Self-rimming installation. Offset faucet ledge to maximize basin area.						
33" x 22" x 6-3/4", White	P1@.750	Ea	1,140.00	27.40	1,167.40	1,980.00
Cast iron double bowl sink, Kohler. 33" x 22". Four-hole faucet drilling. Large and medium double basins. Self-rimming.						
White, 7" deep	P1@.750	Ea	920.00	27.40	947.40	1,610.00
Casement Front Farmhouse. Four-hole faucet drilling.						
Matte Stone	P1@.750	Ea	734.00	27.40	761.40	1,290.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Hartland™ double bowl cast iron sink, Kohler. Unique design lines. Four-hole. Self-rimming. Deep, glossy color. 33" long x 22" wide x 9-5/8" deep.						
Almond	P1@.750	Ea	440.00	27.40	467.40	795.00
Bisque	P1@.750	Ea	315.00	27.40	342.40	582.00
White	P1@.750	Ea	365.00	27.40	392.40	667.00

Brookfield™ double bowl cast iron sink, Kohler. Deep, glossy color. 33" long x 22" wide. Faucet, sprayer, and strainers sold separately. Self-rimming. Four holes.						
White, 6-3/4" deep	P1@.750	Ea	432.00	27.40	459.40	781.00
White, 8" deep	P1@.750	Ea	428.00	27.40	455.40	774.00

Cast iron double bowl sink. 33" x 22". Four-hole faucet drilling. 9" deep. Interior corners are nearly square. Large and medium bowls.						
White, tile-in	P1@.750	Ea	422.00	27.40	449.40	764.00
White, under counter	P1@.750	Ea	399.00	27.40	426.40	725.00

Composite Sinks

Silhouette polycast single bowl sink, American Standard. Porcelain enameled Americast. Lighter than cast iron. Silicone sealant supplied. Four faucet holes. Faucet, sprayer, and strainer sold separately. Self-rimming, tile edge or under-the-counter installation. 25" x 22" x 9-1/2" deep.						
Bisque	P1@.750	Ea	257.00	27.40	284.40	483.00
Black	P1@.750	Ea	322.00	27.40	349.40	594.00
Bone	P1@.750	Ea	249.00	27.40	276.40	470.00
White heat	P1@.750	Ea	205.00	27.40	232.40	395.00

Silhouette polycast double bowl sink, American Standard. Porcelain enameled Americast. Lighter than cast iron. Silicone sealant supplied. Four faucet holes. Faucet, sprayer, and strainer sold separately. Self-rimming, tile edge or under-the-counter installation. 33" x 22" x 9-1/2" deep. Insulating material holds water temperature and reduces noise of running water and garbage disposal. Lead-free porcelain enamel finish and scratch-resistant. Faucets, sprayers and strainers sold separately.						
Bisque	P1@.750	Ea	307.00	27.40	334.40	568.00
Bone	P1@.750	Ea	347.00	27.40	374.40	636.00
White heat	P1@.750	Ea	264.00	27.40	291.40	495.00

Single bowl composite sink. Four-hole faucet drilling. Scratch- and stain-resistant. Acrylic, self-rimming design. Faucets, drains and accessories sold separately.						
25" x 22", black	P1@.600	Ea	208.00	21.90	229.90	391.00

Double bowl composite sink, CorStone. Large bowl stretches from the front of the sink to the back rim. A large, 8-1/2"-deep offset bowl in front of the faucet deck is separated by a lowered dam that helps avoid chipping and banging of dishes. For 33" x 22" sink cut-out. Faucets, drains and accessories sold separately. Equal bowls.						
Kendall, white	P1@.750	Ea	133.00	27.40	160.40	273.00
Kennesaw, biscuit	P1@.750	Ea	210.00	27.40	237.40	404.00

Hi/lo double bowl composite sink. 33" x 22" x 8-1/2" deep. Four-hole faucet drilling. Scratch- and stain-resistant. Acrylic, self-rimming design. Faucets, drains and accessories sold separately.						
White	P1@.750	Ea	259.00	27.40	286.40	487.00

Greenwich double bowl composite sink, CorStone. 33" x 22" x 8-1/2" deep. Four-hole faucet drilling. Scratch- and stain-resistant. Acrylic, self-rimming design. Faucets, drains and accessories sold separately. Equal bowls.						
White	P1@.750	Ea	175.00	27.40	202.40	344.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Providence 60/40 bowl composite sink, CorStone. 10" main bowl depth. 33" x 22" sink for use with disposals. Easy installation and easy cleaning.						
Royston white	P1@.750	Ea	238.00	27.40	265.40	451.00
Toccoa black	P1@.750	Ea	260.00	27.40	287.40	489.00

Inverness single bowl composite sink, International Thermocast. 25" x 22" x 9" deep. Cutout dimensions 23" x 20" with 1" radius corners. Rich, high gloss finish that's easy to clean with non-abrasive cleaners. The beauty of porcelain with the strength of cast iron, yet lighter weight. Insulated construction to absorb waste disposal noise. Large basins for more workspace. Resists stain, rust, oxidation, chipping, and scratches. Surface can be polished with ordinary liquid sink, countertop, or auto polish. Drop-in ready. Faucets, drains and accessories sold separately.

Inverness, white, 4" deck	P1@.750	Ea	153.00	27.40	180.40	307.00
Inverness, bone, 4" deck	P1@.750	Ea	187.00	27.40	214.40	364.00
Wellington, white, 5" deck	P1@.750	Ea	157.00	27.40	184.40	313.00

Beaumont double bowl composite kitchen sink, International Thermocast. Equal bowls. The beauty of porcelain with the strength of cast iron, yet lighter weight. Insulated construction to absorb waste disposal noise. Large basins for more workspace. Resists stain, rust, oxidation, chipping, and scratches. Surface can be polished with ordinary liquid sink, countertop, or auto polish. Drop-in ready. No mounting clips required. Certified by the National Association of Home Builders Research Center. 33" x 22" x 8-1/4" deep.

