



2015 NATIONAL REPAIR & REMODELING ESTIMATOR

by **Albert S. Paxton**
General editor - **Joshua Paxton**

Includes inside the back cover:



Inside the back cover of this book you'll find a software download certificate. To access the download, follow the instructions printed there. The download includes the *National Estimator*, an easy-to-use estimating program with all the cost estimates in this book. The software will run on PCs using Windows XP, Vista, 7 or 8 operating systems.

Quarterly price updates on the Web are free and automatic all during 2015. You'll be prompted when it's time to collect the next update. A connection to the Web is required.

Download all of Craftsman's most popular costbooks for one low price with the Craftsman Site License. <http://www.CraftsmanSiteLicense.com>



- Turn your estimate into a bid.
- Turn your bid into a contract.
- ConstructionContractWriter.com



Craftsman Book Company
6058 Corte del Cedro, Carlsbad, CA 92011

Preface

The author has corresponded with manufacturers and wholesalers of building material supplies and surveyed retail pricing services. From these sources, he has developed Average Material Unit Costs which should apply in most parts of the country.

Wherever possible, the author has listed Average Labor Unit Costs which are derived from the Average Manhours per Unit, the Crew Size, and the Wage Rates used in this book. Please read How to Use This Book for a more in-depth explanation of the arithmetic.

If you prefer, you can develop your own local labor unit costs. You can do this by simply multiplying the Average Manhours per Unit by your local crew wage rates per hour. Using your actual local labor wage rates for the trades will make your estimate more accurate.

What is a realistic labor unit cost to one reader may well be low or high to another reader, because of variations in labor efficiency. The Average Manhours per Unit figures were developed by time studies at job sites around the country. To determine the daily production rate for the crew, divide the total crew manhours per day by the Average Manhours per Unit.

The subject topics in this book are arranged in alphabetical order, A to Z. To help you find specific construction items, there is a complete alphabetical index at the end of the book, and a main subject index at the beginning of the book.

Credits and Acknowledgments

This book has over 12,000 cost estimates for 2015. To develop these estimates, the author and editors relied on information supplied by hundreds of construction cost authorities. We offer our sincere thanks to the contractors, engineers, design professionals, construction estimators,

American Standard Products
DAP Products
Outwater Plastic Industries
Con-Rock Concrete
Georgia Pacific Products

This manual shows crew, manhours, material, labor and equipment cost estimates based on Large or Small Volume work, then a total cost and a total including overhead and profit. No single price fits all repair and remodeling jobs. Generally, work done on smaller jobs costs more per unit installed and work on larger jobs costs less. The estimates in this book reflect that simple fact. The two estimates you find for each work item show the author's opinion of the likely range of costs for most contractors and for most jobs. So, which cost do you use, High Volume or Low Volume?

The only right price is the one that gets the job and earns a reasonable profit. Finding that price always requires estimating judgment. Use Small Volume cost estimates when some or most of the following conditions are likely:

- The crews won't work more than a few days on site.
- Better quality work is required.
- Productivity will probably be below average.
- Volume discounts on materials aren't available.
- Bidding is less competitive.
- Your overhead is higher than most contractors.

When few or none of those conditions apply, use Large Volume cost estimates.

material suppliers and manufacturers who, in the spirit of cooperation, have assisted in the preparation of this 38th edition of the *National Repair & Remodeling Estimator*. Our appreciation is extended to those listed below.

Kohler Products
Wood Mode Cabinets
Transit Mixed Concrete
U.S. Gypsum Products
Henry Roofing Products

Special thanks to: Dal-Tile Corporation, 1713 Stewart, Santa Monica, California

About the Author

Albert Paxton is a Project Director at *Unified Building Sciences, Inc. (UBS)* (www.UnifiedGroup.com), located in Dallas, Texas.

Mr. Paxton (ALP@UnifiedGroup.com) is a California licensed General Contractor (B1-425946) and a Certified Professional Estimator with the *American Society of Professional Estimators*. The *UBS* staff is comprised of estimators, engineers and project managers who are also expert witnesses, building appraisers and arbitrators operating throughout the United States.

UBS clients include property insurance carriers, financial institutions, self-insureds, and private indi-

viduals. The expertise of *UBS* is in both new and repair/remodel work, for both residential and commercial construction. In addition to daily claims involving individual structures, *UBS* assignments have included natural disasters such as the Northridge earthquake in California, Hurricanes Charley, Frances, Ivan and Jeanne striking Florida and the southeastern states, the catastrophic Hurricane Katrina, whose impact on the Gulf Coast is still being felt in the building and repair industry, Hurricanes Dolly and Ike, and the cleanup, repair and rebuilding of the massive destruction of Superstorm Sandy.

Main Subject Index

Abbreviations	20	Insulation	268
Acoustical treatment	21	Batt or roll / Loose fill / Rigid	
Adhesives	24	Lighting fixtures	278
Air conditioning and ventilating systems .	28	Indoor / Outdoor	
Bath accessories	38	Mantels, fireplace	281
Bathtubs (includes whirlpool)	44	Masonry	282
Cabinets	60	Brick / Concrete block / Glass block	
Kitchen / Vanity		Glazed tile / Quarry tile / Veneer	
Canopies	75	Medicine cabinets	41
Carpet	78	Molding and trim	298
Caulking	80	Pine / Oak / Redwood / Resin	
Ceramic tile	83	Painting and cleaning	326
Countertop / Floors / Walls		Interior / Exterior	
Closet door systems	86	Paneling	340
Bi-folding / Mirror / Sliding		Plaster and stucco	344
Columns	94	Range hoods	348
Concrete, cast-in-place	96	Resilient flooring	350
Footings / Forms / Foundations / Reinforcing		Linoleum / Tile / Vinyl	
Countertops	106	Roofing	356
Ceramic tile / Concrete / Engineered stone /		Aluminum / Built-up / Clay tile / Composition	
Formica / Granite / Quartz / Wood		Mineral surface / Wood shakes or shingles	
Cupolas	113	Sheet metal	372
Demolition	114	Flashing / Gravel stop / Roof edging / Vents	
Concrete / Masonry / Rough carpentry		Shower and tub doors	376
Dishwashers	130	Shower bases or receptors	381
Door frames	132	Shower stalls	383
Door hardware	134	Shower tub units	386
Doors	136	Shutters	387
Exterior / Interior		Siding	390
Drywall	153	Aluminum / Hardboard / Vinyl / Wood	
Electrical	155	Sinks	402
Entrances	160	Bathroom / Kitchen / Utility	
Excavation	160	Skylights	425
Fences	162	Spas	431
Board / Chain link / Gates / Split rail		Stairs	434
Fiberglass panels	168	Stair parts / Shop fabricated stairs	
Fireplaces	170	Suspended ceilings	438
Food centers	172	Toilets, bidets, urinals	442
Framing (rough carpentry)	173	Trash compactors	448
Beams / Joists / Rafters / Trusses		Ventilation	449
Garage door operators	224	Flue piping / Chimney vent	
Garage doors	221	Wallpaper	452
Garbage disposers	225	Water filters	453
Glass and glazing	227	Water heaters	454
Glu-lam products	230	Electric / Gas / Solar	
Beams / Purlins / Sub-purlins / Ledgers		Water softeners	462
Gutters and downspouts	255	Windows	463
Hardwood flooring	258	Aluminum / Horizontal slide / Wood / Garden	
Block / Parquetry / Strip		Index	499
Heating	261		
Boilers / Forced air / Space heaters			

How to Use This Book

1	2	3	4	5	6	7	8	9	10	11	12
Description	Oper	Unit	Vol	Crew Size	Man- hours per Unit	Crew Output per Day	Avg Mat'l Unit Cost	Avg Labor Unit Cost	Avg Equip Unit Cost	Avg Total Unit Cost	Avg Price Incl O&P

The descriptions and cost data in this book are arranged in a series of columns, which are described below. The cost data is divided into two categories: Costs Based On Large Volume and Costs Based On Small Volume. These two categories provide the estimator with a pricing range for each construction topic.

The Description column (1) contains the pertinent, specific information necessary to make the pricing information relevant and accurate.

The Operation column (2) contains a description of the construction repair or remodeling operation being performed. Generally the operations are Demolition, Install, and Reset.

The Unit column (3) contains the unit of measurement or quantity which applies to the item described.

The Volume column (4) breaks jobs into Large and Small categories. Based on the information given regarding volume (on page 2), select your job size.

The Crew Size column (5) contains a description of the trade that usually installs or labors on the specified item. It includes information on the labor trade that installs the material and the typical crew size. Letters and numbers are used in the abbreviations in the crew size column. Full descriptions of these abbreviations are in the Crew Compositions and Wage Rates table, beginning on page 15.

The Manhours per Unit column (6) is for the listed operation and listed crew.

The units per day in this book don't take into consideration unusually large or small quantities. But items such as travel, accessibility to work, experience of workers, and protection of undamaged property, which can favorably or adversely affect productivity, have been considered in developing Average Manhours per Unit. For further information about labor, see "Notes — Labor" in the Notes Section of some specific items.

Crew Output per Day (7) is based on how many units, on average, a crew can install or demo in one 8-hour day.

Crew Output per Day and Average Material Unit (8) Cost should assist the estimator in:

1. Checking prices quoted by others.
2. Developing local prices.

The Average Material Unit Cost column contains an average material cost for products (including, in many cases, the by-products used in installing the products) for both large and small volume. It doesn't include an allowance for sales tax, delivery charges, overhead and profit. Percentages for waste, shrinkage, or coverage have been taken into consideration unless indicated. For other information, see "Dimensions" or "Installation" in the Notes Section.

If the item described has many or very unusual by-products which are essential to determining the Average Material Unit Cost, the author has provided examples of material pricing. These examples are placed throughout the book in the Notes Section.

You should verify labor rates and material prices locally. Though the prices in this book are average material prices, prices vary from locality to locality. A local hourly wage rate should normally include taxes, benefits, and insurance. Some contractors may also include overhead and profit in the hourly rate.

The Average Labor Unit Cost column (9) contains an average labor cost based on the Average Manhours per Unit and the Crew Compositions and Wage Rates table. The average labor unit cost equals the Average Manhours per Unit multiplied by the Average Crew Rate per hour. The rates include fringe benefits, taxes, and insurance. Examples that show how to determine the average labor unit cost are provided in the Notes Section.

The Average Equipment Unit Cost column (10) contains an average equipment cost, based on both the average daily rental and the cost per day if owned and depreciated. The costs of daily maintenance and the operator are included.

The Average Total Unit Cost column (11) includes the sum of the Material, Equipment, and Labor Cost columns. It doesn't include an allowance for overhead and profit.

The Average (Total) Price Including Overhead and Profit column (12) results from adding an overhead and profit allowance to Total Cost. This allowance reflects the author's interpretation of average fixed and variable overhead expenses and the labor intensiveness of the operation vs. the costs of materials for the operation. This allowance factor varies throughout the book, depending on the operation. Each contractor interprets O&P differently. The range can be from 15 percent to 80 percent of the Average Total Unit Cost.

Estimating Techniques

Estimating Repair/Remodeling Jobs: The unforeseen, unpredictable, or unexpected can ruin you.

Each year, the residential repair and remodeling industry grows. It's currently outpacing residential new construction due to increases in land costs, labor wage rates, interest rates, material costs, and economic uncertainty. When people can't afford a new home, they tend to remodel their old one. And there are always houses that need repair, from natural disasters or accidents like fire. The professional repair and remodeling contractor is moving to the forefront of the industry.

Repair and remodeling spawns three occupations: the contractor and his workers, the insurance company property claims adjuster, and the property damage appraiser. Each of these professionals shares common functions, including estimating the cost of the repair or remodeling work.

Estimating isn't an exact science. Yet the estimate determines the profit or loss for the contractor, the fairness of the claim payout by the adjuster, and the amount of grant or loan by the appraiser. Quality estimating must be uppermost in the mind of each of these professionals. And accurate estimates are possible only when you know exactly what materials are needed and the number of manhours required for demolition, removal, and installation. Remember, profits follow the professional. To be profitable you must control costs — and cost control is directly related to accurate, professional estimates.

There are four general types of estimates, each with a different purpose and a corresponding degree of accuracy:

- The guess method: "All bathrooms cost \$5,000." or "It looks like an \$8,000 job to me."
- The per measure method: (I like to call it the surprise package.) "Remodeling costs \$60 per SF, the job is 500 SF, so the price is \$30,000."

These two methods are the least accurate and accomplish little for the adjuster or the appraiser. The contractor might use the methods for qualifying customers (e.g., "I thought a bathroom would only cost \$2,000."), but never as the basis for bidding or negotiating a price.

- The *piece estimate* or *stick-by-stick* method.
- The *unit cost estimate* method.

These two methods yield a detailed estimate itemizing all of the material quantities and costs, the labor manhours and wage rates, the subcontract costs, and the allowance for overhead and profit.