Bone	P1@.750	Ea	214.00	27.40	241.40	410.00
White	P1@.750	Ea	163.00	27.40	190.40	324.00

Breckenridge double bowl composite sink, International Thermocast. 33" x 22". Large bowl, 9" deep. Small bowl, 7" deep. Cutout dimensions 31" x 20" with 1" radius corners. Drains positioned to maximize workspace. Insulated construction to absorb waste disposal noise. Resists stain, rust, oxidation, chipping, and scratches. Drop-in ready. No mounting clips required.

Black	P1@.750	Ea	227.00	27.40	254.40	432.00
White	P1@.750	Ea	227.00	27.40	254.40	432.00

Newport double bowl composite sink, International Thermocast. 33" x 22" x 9" deep. Equal bowls. 4-1/4" deck. Four-hole faucet drilling. Self-rimming. Faucets, drains and accessories sold separately.

Biscuit	P1@.750	Ea	202.00	27.40	229.40	390.00
Bone	P1@.750	Ea	254.00	27.40	281.40	478.00
White	P1@.750	Ea	229.00	27.40	256.40	436.00

Cambridge offset double bowl composite sink, International Thermocast. 33" x 22". Large bowl 10-1/2" deep. Small bowl 8-1/2" deep. Self-rimming. Four-hole faucet drilling. Cutout dimensions 31" x 20" with 1" radius corners. Insulated construction to absorb waste disposal noise. Faucets, drains and accessories sold separately.

Black	P1@.750	Ea	319.00	27.40	346.40	589.00
White	P1@.750	Ea	231.00	27.40	258.40	439.00

Pull-Out Kitchen Faucets

Kitchen faucet, single-handle, pull-out spout. Deck mount. One- or three-hole installation. Loop handle. Labor includes fasten in place only, and assumes sink is already in place. Installation times will be reduced by half if installing faucet before sink is in place. Add the cost of plumbing rough-in as required. With soap dispenser.

Chrome finish	P1@1.10	Ea	131.00	40.20	171.20	291.00
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Kitchen faucet, single-handle, pull-out spout. Deck mount. One- or three-hole installation. Loop handle. Ceramic disc cartridge. 20-year warranty. Labor includes fasten in place only, and assumes sink is already in place. Installation times will be reduced by half if installing faucet before sink is in place. Add the cost of plumbing rough-in as required.

Polished chrome finish	P1@1.00	Ea	177.00	36.50	213.50	363.00
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	Craft@Hrs	Unit	Material	Labor	Total	Sell
Kitchen faucet, single-handle, pull-out spout. Deck mount. One- or three-hole installation. Lever handle. Ceramic disc cartridge. Spray or aerated stream. 4-1/2" spout. ADA compliant. Labor includes fasten in place only, and assumes sink is already in place. Installation times will be reduced by half if installing faucet before sink is in place. Add the cost of plumbing rough-in as required.						
Bone finish	P1@1.00	Ea	123.00	36.50	159.50	271.00
Polished Chrome	P1@1.00	Ea	112.00	36.50	148.50	252.00
Stainless steel	P1@1.00	Ea	182.00	36.50	218.50	371.00
Velvet finish	P1@1.00	Ea	155.00	36.50	191.50	326.00
White finish	P1@1.00	Ea	108.00	36.50	144.50	246.00

Kitchen faucet, single-handle, pull-out spout. Deck mount. One- or three-hole installation. Lever handle. Spray or aerated stream. Arched spout provides 9" of reach and 6-1/2" of height. Touch-Clean® wand makes it easy to wipe away residue and mineral deposits, ensuring proper spraying. Lifetime limited warranty. Labor includes fasten in place only, and assumes sink is already in place. Installation times will be reduced by half if installing faucet before sink is in place. Add the cost of plumbing rough-in as required.

Chrome	P1@1.00	Ea	271.00	36.50	307.50	523.00
Stainless steel	P1@1.00	Ea	413.00	36.50	449.50	764.00
White	P1@1.00	Ea	380.00	36.50	416.50	708.00

Kitchen faucet, single-handle, pull-out hi-arc spout. Deck mount. One- or three-hole installation. Lever handle. Spray or aerated stream. Washerless cartridge. IntuiTouch™ wand. Lifetime limited warranty. Labor includes fasten in place only, and assumes sink is already in place. Installation times will be reduced by half if installing faucet before sink is in place. Add the cost of plumbing rough-in as required.

Chrome finish	P1@1.00	Ea	376.00	36.50	412.50	701.00
Matte black finish	P1@1.00	Ea	513.00	36.50	549.50	934.00
Sand finish	P1@1.00	Ea	403.00	36.50	439.50	747.00
Stainless steel finish	P1@1.00	Ea	350.00	36.50	386.50	657.00
White finish	P1@1.00	Ea	462.00	36.50	498.50	847.00

Kitchen faucet, single-handle, pull-out spout. Deck mount. One- or three-hole installation. Lever handle. Integral vacuum breaker. Labor includes fasten in place only, and assumes sink is already in place. Installation times will be reduced by half if installing faucet before sink is in place. Add the cost of plumbing rough-in as required.

Chrome finish	P1@1.00	Ea	213.00	36.50	249.50	424.00
Stainless Steel	P1@1.00	Ea	275.00	36.50	311.50	530.00

Kitchen faucet, single-handle, pull-out spout, Price Pfister. Deck mount. One- or three-hole installation. Loop handle. Spray or aerated stream. Ceramic disc cartridge. Pforever Pfauet™ limited lifetime warranty. Labor includes fasten in place only, and assumes sink is already in place. Installation times will be reduced by half if installing faucet before sink is in place. Add the cost of plumbing rough-in as required.

Stainless steel	P1@1.00	Ea	256.00	36.50	292.50	497.00
White finish	P1@1.00	Ea	145.00	36.50	181.50	309.00

Kitchen faucet, single-handle, pull-out spout, Forte®, Kohler. Labor includes fasten in place only and assumes sink is already in place. Installation times will be reduced by half if installing faucet before sink is in place. Add the cost of plumbing rough-in as required.