Though time-consuming, the detailed estimate is the most accurate and predictable. It's a very satisfactory

tool for negotiating either the contract price or the adjustment of a building loss. The piece estimate and the unit cost estimate rely on historical data, such as manhours per specific job operation and recent material costs. The successful repair and remodeling contractor, or insurance/appraisal company, maintains records of previous jobs detailing allocation of crew manhours per day and materials expended.

While new estimators don't have historical data records, they can rely on reference books, magazines, and newsletters to estimate manhours and material costs. It is important to remember that **the reference must pertain to repair and remodeling**. This book is designed *specifically* to meet this requirement.

The reference material must specialize in repair and remodeling work because there's a large cost difference between new construction and repair and remodeling. Material and labor construction costs vary radically with the size of the job or project. Economies of scale come into play. The larger the quantity of materials, the better the purchase price should be. The larger the number of units to be installed, the greater the labor efficiency.

Repair and remodeling work, compared to new construction, is more expensive due to a normally smaller volume of work. Typical repair work involves only two or three rooms of a house, or one roof. In new construction, the job size may be three to five complete homes or an entire development. And there's another factor: a lot of repair and remodeling is done with the house occupied, forcing the crew to work around the normal, daily activities of the occupants. In new construction, the approach is systematic and logical — work proceeds from the ground up to the roof and to the inside of the structure.

Since the jobs are small, the repair and remodeling contractor doesn't employ trade specialists. Repairers employ the "jack-of-all-trades" who is less specialized and therefore less efficient. This isn't to say the repairer is less professional than the trade specialist. On the contrary, the repairer must know about many more facets of construction: not just framing, but painting, finish carpentry, roofing, and electrical as well. But because the repairer has to spread his expertise over a greater area, he will be less efficient than the specialist who repeats the same operation all day long.

Another factor reducing worker efficiency is poor access to the work area. With new construction, where building is an orderly "from the ground up" approach, workers have easy access to the work area for any given operation. The workers can spread out as much as needed, which facilitates efficiency and minimizes the manhours required to perform a given operation.

The opposite situation exists with repair and remodeling construction. Consider an example where the work area involves fire damage on the second floor. Materials either go up through the interior stairs or through a second

story window. Neither is easy when the exterior and interior walls have a finished covering such as siding and drywall. That results in greater labor costs with repair and remodeling because it takes more manhours to perform many of the same tasks.

If, as a professional estimator, you want to start collecting historical data, the place to begin is with daily worker time sheets that detail:

1. total hours worked by each worker per day
2. what specific operations each worker performed that day
3. how many hours (to the nearest tenth) each worker used in each operation performed that day.

Second, you must catalog all material invoices daily, being sure that quantities and unit costs per item are clearly indicated.

Third, maintain a record of overhead expenses attributable to the particular project. Then, after a number of jobs, you'll be able to calculate an average percentage of the job's gross amount that's attributable to overhead. Many contractors add 45% for overhead and profit to their total direct costs (direct labor, direct material, and direct subcontract costs). But that figure may not be right for your jobs.

Finally, each week you should reconcile in a job summary file the actual costs versus the estimated costs, and determine why there is any difference. This information can't immediately help you on this job since the contract has been signed, but it will be invaluable to you on your next job.

Up to now I've been talking about general estimating theory. Now let's be more specific. On page 8 is a Building Repair Estimate form. Each line is keyed to an explanation. A filled-out copy of the form is also provided, and on page 10, a blank, full-size copy that you can reproduce for your own use.

You can adapt the Building Repair Estimate form, whether you're a contractor, adjuster, or appraiser. Use of the form will yield a detailed estimate that will identify:

- The room or area involved, including sizes, dimensions and measurements.
- The kind and quality of material to be used.
- The quantities of materials to be used and verification of their prices.
- The type of work to be performed (demolish, remove, install, remove and reset) by what type of crew.
- The crew manhours per job operation and verification of the hourly wage scale.
- All arithmetical calculations that can be verified.
- Areas of difference between your estimate and others.

- Areas that will be a basis for negotiation and discussion of details.

Each job estimate begins with a visual inspection of the work site. If it's a repair job, you've got to see the damage. Without a visual inspection, you can't select a method of repair and you can't properly evaluate the opinions of others regarding repair or replacement. With either repair or remodeling work, the visual inspection is essential to uncover the "hiders" — the unpredictable, unforeseen, and unexpected problems that can turn profit into loss, or simplicity into nightmare. You're looking for the many variables and unknowns that exist behind an exterior or interior wall covering.

Along with the Building Repair Estimate form, use this checklist to make sure you're not forgetting anything.

Checklist

- Site accessibility: Will you store materials and tools in the garage? Is it secure? You can save a half hour to an hour each day by storing tools in the garage. Will the landscaping prevent trucks from reaching the work site? Are wheelbarrows or concrete pumpers going to be required?
- Soil: What type and how much water content? Will the soil change your excavation estimate?
- Utility lines: What's under the soil and where? Should you schedule the utilities to stake their lines?
- Soundness of the structure: If you're going to remodel, repair or add on, how sound is that portion of the house that you're going to have to work around? Where are the load-bearing walls? Are you going to remove and reset any walls? Do the floor joists sag?
- Roof strength: Can the roof support the weight of another layer of shingles. (Is four layers of composition shingles already too much?)
- Electrical: Is another breaker box required for the additional load?

This checklist is by no means complete, but it is a start. Take pictures! A digital camera will quickly pay for itself. When you're back at the office, the picture helps reconstruct the scene. Before and after pictures are also a sales tool representing your professional expertise.

During the visual inspection always be asking yourself "what if" this or that happened. Be looking for potential problem areas that would be extremely labor intensive or expensive in material to repair or replace.

Also spend some time getting to know your clients and their attitudes. Most of repair and remodeling work occurs while the house is occupied. If the work will be messy, let the homeowners know in advance. Their satisfaction is your ultimate goal — and their satisfaction will provide you a pleasant working atmosphere. You're there to communicate with them. At the end of an estimate and visual inspection, the homeowner should have a clear idea of what you can or can't do, how it will be

done, and approximately how long it will take. Don't discuss costs now! Save the estimating for your quiet office with a print-out calculator and your cost files or reference books.

What you create on your estimate form during a visual inspection is a set of rough notes and diagrams that make the estimate speak. To avoid duplications and omissions, estimate in a *systematic sequence of inspection*. There are two questions to consider. First, where do you start the estimate? Second, in what order will you list the damaged or replaced items? It's customary to start in the room having either the most damage or requiring the most extensive remodeling. The sequence of listing is important. Start with either the floor or the ceiling. When starting with the floor, you might list items in the following sequence: Joists, subfloor, finish floor, base — listing from bottom to top. When starting with the ceiling, you reverse, and list from top to bottom. The important thing is to be *consistent* as you go from room to room! It's a good idea to figure the roof and foundation separately, instead of by the room.

After completing your visual inspection, go back to your office to cost out the items. Talk to your material supply houses and get unit costs for the quantity involved. Consult your job files or reference books and assign crew manhours to the different job operations.

There's one more reason for creating detailed estimates. Besides an estimate, what else have your notes given you? A material take-off sheet, a lumber list, a plan and specification sheet — the basis for writing a job summary for comparing estimated costs and profit versus actual costs and profit — and a project schedule that minimizes down time.

Here's the last step: Enter an amount for overhead and profit. No matter how small or large your work volume is, be realistic — everyone has overhead and every business entity works to make a fair and reasonable profit. An office, even in your home, costs

money to operate. If family members help out, pay them. Everyone's time is valuable!

If you expect there will be a supervising general contractor on the job, and the overhead and profit is computed as a percentage of the job, then overhead and profit dollars automatically adjust to the job size and the job complexity.

Don't forget to charge for performing your estimate. A professional expects to be paid. You'll render a better product if you know you're being paid for your time. If you want to soften the blow to the owner, say the first hour is free or that the cost of the estimate will be deducted from the job price if you get the job.

In conclusion, whether you're a contractor, adjuster, or appraiser, you're selling your personal service, your ideas, and your reputation. To be successful you must:

- Know yourself and your capabilities.
- Know what the job will require by ferreting out the "hiders."
- Know your products and your work crew.
- Know your productivity and be able to deliver in a reasonable manner and within a reasonable time frame.
- Know your client and make it clear that all change orders, no matter how large or small, will cost money.



Inside the back cover of this book you'll find a software download certificate. To access the download, follow the instructions printed there. The download includes the *National Estimator*, an easy-to-use estimating program with all the cost estimates in this book. The software will run on PCs using Windows XP, Vista, 7 or 8 operating systems. 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.costbook.com and click the ShowMe tutorial link to view an interactive tutorial for *National Estimator*.

Building Repair Estimate										
Insured 1		Date 33		Claim or Policy No. 2		Page 3 of 3				
Loss Address 4		Home Ph.		Cause of Loss 5		Other Ins. Y 6 N 6				
City		Bldg. A.C.V. 7		Bldg. A.C.V. 8		Insurance Amount 9				
Insurance Required R.C.V. (10 %) A.C.V. (11)%		Material Price Only 12		Labor Price Only 16						
Description of Item	Unit	Unit Price 14	Total (Col. A) 15	Hours 17	Rate 18	Total Col. B) 19				
	20 Install 1/2" sheetrock (standard,) on walls, including tape and finish 400 (page 154)	400	0.46	184.00	9.6	49.29	473.18			
Paint walls, roller, smooth finish										
1 coat sealer 600 (page 330)	600	0.07	42.00	4.2	51.70	217.14				
2 coats latex flat 600 (page 333)	600	0.18	108.00	7.2	51.70	372.24				
			THIS IS NOT AN ORDER TO REPAIR TOTALS							
The undersigned agrees to complete and guarantee repairs at a total of \$			21		22		Total Column A			
Repairer 30	Street 31		City 32		Phone 31		23		24	
By 32	Adjuster 34		Date of A/P 35		25		26		27	
Adj. License No. (If Any) 36			28		Grand Total					
Service Office Name 36										
Note: This form does not replace the need for field notes, sketches and measurements.										

Building Repair Estimate										
Insured John Q. Smith		Date		Claim or Policy No. DP 0029		Page 1 of 2				
Loss Address 123 A. Main St.		Home Ph. 555-1241		Cause of Loss Fire		Other Ins. Y N				
City Anywhere, Anystate 00010		Bus. Ph. 555-1438		Insurance Amount \$100,000						
Bldg. R.C.V. 100,000 Bldg. A.C.V. 80,000		Material Price Only		Labor Price Only						
Description of Item	Unit	Unit Price	Total (Col. A)	Hours	Rate	Total Col. B)				
	Install 1/2" sheetrock (standard,) on walls, including tape and finish 400 (page 154)	400	0.46	184.00	9.6	49.29	473.18			
Paint walls, roller, smooth finish										
1 coat sealer 600 (page 330)	600	0.07	42.00	4.2	51.70	217.14				
2 coats latex flat 600 (page 333)	600	0.18	108.00	7.2	51.70	372.24				
			THIS IS NOT AN ORDER TO REPAIR TOTALS							
The undersigned agrees to complete and guarantee repairs at a total of \$			334.00		1062.56		Total Column A			
Repairer ABC Construction	Street 316 E. 2nd Street		City Anywhere		Phone		6% Tax		85.79	
By Jack Williams	Adjuster Stan Jones		Date of A/P N/A		10% Overhead		10% Profit		148.04	
Adj. License No. (If Any) 561-84			Grand Total		1776.43					
Service Office Name Phoenix										
Note: This form does not replace the need for field notes, sketches and measurements.										

Keyed Explanations of the Building Repair Estimate Form

1. Insert name of insured(s).
2. Insert claim number or, if claim number is not available, insert policy number or binder number.
3. Insert the page number and the total number of pages.
4. Insert street address, city and state where loss or damage occurred.
5. Insert type of loss (wind, hail, fire, water, etc.)
6. Check YES if there is other insurance, whether collectible or not. Check NO if there's only one insurer.
7. Insert the present replacement cost of the building. What would it cost to build the structure today?
8. Insert present actual cash value of the building.
9. Insert the amount of insurance applicable. If there is more than one insurer, insert the total amount of applicable insurance provided by all insurers.
10. If the amount of insurance required is based on replacement cost value, circle RCV and insert the percent required by the policy, if any.
11. If the amount of insurance required is based on actual cash value, circle ACV and insert the percent required by the policy, if any.
Note: (regarding 10 and 11) if there is a non-concurrency, i.e., one insurer requires insurance to 90% of value while another requires insurance to 80% of value, make a note here. Comment on the non-concurrency in the settlement report.
12. The installed price and/or material price only, as expressed in columns 13 through 15, may include any of the following (expressed in units and unit prices):
 - Material only (no labor)
 - Material and labor to replace
 - Material and labor to remove and replace