Polished chrome	P1@1.00	Ea	187.00	36.50	223.50	380.00
Stainless steel	P1@1.00	Ea	215.00	36.50	251.50	428.00

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Labor for painting interior panel door, frame and trim — spray. New installations only. Includes paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks.						
Spray 1 coat of water-base undercoat, 14 doors per gallon, per door	PT@.110	Ea	—	4.16	4.16	7.07
Spray 1st finish coat of water-base enamel, 15 doors per gallon, per door	PT@.080	Ea	—	3.03	3.03	5.15
Spray additional finish coats of water-base enamel, 16 doors per gallon, per door	PT@.080	Ea	—	3.03	3.03	5.15
Labor for staining 2" x 4" fascia. Front side and bottom edge only. Stain application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Roll and brush each coat of solid-body stain, 130 linear feet per gallon, per 100 linear feet	PT@.488	CLF	—	18.50	18.50	31.50
Roll and brush each coat of semi-transparent stain, 150 linear feet per gallon, per 100 linear feet	PT@.444	CLF	—	16.80	16.80	28.60
Spray each coat of solid-body stain, 100 linear feet per gallon, per 100 linear feet	PT@.308	CLF	—	11.60	11.60	19.70
Spray each coat of semi-transparent stain, 115 linear feet per gallon, per 100 linear feet	PT@.286	CLF	—	10.80	10.80	18.40
Labor for staining 2" x 6" or 2" x 10" fascia. Front side and bottom edge only. Stain application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Roll and brush each coat of solid-body stain, 110 linear feet per gallon, per 100 linear feet	PT@.571	CLF	—	21.60	21.60	36.70
Roll and brush each coat of semi-transparent stain, 130 linear feet per gallon, per 100 linear feet	PT@.513	CLF	—	19.40	19.40	33.00
Spray each coat of solid-body stain, 80 linear feet per gallon, per 100 linear feet	PT@.333	CLF	—	12.60	12.60	21.40
Spray each coat of semi-transparent stain, 95 linear feet per gallon, per 100 linear feet	PT@.319	CLF	—	12.10	12.10	20.60
Labor for staining 2" x 12" fascia. Front side and bottom edge only. Stain application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Roll and brush each coat of solid-body stain, 75 linear feet per gallon, per 100 linear feet	PT@.769	CLF	—	29.10	29.10	49.50
Roll and brush each coat of semi-transparent stain, 95 linear feet per gallon, per 100 linear feet	PT@.667	CLF	—	25.20	25.20	42.80

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Spray each coat of solid-body stain, 50 linear feet per gallon, per 100 linear feet	PT@.380	CLF	—	14.40	14.40	24.50
Spray each coat of semi-transparent stain, 65 linear feet per gallon, per 100 linear feet	PT@.347	CLF	—	13.10	13.10	22.30

Labor for staining picket fence. Area is the fence length times the fence height times two. Stain application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks.

Roll and brush 1st coat of solid-body or semi-transparent stain, 343 square feet per gallon, per 100 square feet	PT@.690	CSF	—	26.10	26.10	44.40
Roll and brush additional coats of solid-body or semi-transparent stain, 388 square feet per gallon, per 100 square feet	PT@.444	CSF	—	16.80	16.80	28.60
Spray 1st coat of solid-body or semi-transparent stain, 275 square feet per gallon, per 100 square feet	PT@.200	CSF	—	7.56	7.56	12.90
Spray additional coats of solid-body or semi-transparent stain, 325 square feet per gallon, per 100 square feet	PT@.167	CSF	—	6.32	6.32	10.70

Labor for painting concrete floor — roll. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks.

Roll and brush 1st coat of water-base masonry paint, 263 square feet per gallon, per 100 square feet	PT@.459	CSF	—	17.40	17.40	29.60
Roll and brush 2nd coat of water-base masonry paint, 325 square feet per gallon, per 100 square feet	PT@.373	CSF	—	14.10	14.10	24.00
Roll and brush 3rd or additional coats of water-base masonry paint, 350 square feet per gallon, per 100 square feet	PT@.333	CSF	—	12.60	12.60	21.40
Roll and brush each coat of 1-part water-base epoxy, 488 square feet per gallon, per 100 square feet	PT@.444	CSF	—	16.80	16.80	28.60
Roll and brush each coat of 2-part water-base epoxy, 488 square feet per gallon, per 100 square feet	PT@.481	CSF	—	18.20	18.20	30.90
Roll and brush 1st coat of penetrating oil stain, 425 square feet per gallon, per 100 square feet	PT@.400	CSF	—	15.10	15.10	25.70
Roll and brush 2nd coat of penetrating oil stain, 475 square feet per gallon, per 100 square feet	PT@.290	CSF	—	11.00	11.00	18.70

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Roll and brush 3rd or additional coats of penetrating oil stain, 500 square feet per gallon, per 100 square feet	PT@.261	CSF	—	9.87	9.87	16.80
Labor for painting concrete floor — spray. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks.						
Spray 1st coat of water-base masonry paint, 163 square feet per gallon, per 100 square feet	PT@.111	CSF	—	4.20	4.20	7.14
Spray 2nd coat of water-base masonry paint, 263 square feet per gallon, per 100 square feet	PT@.100	CSF	—	3.78	3.78	6.43
Spray 3rd or additional coats of water-base masonry paint, 313 square feet per gallon, per 100 square feet	PT@.091	CSF	—	3.44	3.44	5.85
Labor for painting wood deck or floor — roll and brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks.						
Roll and brush water-base prime undercoat, 425 square feet per gallon, per 100 square feet	PT@.228	CSF	—	8.62	8.62	14.70
Roll and brush porch and deck enamel, 450 square feet per gallon, per 100 square feet	PT@.216	CSF	—	8.17	8.17	13.90
Brush 1-part water-base epoxy, 400 square feet per gallon, per 100 square feet	PT@.400	CSF	—	15.10	15.10	25.70
Roll 2-part epoxy, 225 square feet per gallon, per 100 square feet	PT@.444	CSF	—	16.80	16.80	28.60
Labor for staining wood deck or floor — brush. Stain application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks.						
Brush 1st coat oil-base wiping stain, wipe and fill wood floor, 475 square feet per gallon, per 100 square feet	PT@.400	CSF	—	15.10	15.10	25.70
Brush 2nd coat oil-base stain, wipe and fill wood floor, 500 square feet per gallon, per 100 square feet	PT@.235	CSF	—	8.89	8.89	15.10
Brush 3rd or additional coats of oil-base stain, wipe and fill wood floor, 525 square feet per gallon, per 100 square feet	PT@.222	CSF	—	8.40	8.40	14.30
Brush 1st coat of sanding sealer on maple or pine floor, 450 square feet per gallon, per 100 square feet	PT@.250	CSF	—	9.46	9.46	16.10
Brush additional coats of sanding sealer on maple or pine floor, 525 square feet per gallon, per 100 square feet	PT@.222	CSF	—	8.40	8.40	14.30