Unit Cost is determined by dividing dollar cost by quantity. The term cost, as used in unit cost, is not intended to include any allowance, percentage or otherwise, for overhead or profit. Usually, overhead and profit are expressed as a percentage of cost. Cost must be determined first. Insert a line or dash in a space(s) in columns 13, 14, 15, 17, 18 or 19 if the space is not to be used.
13. The *units* column includes both the quantity and the unit of measure, i.e., 100 SF, 100 BF, 200 CF, 100 CY, 20 ea., etc.
14. The *unit price* may be expressed in dollars, cents or both. If the units column has 100 SF and if the unit price column has \$.10, this would indicate the price to be \$.10 per SF.
15. The *total* column is merely the dollar product of the quantity (in column 13) times the price per unit measure (in column 14).
- 16-19. These columns are normally used to express labor as follows: hours times rate per hour. However, it is possible to express labor as a unit price, i.e., 100 SF in column 13, a dash in column 17, \$.05 in column 18 and \$5.00 in column 19.
20. Under *description of item*, the following may be included:
 - Description of item to be repaired or replaced (studs 2" x 4" 8'0" #2 Fir, Sheetrock 1/2", etc.)
 - Quantities or dimensions (20 pcs., 8'0" x 14'0", etc.)
 - Location within a room or area (north wall, ceiling, etc.)
 - Method of correcting damage (paint - 1 coat; sand, fill and finish; R&R; remove only; replace; resize; etc.)
- 21-22. Dollar totals of columns A and B respectively.
- 23-27. Spaces provided for items not included in the body of the estimate (subtotals, overhead, profit, sales tax, etc.)
28. Total cost of repair.
29. Insert the agreed amount here. The agreement may be between the claim representative and the insured or between the claim rep and the repairer. If the agreed price is different from the grand total, the reason(s) for the difference should be itemized on the estimate sheet. If there is no room, attach an additional estimate sheet.
30. PRINT the name of the insured or the repairer so that it is legible.
31. PRINT the address of the insured or repairer legibly. Include phone number.
32. The insured or a representative of the repairer should sign here indicating agreement with the claim rep's estimate.
33. Insured or representative of the repairer should insert date here.
34. Claim rep should sign here.
35. Claim rep should insert date here.
36. Insert name of service office here.

Wage Rates Used in This Book

Wage rates listed here and used in this book were compiled in the fall of 2014 and projected to mid-2015. Wage rates are in dollars per hour.

“Base Wage Per Hour” (Col. 1) includes items such as vacation pay and sick leave which are normally taxed as wages. Nationally, these benefits average 5.15% of the Base Wage Per Hour. This amount is paid by the Employer in addition to the Base Wage Per Hour.

“Liability Insurance and Employer Taxes” (Cols. 3 & 4) include national averages for state unemployment insurance (4.00%), federal unemployment insurance (0.80%), Social Security and Medicare tax (7.65%), liability

insurance (2.29%), and Workers’ Compensation Insurance which varies by trade. This total percentage (Col. 3) is applied to the sum of Base Wage Per Hour and Taxable Fringe Benefits (Col. 1 + Col. 2) and is listed in Dollars (Col. 4). This amount is paid by the Employer in addition to the Base Wage Per Hour and the Taxable Fringe Benefits.

“Non-Taxable Fringe Benefits” (Col. 5) include employer-sponsored medical insurance and other benefits, which nationally average 4.55% of the Base Wage Per Hour.

“Total Hourly Cost Used In This Book” is the sum of Columns 1, 2, 4, & 5.

Trade	1	2	3	4	5	6
	Base Wage Per Hour	Taxable Fringe Benefits (5.15% of Base Wage)	Liability Insurance & Employer Taxes %	\$	Non-Taxable Fringe Benefits (4.55% of Base Wage)	Total Hourly Cost Used in This Book
Air Tool Operator	\$31.05	\$1.60	26.22%	\$8.56	\$1.41	\$42.62
Bricklayer or Stone Mason	\$26.92	\$1.39	25.34%	\$7.17	\$1.22	\$36.70
Bricktender	\$19.96	\$1.03	25.34%	\$5.32	\$0.91	\$27.22
Carpenter	\$25.33	\$1.30	31.63%	\$8.42	\$1.15	\$36.20
Cement Mason	\$25.61	\$1.32	23.15%	\$6.23	\$1.17	\$34.33
Drywall Installer	\$26.20	\$1.35	23.57%	\$6.49	\$1.19	\$35.23
Drywall Taper	\$26.16	\$1.35	23.57%	\$6.48	\$1.19	\$35.18
Electrician, Journeyman Wireman	\$30.05	\$1.55	19.84%	\$6.27	\$1.37	\$39.24
Equipment Operator	\$30.30	\$1.56	25.22%	\$8.04	\$1.38	\$41.28
Fence Erector	\$27.36	\$1.41	26.01%	\$7.48	\$1.24	\$37.49
Floorlayer: Carpet, Linoleum, Soft Tile	\$24.57	\$1.27	23.82%	\$6.16	\$1.12	\$33.12
Floorlayer, Hardwood	\$25.80	\$1.33	23.82%	\$6.46	\$1.17	\$34.76
Glazier	\$25.55	\$1.32	25.78%	\$6.93	\$1.16	\$34.96
Laborer, General Construction	\$20.21	\$1.04	32.73%	\$6.96	\$0.92	\$29.13
Lather	\$26.30	\$1.35	21.28%	\$5.88	\$1.20	\$34.73
Marble Setter	\$24.31	\$1.25	21.36%	\$5.46	\$1.11	\$32.13
Millwright / Finish Carpenter	\$25.77	\$1.33	21.24%	\$5.76	\$1.17	\$34.03
Mosaic and Terrazzo Setter	\$25.65	\$1.32	21.36%	\$5.76	\$1.17	\$33.90
Mosaic and Terrazzo Setter Helper	\$19.60	\$1.01	21.36%	\$4.40	\$0.89	\$25.90
Painter, Brush	\$27.18	\$1.40	24.88%	\$7.11	\$1.24	\$36.93
Painter, Spray-Gun	\$28.00	\$1.44	24.88%	\$7.32	\$1.27	\$38.03
Paperhanger	\$28.54	\$1.47	24.88%	\$7.47	\$1.30	\$38.78
Plasterer	\$25.94	\$1.34	28.58%	\$7.80	\$1.18	\$36.26
Plasterer Helper	\$20.34	\$1.05	28.58%	\$6.11	\$0.93	\$28.43
Plumber	\$31.05	\$1.60	24.27%	\$7.92	\$1.41	\$41.98
Reinforcing Ironworker	\$27.22	\$1.40	28.61%	\$8.19	\$1.24	\$38.05
Roofer, Foreman	\$28.52	\$1.47	44.14%	\$13.24	\$1.30	\$44.53
Roofer, Journeyman	\$25.93	\$1.34	44.14%	\$12.04	\$1.18	\$40.49
Roofer, Hot Mop Pitch	\$26.71	\$1.38	44.14%	\$12.40	\$1.22	\$41.71
Roofer, Wood Shingles	\$27.23	\$1.40	44.14%	\$12.64	\$1.24	\$42.51
Sheet Metal Worker	\$29.74	\$1.53	26.01%	\$8.13	\$1.35	\$40.75
Tile Setter	\$26.07	\$1.34	21.36%	\$5.85	\$1.19	\$34.45
Tile Setter Helper	\$19.60	\$1.01	21.36%	\$4.40	\$0.89	\$25.90
Truck Driver	\$21.93	\$1.13	26.22%	\$6.05	\$1.00	\$30.11

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 job site. 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 alphabetically 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 points in that state or province. Figures for three-digit zips are the average of all five-digit zips in that area, and 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.

Alabama	-6%	Herlong	961	.....	-1%	Norwich	063	.....	8%	Hawaii	24%		
Anniston	362	Inglewood	902-905	....	9%	Stamford	068-069	...	16%	Aliamanu	968	.....	25%
Auburn	368	Irvine	926-927	...	13%	Waterbury	067	.....	12%	Ewa	967	.....	23%
Bellamy	369	Lompoc	934	.....	6%	West Hartford	062	.....	9%	Halawa Heights	967	.....	23%
Birmingham	350-352	Long Beach	907-908	....	10%	Delaware	2%			Hilo	967	.....	23%
Dothan	363	Los Angeles	900-901	...	8%	Dover	199	.....	-5%	Honolulu	968	.....	25%
Evergreen	364	Marysville	959	.....	-1%	Newark	197	.....	7%	Kailua	968	.....	25%
Gadsden	359	Modesto	953	.....	-1%	Wilmington	198	.....	5%	Lualualei	967	.....	23%
Huntsville	358	Mojave	935	.....	6%	District of Columbia	12%			Mililani Town	967	.....	23%
Jasper	355	Novato	949	.....	13%	Washington	200-205	...	12%	Pearl City	967	.....	23%
Mobile	365-366	Oakland	945-947	...	19%	Florida	-7%			Wahiawa	967	.....	23%
Montgomery	360-361	Orange	928	.....	12%	Altamonte Springs	327	.....	-6%	Waianae	967	.....	23%
Scottsboro	357	Oxnard	930	.....	4%	Bradenton	342	.....	-8%	Wailuku (Maui)	967	.....	23%
Selma	367	Pasadena	910-912	....	9%	Brooksville	346	.....	-9%	Idaho	-9%		
Sheffield	356	Rancho Cordova	956-957	...	6%	Daytona Beach	321	.....	-12%	Boise	837	.....	-2%
Tuscaloosa	354	Redding	960	.....	-3%	Fort Lauderdale	333	.....	-1%	Coeur d'Alene	838	.....	-11%
Alaska	21%	Richmond	948	.....	19%	Fort Myers	339	.....	-9%	Idaho Falls	834	.....	-8%
Anchorage	995	Riverside	925	.....	3%	Fort Pierce	349	.....	-13%	Lewiston	835	.....	-12%
Fairbanks	997	Sacramento	958	.....	6%	Gainesville	326	.....	-9%	Meridian	836	.....	-9%
Juneau	998	Salinas	939	.....	3%	Jacksonville	322	.....	-4%	Pocatello	832	.....	-10%
Ketchikan	999	San Bernardino	923-924	....	4%	Lakeland	338	.....	-8%	Sun Valley	833	.....	-10%
King Salmon	996	San Diego	919-921	...	7%	Melbourne	329	.....	-10%	Illinois	5%		
Arizona	-4%	San Francisco	941	.....	28%	Miami	330-332	...	-2%	Arlington Heights	600	.....	16%
Chambers	865	San Jose	950-951	...	18%	Naples	341	.....	-5%	Aurora	605	.....	15%
Douglas	855	San Mateo	943-944	...	20%	Ocala	344	.....	-13%	Belleville	622	.....	0%
Flagstaff	860	Santa Barbara	931	.....	6%	Orlando	328	.....	-2%	Bloomington	617	.....	1%
Kingman	864	Santa Rosa	954	.....	6%	Panama City	324	.....	-12%	Carbondale	629	.....	-5%
Mesa	852	Stockton	952	.....	1%	Pensacola	325	.....	-9%	Carol Stream	601	.....	15%
Phoenix	850	Sunnyvale	940	.....	20%	Saint Augustine	320	.....	-7%	Centralia	628	.....	-3%
Prescott	863	Van Nuys	913-916	...	8%	Saint Cloud	347	.....	-5%	Champaign	618	.....	0%
Show Low	859	Whittier	906	.....	8%	St Petersburg	337	.....	-7%	Chicago	606-608	...	17%
Tucson	856-857	Colorado	1%			Tallahassee	323	.....	-9%	Decatur	623	.....	-8%
Yuma	853	Aurora	800-801	....	6%	Tampa	335-336	...	-3%	Galesburg	614	.....	-6%
Arkansas	-7%	Boulder	803-804	...	3%	W. Palm Beach	334	.....	-3%	Granite City	620	.....	3%
Batesville	725	Colorado Springs	808-809	....	-1%	Georgia	-4%			Green River	612	.....	4%
Camden	717	Denver	802	.....	6%	Albany	317	.....	-9%	Joliet	604	.....	16%
Fayetteville	727	Durango	813	.....	0%	Athens	306	.....	-6%	Kankakee	609	.....	1%
Fort Smith	729	Fort Morgan	807	.....	-3%	Atlanta	303	.....	13%	Lawrenceville	624	.....	-6%
Harrison	726	Glenwood Springs	816	.....	4%	Augusta	308-309	...	-4%	Oak Park	603	.....	19%
Hope	718	Grand Junction	814-815	...	-1%	Buford	305	.....	-4%	Peoria	615-606	...	7%
Hot Springs	719	Greeley	806	.....	4%	Calhoun	307	.....	-11%	Peru	613	.....	3%
Jonesboro	724	Longmont	805	.....	2%	Columbus	318-319	...	-6%	Quincy	602	.....	17%
Little Rock	720-722	Pagosa Springs	811	.....	-6%	Dublin/Fort Valley	310	.....	-9%	Rockford	610-611	...	4%
Pine Bluff	716	Pueblo	810	.....	2%	Hinesville	313	.....	-6%	Springfield	625-527	...	0%
Russellville	728	Salida	812	.....	-5%	Kings Bay	315	.....	-4%	Urbana	619	.....	-3%
West Memphis	723	Connecticut	12%			Macon	312	.....	-3%	Indiana	-2%		
California	8%	Bridgeport	066	.....	12%	Marietta	300-302	...	4%	Aurora	470	.....	-4%
Alhambra	917-918	Bristol	060	.....	12%	Savannah	314	.....	-5%	Bloomington	474	.....	-1%
Bakersfield	932-933	Fairfield	064	.....	14%	Statesboro	304	.....	-11%	Columbus	472	.....	-4%
El Centro	922	Hartford	061	.....	14%	Valdosta	316	.....	-3%	Elkhart	465	.....	-4%
Eureka	955	New Haven	065	.....	12%					Evansville	476-477	...	4%
Fresno	936-938												