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Brush 1st coat of sanding sealer on oak floor, 500 square feet per gallon, per 100 square feet	PT@.235	CSF	—	8.89	8.89	15.10
Brush additional coats of sanding sealer on oak floor, 600 square feet per gallon, per 100 square feet	PT@.190	CSF	—	7.19	7.19	12.20
Brush 1st coat of penetrating stain, wax and wipe wood floor, 525 square feet per gallon, per 100 square feet	PT@.400	CSF	—	15.10	15.10	25.70
Brush additional coats of penetrating stain, wax and wipe wood floor, 525 square feet per gallon, per 100 square feet	PT@.333	CSF	—	12.60	12.60	21.40
Wax and polish wood floors by hand, per 100 square feet	PT@.500	CSF	—	18.90	18.90	32.10
Wax and polish wood floors by machine, per 100 square feet	PT@.222	CSF	—	8.40	8.40	14.30

Labor for painting gutters and downspouts. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.

Brush prime coat rust inhibitor on metal gutters, 375 linear feet per gallon, per 100 linear feet	PT@1.11	CLF	—	42.00	42.00	71.40
Brush 1st finish coat on metal gutters, 400 linear feet per gallon, per 100 linear feet	PT@.909	CLF	—	34.40	34.40	58.50
Brush additional finish coats on metal gutters, 425 linear feet per gallon, per 100 linear feet	PT@.769	CLF	—	29.10	29.10	49.50
Brush prime coat rust inhibitor on metal downspouts, 225 linear feet per gallon, per 100 linear feet	PT@2.86	CLF	—	108.00	108.00	184.00

Labor for applying masonry block filler on brick masonry. Filler application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.

Brush one coat of masonry block filler, 65 square feet per gallon, per 100 square feet	PT@.800	CSF	—	30.30	30.30	51.50
Roll one coat of masonry block filler, 60 square feet per gallon, per 100 square feet	PT@.465	CSF	—	17.60	17.60	29.90
Spray one coat of masonry block filler, 55 square feet per gallon, per 100 square feet	PT@.190	CSF	—	7.19	7.19	12.20

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Labor for painting smooth brick masonry — brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Brush 1st coat of water-base masonry paint, 275 square feet per gallon, per 100 square feet	PT@.444	CSF	—	16.80	16.80	28.60
Brush additional coats of water-base masonry paint, 300 square feet per gallon, per 100 square feet	PT@.364	CSF	—	13.80	13.80	23.50
Labor for painting smooth brick masonry — roll. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Roll 1st coat of water-base masonry paint, 213 square feet per gallon, per 100 square feet	PT@.286	CSF	—	10.80	10.80	18.40
Roll additional coats of water-base masonry paint, 250 square feet per gallon, per 100 square feet	PT@.250	CSF	—	9.46	9.46	16.10
Roll 1st coat of clear hydro sealer, 150 square feet per gallon, per 100 square feet	PT@.444	CSF	—	16.80	16.80	28.60
Roll additional coats of clear hydro sealer, 190 square feet per gallon, per 100 square feet	PT@.400	CSF	—	15.10	15.10	25.70
Labor for painting smooth brick masonry — spray. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Spray 1st coat of water-base masonry paint, 225 square feet per gallon, per 100 square feet	PT@.133	CSF	—	5.03	5.03	8.55
Spray additional coats of water-base masonry paint, 238 square feet per gallon, per 100 square feet	PT@.121	CSF	—	4.58	4.58	7.79
Spray 1st coat of clear hydro sealer, 100 square feet per gallon, per 100 square feet	PT@.125	CSF	—	4.73	4.73	8.04
Spray additional coats of clear hydro sealer, 138 square feet per gallon, per 100 square feet	PT@.111	CSF	—	4.20	4.20	7.14
Labor for painting concrete masonry units (CMU) — brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Brush 1st coat of water-base masonry paint, 88 square feet per gallon, per 100 square feet	PT@.769	CSF	—	29.10	29.10	49.50
Brush additional coats of water-base masonry paint, 168 square feet per gallon, per 100 square feet	PT@.476	CSF	—	18.00	18.00	30.60

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Brush 1st coat of 2-part clear epoxy, 98 square feet per gallon, per 100 square feet	PT@.870	CSF	—	32.90	32.90	55.90
Brush additional coats of 2-part clear epoxy, 188 square feet per gallon, per 100 square feet	PT@.526	CSF	—	19.90	19.90	33.80
Brush 1st coat of clear hydro sealer, 80 square feet per gallon, per 100 square feet	PT@.667	CSF	—	25.20	25.20	42.80
Brush additional coats of clear hydro sealer, 110 square feet per gallon, per 100 square feet	PT@.364	CSF	—	13.80	13.80	23.50

Labor for painting concrete masonry units (CMU) — roll. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.

Roll 1st coat of water-base masonry paint, 78 square feet per gallon, per 100 square feet	PT@.333	CSF	—	12.60	12.60	21.40
Roll additional coats of water-base masonry paint, 143 square feet per gallon, per 100 square feet	PT@.308	CSF	—	11.60	11.60	19.70
Roll 1st coat 2-part epoxy coating, 88 square feet per gallon, per 100 square feet	PT@.364	CSF	—	13.80	13.80	23.50
Roll additional coats of 2-part epoxy coating, 160 square feet per gallon, per 100 square feet	PT@.333	CSF	—	12.60	12.60	21.40

Labor for painting concrete masonry units (CMU) — spray. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.

Spray 1st coat of water-base masonry paint, 78 square feet per gallon, per 100 square feet	PT@.143	CSF	—	5.41	5.41	9.20
Spray additional coats of water-base masonry paint, 133 square feet per gallon, per 100 square feet	PT@.125	CSF	—	4.73	4.73	8.04
Spray 1st coat of 2-part clear epoxy, 68 square feet per gallon, per 100 square feet	PT@.167	CSF	—	6.32	6.32	10.70
Spray additional coats of 2-part clear epoxy, 130 square feet per gallon, per 100 square feet	PT@.143	CSF	—	5.41	5.41	9.20
Spray 1st coat of clear hydro sealer, 50 square feet per gallon, per 100 square feet	PT@.143	CSF	—	5.41	5.41	9.20
Spray additional coats of clear hydro sealer, 75 square feet per gallon, per 100 square feet	PT@.125	CSF	—	4.73	4.73	8.04

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Labor for painting molding or trim. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Brush prime coat, 600 linear feet per gallon, per 100 linear feet	PT@.488	CLF	—	18.50	18.50	31.50
Brush split coat of 1/2 undercoat and 1/2 enamel, 675 linear feet per gallon, per 100 linear feet	PT@.741	CLF	—	28.00	28.00	47.60
Brush 1st finish coat of enamel, 675 linear feet per gallon, per 100 linear feet	PT@.625	CLF	—	23.60	23.60	40.10
Brush 2nd or additional coats of enamel, 675 linear feet per gallon, per 100 linear feet	PT@.667	CLF	—	25.20	25.20	42.80
Brush stipple finish enamel on smooth exterior molding, per 100 linear feet	PT@1.11	CLF	—	42.00	42.00	71.40
Brush glazing or mottling over enamel on smooth molding, 900 linear feet per gallon, per 100 linear feet	PT@1.54	CLF	—	58.20	58.20	98.90
Labor for painting roof overhang to 30" wide — roll and brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. See the overhang difficulty factors that follow.						
Roll and brush 1st coat of solid-body stain, 185 square feet per gallon, per 100 square feet	PT@.800	CSF	—	30.30	30.30	51.50
Roll and brush 2nd coat of solid-body stain, 240 square feet per gallon, per 100 square feet	PT@.541	CSF	—	20.50	20.50	34.90
Roll and brush additional coats of solid body stain, 270 square feet per gallon, per 100 square feet	PT@.444	CSF	—	16.80	16.80	28.60
Labor for painting roof overhang to 30" wide — spray. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. See the overhang difficulty factors that follow.						
Spray 1st coat of semi-transparent stain, 125 square feet per gallon, per 100 square feet	PT@.286	CSF	—	10.80	10.80	18.40
Spray 2nd coat of semi-transparent stain, 163 square feet per gallon, per 100 square feet	PT@.222	CSF	—	8.40	8.40	14.30
Spray 3rd or additional coats of semi-transparent stain, 213 square feet per gallon, per 100 square feet	PT@.190	CSF	—	7.19	7.19	12.20

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Labor for painting large roof overhang over 30" wide — roll and brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. See the overhang difficulty factors below.						
Roll and brush 1st coat of solid-body stain, 210 square feet per gallon, per 100 square feet	PT@.556	CSF	—	21.00	21.00	35.70
Roll and brush 2nd coat of solid-body stain, 275 square feet per gallon, per 100 square feet	PT@.444	CSF	—	16.80	16.80	28.60
Roll and brush 3rd coat of solid-body stain, 280 square feet per gallon, per 100 square feet	PT@.357	CSF	—	13.50	13.50	23.00

Labor for painting large roof overhang over 30" wide — spray. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. See the overhang difficulty factors below.

Spray 1st coat of solid-body or semi-transparent stain, 90 square feet per gallon, per 100 square feet	PT@.167	CSF	—	6.32	6.32	10.70
Spray 2nd coat of solid-body or semi-transparent stain, 163 square feet per gallon, per 100 square feet	PT@.154	CSF	—	5.82	5.82	9.89
Spray 3rd or additional coats of solid-body or semi-transparent stain, 213 square feet per gallon, per 100 square feet	PT@.143	CSF	—	5.41	5.41	9.20

Overhang difficulty factors for eaves and cornices. The labor estimates above are for roof overhang with boxed eaves (no exposed rafter tails) on new single-story buildings.

Add 50% for repainting overhang or painting overhang with exposed rafter tails or second color (multiply the area by 1.5).

Add 50% for painting second-story overhang from scaffolding (multiply the area by 1.5).

Add 100% for second story with no scaffolding or exposed rafter tails (multiply the area by 2.0)

Labor for painting exterior plaster or stucco — brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.