Fort Wayne	467-468	...-3%	Maine		-7%	Meridian	393	.....-4%	Gallup	873	.....-8%
Gary	463-464	...20%	Auburn	042	.....-5%	Tupelo	388	.....-9%	Holman	877	.....-11%
Indianapolis	460-462	...7%	Augusta	043	.....-8%	Missouri		-4%	Las Cruces	880	.....-13%
Jasper	475	.....-8%	Bangor	044	.....-8%	Cape Girardeau	637	.....-4%	Santa Fe	875	.....-9%
Jeffersonville	471	.....-4%	Bath	045	.....-7%	Caruthersville	638	.....-9%	Socorro	878	.....-17%
Kokomo	469	.....-8%	Brunswick	046	.....-2%	Chillicothe	646	.....-8%	Truth or Consequences	879	.....-13%
Lafayette	479	.....-6%	Camden	047	.....-11%	Columbia	652	.....-5%	Tucumcari	884	.....-11%
Muncie	473	.....-9%	Cutler	048	.....-10%	East Lynne	647	.....-6%	Nevada		4%
South Bend	466	.....-3%	Dexter	049	.....-8%	Farmington	636	.....-9%	Carson City	897	.....-6%
Terre Haute	478	.....-3%	Northern Area	050	.....-10%	Hannibal	634	.....-2%	Elko	898	.....21%
Iowa		-4%	Portland	051	.....0%	Independence	640	.....5%	Ely	893	.....1%
Burlington	526	.....-3%	Maryland		2%	Jefferson City	650-651	...-5%	Fallon	894	.....2%
Carroll	514	.....-11%	Annapolis	214	.....8%	Joplin	648	.....-8%	Las Vegas	889-891	...3%
Cedar Falls	506	.....-4%	Baltimore	210-212	...8%	Kansas City	641	.....7%	Reno	895	.....1%
Cedar Rapids	522-524	...3%	Bethesda	208-209	...13%	Kirksville	635	.....-13%	New York		9%
Cherokee	510	.....-1%	Church Hill	216	.....-4%	Knob Noster	653	.....-7%	Albany	120-123	...9%
Council Bluffs	515	.....-1%	Cumberland	215	.....-10%	Lebanon	654-655	...-13%	Amityville	117	.....15%
Creston	508	.....-8%	Elkton	219	.....-2%	Poplar Bluff	639	.....-7%	Batavia	140	.....1%
Davenport	527-528	...3%	Frederick	217	.....5%	Saint Charles	633	.....2%	Binghamton	137	.....0%
Decorah	521	.....-7%	Laurel	206-207	...9%	Saint Joseph	644-645	...2%	Bronx	104	.....16%
Des Moines	500-503	...4%	Salisbury	218	.....-6%	Springfield	656-658	...-9%	Brooklyn	112	.....14%
Dubuque	520	.....-3%	Massachusetts		13%	St Louis	630-631	...7%	Buffalo	142	.....2%
Fort Dodge	505	.....-3%	Ayer	015-016	...8%	Montana		-4%	Elmira	149	.....-1%
Mason City	504	.....-3%	Bedford	017	.....18%	Billings	590-591	...0%	Flushing	113	.....23%
Ottumwa	525	.....-6%	Boston	021-022	...34%	Butte	597	.....-5%	Garden City	115	.....21%
Sheldon	512	.....-8%	Brockton	023-024	...21%	Fairview	592	.....3%	Hicksville	118	.....20%
Shenandoah	516	.....-13%	Cape Cod	026	.....4%	Great Falls	594	.....-4%	Ithaca	148	.....-3%
Sioux City	511	.....3%	Chicopee	010	.....8%	Havre	595	.....-10%	Jamaica	114	.....22%
Spencer	513	.....-8%	Dedham	019	.....17%	Helena	596	.....-3%	Jamestown	147	.....-5%
Waterloo	507	.....-5%	Fitchburg	014	.....13%	Kalispell	599	.....-7%	Kingston	124	.....-3%
Kansas		-7%	Hingham	020	.....20%	Miles City	593	.....-7%	Long Island	111	.....36%
Colby	677	.....-7%	Lawrence	018	.....16%	Missoula	598	.....-7%	Montauk	119	.....13%
Concordia	669	.....-13%	Nantucket	025	.....11%	Nebraska		-9%	New York (Manhattan)	100	.....37%
Dodge City	678	.....-6%	New Bedford	027	.....10%	Alliance	693	.....-10%	New York City	100-102	...37%
Emporia	668	.....-5%	Northfield	013	.....1%	Columbus	686	.....-6%	Newcomb	128	.....1%
Fort Scott	667	.....-8%	Pittsfield	012	.....1%	Grand Island	688	.....-7%	Niagara Falls	143	.....-6%
Hays	676	.....-13%	Springfield	011	.....9%	Hastings	689	.....-9%	Plattsburgh	129	.....-1%
Hutchinson	675	.....-7%	Michigan		1%	Lincoln	683-685	...-5%	Poughkeepsie	125-126	...2%
Independence	673	.....0%	Battle Creek	490-491	...-1%	McCook	690	.....-11%	Queens	110	.....25%
Liberal	679	.....-7%	Detroit	481-482	...8%	Norfolk	687	.....-9%	Rochester	144-146	...2%
Salina	674	.....-8%	Flint	484-485	...-5%	North Platte	691	.....-10%	Rockaway	116	.....18%
Wichita	670	.....-5%	Grand Rapids	493-495	...1%	Omaha	680-681	...-1%	Rome	133-134	...-4%
Kentucky		-4%	Grayling	497	.....-8%	Valentine	692	.....-15%	Staten Island	103	.....15%
Ashland	411-412	...-6%	Jackson	492	.....-2%	New Hampshire		0%	Stewart	127	.....-3%
Bowling Green	421	.....-5%	Lansing	488-489	...2%	Charlestown	036	.....-4%	Syracuse	130-132	...2%
Campton	413-414	...-10%	Marquette	498-499	...1%	Concord	034	.....-1%	Tonawanda	141	.....-1%
Covington	410	.....1%	Pontiac	483	.....10%	Dover	038	.....3%	Utica	135	.....-6%
Elizabethtown	427	.....-9%	Royal Oak	480	.....8%	Lebanon	037	.....-2%	Watertown	136	.....2%
Frankfort	406	.....-1%	Saginaw	486-487	...-6%	Littleton	035	.....-3%	West Point	109	.....9%
Hazard	417-418	...-6%	Traverse City	496	.....-1%	Manchester	032-033	...3%	White Plains	105-108	...19%
Hopkinsville	422	.....-7%	Minnesota		0%	New Boston	030-031	...5%	North Carolina		-5%
Lexington	403-405	...2%	Bemidji	566	.....-5%	New Jersey		14%	Asheville	287	.....-8%
London	407-409	...-7%	Brainerd	564	.....-1%	Atlantic City	080	.....10%	Charlotte	280-282	...6%
Louisville	400-402	...1%	Duluth	556-558	...1%	Brick	087	.....6%	Durham	277	.....1%
Owensboro	423	.....-3%	Fergus Falls	565	.....-8%	Dover	078	.....15%	Elizabeth City	279	.....-8%
Paducah	420	.....-2%	Magnolia	561	.....-9%	Edison	088	.....17%	Fayetteville	283	.....-7%
Pikeville	415-416	...-4%	Mankato	560	.....-3%	Hackensack	076	.....15%	Goldsboro	275	.....-1%
Somerset	425-426	...-10%	Minneapolis	553-555	...12%	Monmouth	077	.....16%	Greensboro	274	.....-4%
White Plains	424	.....-5%	Rochester	559	.....-2%	Newark	071-073	...16%	Hickory	286	.....-10%
Louisiana		0%	St Cloud	563	.....5%	Passaic	070	.....16%	Kingston	285	.....-10%
Alexandria	713-714	...-4%	St Paul	550-551	...11%	Paterson	074-075	...13%	Raleigh	276	.....2%
Baton Rouge	707-708	...10%	Thief River Falls	567	.....-1%	Princeton	085	.....15%	Rocky Mount	278	.....-7%
Houma	703	.....6%	Willmar	562	.....-3%	Summit	079	.....21%	Wilmington	284	.....-8%
Lafayette	705	.....2%	Mississippi		-8%	Trenton	086	.....13%	Winston-Salem	270-273	...-6%
Lake Charles	706	.....0%	Clarksdale	386	.....-9%	New Mexico		-10%	North Dakota		5%
Mandeville	704	.....-1%	Columbus	397	.....-1%	Alamogordo	883	.....-13%	Bismarck	585	.....4%
Minden	710	.....-6%	Greenville	387	.....-15%	Albuquerque	870-871	...-4%	Dickinson	586	.....10%
Monroe	712	.....-9%	Greenwood	389	.....-11%	Clovis	881	.....-12%	Fargo	580-581	...3%
New Orleans	700-701	...2%	Gulfport	395	.....-2%	Farmington	874	.....-1%	Grand Forks	582	.....1%
Shreveport	711	.....-4%	Jackson	390-392	...-5%	Fort Sumner	882	.....-3%			
			Laurel	394	.....-8%						
			McComb	396	.....-11%						