Brush water-base masonry paint, 213 square feet per gallon, per 100 square feet	PT@.613	CSF	—	23.20	23.20	39.40
Brush 2nd coat water-base masonry paint, 230 square feet per gallon, per 100 square feet	PT@.613	CSF	—	23.20	23.20	39.40
Brush 3rd or additional coat water-base masonry paint, 245 square feet per gallon, per 100 square feet	PT@.578	CSF	—	21.90	21.90	37.20
Brush 1st coat of clear hydro sealer, 163 square feet per gallon, per 100 square feet	PT@.667	CSF	—	25.20	25.20	42.80
Brush 2nd coat of clear hydro sealer, 188 square feet per gallon, per 100 square feet	PT@.500	CSF	—	18.90	18.90	32.10

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Labor for painting exterior plaster or stucco — roll. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Roll 1st water-base masonry prime coat, 175 square feet per gallon, per 100 square feet	PT@.366	CSF	—	13.80	13.80	23.50
Roll 2nd water-base masonry coat, 200 square feet per gallon, per 100 square feet	PT@.313	CSF	—	11.80	11.80	20.10
Roll 3rd or additional water-base masonry coats, 225 square feet per gallon, per 100 square feet	PT@.294	CSF	—	11.10	11.10	18.90
Roll 1st coat of clear hydro sealer, 138 square feet per gallon, per 100 square feet	PT@.275	CSF	—	10.40	10.40	17.70
Roll 2nd or additional coats of clear hydro sealer, 163 square feet per gallon, per 100 square feet	PT@.235	CSF	—	8.89	8.89	15.10
Labor for painting exterior plaster or stucco — spray. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Spray 1st water-base masonry prime coat, 120 square feet per gallon, per 100 square feet	PT@.148	CSF	—	5.60	5.60	9.52
Spray 2nd water-base masonry coat, 150 square feet per gallon, per 100 square feet	PT@.125	CSF	—	4.73	4.73	8.04
Spray 3rd or additional water-base masonry coat, 165 square feet per gallon, per 100 square feet	PT@.118	CSF	—	4.46	4.46	7.58
Spray 1st coat of clear hydro sealer, 113 square feet per gallon, per 100 square feet	PT@.143	CSF	—	5.41	5.41	9.20
Spray 2nd or additional coats of clear hydro sealer, 138 square feet per gallon, per 100 square feet	PT@.121	CSF	—	4.58	4.58	7.79
Labor for painting decorative wood handrail — brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks.						
Brush undercoat or enamel, 110 linear feet per gallon, per 100 linear feet	PT@2.86	CLF	—	108.00	108.00	184.00
Labor for painting 2' x 4' shutters or blinds — brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Brush undercoat, 11 shutters per gallon, per shutter	PT@.333	Ea	—	12.60	12.60	21.40
Brush split coat (1/2 undercoat + 1/2 enamel), 14 shutters per gallon, per shutter	PT@.286	Ea	—	10.80	10.80	18.40
Brush exterior enamel, 14 shutters per gallon, per shutter	PT@.400	Ea	—	15.10	15.10	25.70

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Labor for painting 2' x 4' shutters or blinds — spray. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Spray undercoat, 9 shutters per gallon, per shutter	PT@.111	Ea	—	4.20	4.20	7.14
Spray split coat (1/2 undercoat + 1/2 enamel), 11 shutters per gallon, per shutter	PT@.100	Ea	—	3.78	3.78	6.43
Spray exterior enamel, 11 shutters per gallon, per shutter	PT@.125	Ea	—	4.73	4.73	8.04

Labor for painting aluminum siding — brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Brush metal primer, 420 square feet per gallon, per 100 square feet	PT@.426	CSF	—	16.10	16.10	27.40
Brush 1st or additional finish coats on aluminum siding, 465 square feet per gallon, per 100 square feet	PT@.351	CSF	—	13.30	13.30	22.60

Labor for staining rough wood siding — roll and brush. Stain application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Roll and brush 1st coat of water-base stain, 213 square feet per gallon, per 100 square feet	PT@.500	CSF	—	18.90	18.90	32.10
Roll and brush 2nd coat of water-base stain, 275 square feet per gallon, per 100 square feet	PT@.400	CSF	—	15.10	15.10	25.70
Roll and brush 3rd or additional coats of water-base stain, 325 square feet per gallon, per 100 square feet	PT@.347	CSF	—	13.10	13.10	22.30
Roll and brush 1st coat of penetrating oil stain, 125 square feet per gallon, per 100 square feet	PT@.444	CSF	—	16.80	16.80	28.60
Roll and brush 2nd coat of penetrating oil stain, 240 square feet per gallon, per 100 square feet	PT@.364	CSF	—	13.80	13.80	23.50
Roll and brush 3rd or additional coats of penetrating oil stain, 330 square feet per gallon, per 100 square feet	PT@.299	CSF	—	11.30	11.30	19.20

Labor for staining rough wood siding — spray. Stain application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Spray 1st coat of water-base stain, 115 square feet per gallon, per 100 square feet	PT@.200	CSF	—	7.56	7.56	12.90
Spray 2nd coat of water-base stain, 125 square feet per gallon, per 100 square feet	PT@.167	CSF	—	6.32	6.32	10.70

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Spray 3rd or additional coats of water-base stain, 170 square feet per gallon, per 100 square feet	PT@.154	CSF	—	5.82	5.82	9.89
Spray 1st coat penetrating oil stain, 180 square feet per gallon, per 100 square feet	PT@.200	CSF	—	7.56	7.56	12.90
Spray 2nd coat of penetrating oil stain, 245 square feet per gallon, per 100 square feet	PT@.182	CSF	—	6.88	6.88	11.70
Spray 3rd or additional coats of penetrating oil stain, 360 square feet per gallon, per 100 square feet	PT@.154	CSF	—	5.82	5.82	9.89
Spray 1st coat of clear hydro sealer, 113 square feet per gallon, per 100 square feet	PT@.174	CSF	—	6.58	6.58	11.20
Spray 2nd coat of clear hydro sealer, 150 square feet per gallon, per 100 square feet	PT@.148	CSF	—	5.60	5.60	9.52
Spray 3rd or additional coats of clear hydro sealer, 175 square feet per gallon, per 100 square feet	PT@.133	CSF	—	5.03	5.03	8.55
Labor for painting gypsum drywall walls — roll and brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Roll and brush 1st coat of water-base flat latex, 275 square feet per gallon, per 100 square feet	PT@.186	CSF	—	7.03	7.03	12.00
Roll and brush 2nd coat of water-base flat latex, 313 square feet per gallon, per 100 square feet	PT@.167	CSF	—	6.32	6.32	10.70
Roll and brush additional coats of water-base flat latex, 338 square feet per gallon, per 100 square feet	PT@.154	CSF	—	5.82	5.82	9.89
Roll and brush prime coat of water-base sealer, 263 square feet per gallon, per 100 square feet	PT@.200	CSF	—	7.56	7.56	12.90
Roll and brush 1st finish coat of water-base enamel, 263 square feet per gallon, per 100 square feet	PT@.222	CSF	—	8.40	8.40	14.30
Roll and brush 2nd finish coat of water-base enamel, 288 square feet per gallon, per 100 square feet	PT@.211	CSF	—	7.98	7.98	13.60
Labor for painting gypsum drywall walls — spray. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.						
Spray 1st coat of water-base flat latex, 225 square feet per gallon, per 100 square feet	PT@.125	CSF	—	4.73	4.73	8.04
Spray 2nd coat of water-base flat latex, 275 square feet per gallon, per 100 square feet	PT@.111	CSF	—	4.20	4.20	7.14

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Spray additional coats of water-base flat latex, 300 square feet per gallon, per 100 square feet	PT@.105	CSF	—	3.97	3.97	6.75
Spray prime coat of water-base sealer, 225 square feet per gallon, per 100 square feet	PT@.136	CSF	—	5.14	5.14	8.74
Spray 1st finish coat of water-base enamel, 238 square feet per gallon, per 100 square feet	PT@.148	CSF	—	5.60	5.60	9.52
Spray 2nd finish coat of water-base enamel, 263 square feet per gallon, per 100 square feet	PT@.143	CSF	—	5.41	5.41	9.20
Spray additional finish coats of water-base enamel, 275 square feet per gallon, per 100 square feet	PT@.129	CSF	—	4.88	4.88	8.30

Labor for painting gypsum drywall ceiling — roll and brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.

Roll and brush 1st coat of flat latex, 275 square feet per gallon, per 100 square feet	PT@.286	CSF	—	10.80	10.80	18.40
Roll and brush 2nd coat of flat latex, 313 square feet per gallon, per 100 square feet	PT@.267	CSF	—	10.10	10.10	17.20
Roll and brush 3rd coat of flat latex, 338 square feet per gallon, per 100 square feet	PT@.235	CSF	—	8.89	8.89	15.10
Roll and brush prime coat of water-base sealer, 275 square feet per gallon, per 100 square feet	PT@.267	CSF	—	10.10	10.10	17.20
Roll and brush 1st finish coat of water-base enamel, 313 square feet per gallon, per 100 square feet	PT@.286	CSF	—	10.80	10.80	18.40
Roll and brush additional coats of water-base enamel, 338 square feet per gallon, per 100 square feet	PT@.250	CSF	—	9.46	9.46	16.10
Roll and brush 1st coat of white epoxy coating, 288 square feet per gallon, per 100 square feet	PT@.308	CSF	—	11.60	11.60	19.70
Roll and brush additional coats of white epoxy coating, 288 square feet per gallon, per 100 square feet	PT@.267	CSF	—	10.10	10.10	17.20

Labor for painting gypsum drywall ceiling — spray. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.

Spray 1st coat of flat latex, 200 square feet per gallon, per 100 square feet	PT@.133	CSF	—	5.03	5.03	8.55
Spray 2nd coat of flat latex, 225 square feet per gallon, per 100 square feet	PT@.114	CSF	—	4.31	4.31	7.33

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Spray additional coats of flat latex, 250 square feet per gallon, per 100 square feet	PT@.108	CSF	—	4.08	4.08	6.94
Spray prime coat of water-base sealer, 200 square feet per gallon, per 100 square feet	PT@.125	CSF	—	4.73	4.73	8.04
Spray 1st finish coat of water-base enamel, 225 square feet per gallon, per 100 square feet	PT@.121	CSF	—	4.58	4.58	7.79
Spray additional coats of water-base enamel, 250 square feet per gallon, per 100 square feet	PT@.114	CSF	—	4.31	4.31	7.33

Labor for painting wood paneled walls — roll and brush. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.

Roll and brush water-base undercoat, 263 square feet per gallon, per 100 square feet	PT@.333	CSF	—	12.60	12.60	21.40
Roll and brush water-base split coat (1/2 undercoat + 1/2 enamel), 263 square feet per gallon, per 100 square feet	PT@.364	CSF	—	13.80	13.80	23.50
Roll and brush 1st finish coat of water-base enamel, 313 square feet per gallon, per 100 square feet	PT@.235	CSF	—	8.89	8.89	15.10

Labor for painting wood paneled walls — spray. Paint application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.

Spray water-base undercoat, 150 square feet per gallon, per 100 square feet	PT@.235	CSF	—	8.89	8.89	15.10
Spray water-base split coat (1/2 undercoat + 1/2 enamel), 150 square feet per gallon, per 100 square feet	PT@.250	CSF	—	9.46	9.46	16.10
Spray 1st finish coat of water-base enamel, 225 square feet per gallon, per 100 square feet	PT@.182	CSF	—	6.88	6.88	11.70
Spray additional finish coats of water-base enamel, 325 square feet per gallon, per 100 square feet	PT@.154	CSF	—	5.82	5.82	9.89

Labor for staining wood paneled walls. Stain application only. Add the cost of surface preparation, protecting adjacent surfaces, mobilization, cleanup and callbacks. For heights above 8', use the high time difficulty factors.

Roll and brush each coat of solid or semi-transparent stain, 450 square feet per gallon, per 100 square feet	PT@.380	CSF	—	14.40	14.40	24.50
Spray solid or semi-transparent stain, 250 square feet per gallon, per 100 square feet	PT@.250	CSF	—	9.46	9.46	16.10

	Craft@Hrs	Unit	Material	Labor	Total	Sell
Labor for painting windows to 15 square feet, 1, 2 or 3 panes, per side painted. Paint application only. Add preparation time for sanding, puttying, protecting adjacent surfaces and masking or waxing window panes. For heights above 8', use the high time difficulty factors.						
Brush undercoat, 14.5 windows per gallon, per window	PT@.200	Ea	—	7.56	7.56	12.90
Brush split coat (1/2 undercoat + 1/2 enamel), 16.5 windows per gallon, per window	PT@.250	Ea	—	9.46	9.46	16.10
Brush finish coat of enamel, 15.5 windows per gallon, per window	PT@.300	Ea	—	11.30	11.30	19.20
Labor for painting windows to 15 square feet, 4, 5 or 6 panes, per side painted. Paint application only. Add preparation time for sanding, puttying, protecting adjacent surfaces and masking or waxing window panes. For heights above 8', use the high time difficulty factors.						
Brush undercoat, 13.5 windows per gallon, per window	PT@.300	Ea	—	11.30	11.30	19.20
Brush split coat (1/2 undercoat + 1/2 enamel), 15.5 windows per gallon, per window	PT@.350	Ea	—	13.20	13.20	22.40
Brush finish coat of enamel, 14.5 windows per gallon, per window	PT@.450	Ea	—	17.00	17.00	28.90
Labor for painting windows to 15 square feet, 7 or 8 panes, per side painted. Paint application only. Add preparation time for sanding, puttying, protecting adjacent surfaces and masking or waxing window panes. For heights above 8', use the high time difficulty factors.						
Brush undercoat, 13 windows per gallon, per window	PT@.400	Ea	—	15.10	15.10	25.70
Brush split coat (1/2 undercoat + 1/2 enamel), 15 windows per gallon, per window	PT@.500	Ea	—	18.90	18.90	32.10
Brush finish coat of enamel, 14 windows per gallon, per window	PT@.620	Ea	—	23.40	23.40	39.80
Labor for painting windows to 15 square feet, 9, 10 or 11 panes, per side painted. Paint application only. Add preparation time for sanding, puttying, protecting adjacent surfaces and masking or waxing window panes. For heights above 8', use the high time difficulty factors.						
Brush undercoat, 12 windows per gallon, per window	PT@.500	Ea	—	18.90	18.90	32.10
Brush split coat (1/2 undercoat + 1/2 enamel), 14 windows per gallon, per window	PT@.620	Ea	—	23.40	23.40	39.80
Brush finish coat of enamel, 13 windows per gallon, per window	PT@.730	Ea	—	27.60	27.60	46.90
Labor for painting windows to 15 square feet, 12 panes, per side painted. Paint application only. Add preparation time for sanding, puttying, protecting adjacent surfaces and masking or waxing window panes. For heights above 8', use the high time difficulty factors.						
Brush undercoat, 11 windows per gallon, per window	PT@.620	Ea	—	23.40	23.40	39.80
Brush split coat (1/2 undercoat + 1/2 enamel), 13 windows per gallon, per window	PT@.670	Ea	—	25.30	25.30	43.00
Brush finish coat of enamel, 12 windows per gallon, per window	PT@.800	Ea	—	30.30	30.30	51.50

	Craft@Hrs	Unit	Material	Labor	Total	Sell
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Labor for painting windows, per square foot of window, per side painted. Use figures in the following table to estimate labor for windows larger than 15 square feet (length times width). To calculate the window area, add 1 foot to each dimension (top, bottom, left and right side). Then multiply the width times length. For example, a window measuring 4' x 4' with 1 foot added to the top, bottom, right side and left side would be 6' x 6' or 36 square feet. Then, add 2 square feet for each window pane to allow time for painting the mullions, muntins and sash. The calculation for a 4' x 4' double-hung window with two panes would be 6' x 6' + 4', or 40 square feet. Add preparation time for sanding, puttying, protecting adjacent surfaces and masking or waxing window panes. For heights above 8', use the high time difficulty factors.

Brush undercoat, 450 square feet per gallon, per 100 square feet	PT@.606	CSF	—	22.90	22.90	38.90
Brush split coat (1/2 undercoat + 1/2 enamel), 500 square feet per gallon, per 100 square feet	PT@.741	CSF	—	28.00	28.00	47.60
Brush finish coat of enamel, 480 square feet per gallon, per 100 square feet	PT@.885	CSF	—	33.50	33.50	57.00

Exterior Solid Stain

Deck Plus® solid color deck and siding stain, Behr. 100% acrylic latex. Opaque. For decks (including pressure-treated), siding, fences and patio furniture. Water-repellent and mildew-resistant. Water cleanup. Resists scuffing, cracking and peeling. Covers 400 square feet per gallon. Dries to touch in 2 to 3 hours; to recoat in 24 hours. Full cure in 30 days.

Gallon	—	Ea	31.50	—	31.50	—
5 gallons	—	Ea	112.00	—	112.00	—

Premium Plus® solid color exterior stain, Behr. Oil and latex formula. Water cleanup. Protects against fading, weathering and chalking for up to 10 years on vertical surfaces. Prevents cracking, peeling and blistering. Opaque finish covers wood grain and allows wood texture to remain. For exterior shakes, shingles, wood siding, fencing, trim, stucco and masonry surfaces.

Gallon	—	Ea	30.80	—	30.80	—
5 gallons	—	Ea	142.00	—	142.00	—

Acrylic exterior and interior stain, Behr.

Gallon	—	Ea	29.40	—	29.40	—
5 gallons	—	Ea	121.00	—	121.00	—

Preserva-Wood penetrating finish, Preserva products. Will not crack or peel. Tinted natural finishes to enhance the natural beauty and color of various types of wood. Ultraviolet protection, environmentally responsible. Clear or tinted.

Quart	—	Ea	12.90	—	12.90	—
Gallon	—	Ea	30.80	—	30.80	—
5 gallons	—	Ea	147.00	—	147.00	—

Wood bleach kit. 2-part solution. Lightens stripped or unfinished wood. Prepares bare wood for staining. Pint covers 15 to 20 square feet.

2 Gallon A+B	—	Ea	84.00	—	84.00	—
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Interior Oil Wiping Stain

Wood finish wiping stain, Minwax®. Use on interior bare or stripped wood surface. Penetrates into wood fibers to highlight grain. Available in 20 wood-tone colors.

Quart	—	Ea	8.57	—	8.57	—
Gallon	—	Ea	63.80	—	63.80	—

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