Jamestown	584	.....	-3%	New Castle	161	.....	-3%	Greenville	754	.....	.4%	Fairmont	266	.....	-11%
Minot	587	.....	.11%	Philadelphia	190-191	...	.13%	Houston	770-772	...	.12%	Huntington	255-257	...	-1%
Nekoma	583	.....	-.8%	Pittsburgh	152	.....	.5%	Huntsville	773	.....	.11%	Lewisburg	249	.....	-15%
Williston	588	.....	.21%	Pottsville	179	.....	-.8%	Longview	756	.....	-.1%	Martinsburg	254	.....	-.6%
Ohio			0%	Punxsutawney	157	.....	-.2%	Lubbock	793-794	...	-.7%	Morgantown	265	.....	-.5%
Akron	442-443	...	.1%	Reading	195196	...	.2%	Lufkin	759	.....	-.6%	New Martinsville	262	.....	-10%
Canton	446-447	...	-.1%	Scranton	184-185	...	-.1%	McAllen	785	.....	-13%	Parkersburg	261	.....	.2%
Chillicothe	456	.....	-.4%	Somerset	155	.....	-.9%	Midland	797	.....	.9%	Romney	267	.....	-.8%
Cincinnati	450-452	...	.4%	Southeastern	193	.....	.10%	Palestine	758	.....	-.6%	Sugar Grove	268	.....	-.8%
Cleveland	440-441	...	.3%	Uniontown	154	.....	-.5%	Plano	750	.....	.6%	Wheeling	260	.....	-.1%
Columbus	432	.....	.6%	Valley Forge	194	.....	.13%	San Angelo	769	.....	-.8%	Wisconsin			1%
Dayton	453-455	...	-.1%	Warminster	189	.....	.11%	San Antonio	780-782	...	-.1%	Amery	540	.....	.0%
Lima	458	.....	-.6%	Warrendale	150-151	...	.6%	Texarkana	755	.....	-.9%	Beloit	535	.....	.6%
Marietta	457	.....	-.4%	Washington	153	.....	.8%	Tyler	757	.....	-.7%	Clam Lake	545	.....	-.6%
Marion	433	.....	-.3%	Wilkes Barre	186-187	...	-.3%	Victoria	779	.....	.0%	Eau Claire	547	.....	-.3%
Newark	430-431	...	.4%	Williamsport	177	.....	-.2%	Waco	765-767	...	-.6%	Green Bay	541-543	...	.2%
Sandusky	448-449	...	-.1%	York	173-174	...	.2%	Wichita Falls	763	.....	-10%	La Crosse	546	.....	-.1%
Steubenville	439	.....	.1%	Rhode Island			6%	Woodson	764	.....	-.6%	Ladysmith	548	.....	.1%
Toledo	434-436	...	.6%	Bristol	028	.....	.7%	Utah			-4%	Madison	537	.....	.8%
Warren	444	.....	-.3%	Coventry	028	.....	.7%	Clearfield	840	.....	-.1%	Milwaukee	530-534	...	.7%
Youngstown	445	.....	.0%	Cranston	029	.....	.6%	Green River	845	.....	-.2%	Oshkosh	549	.....	.3%
Zanesville	437-438	...	-.1%	Davisville	028	.....	.7%	Ogden	843-844	...	-10%	Portage	539	.....	.4%
Oklahoma			-6%	Narragansett	028	.....	.7%	Provo	846-847	...	-.9%	Prairie du Chien	538	.....	-.6%
Adams	739	.....	-.9%	Newport	028	.....	.7%	Salt Lake City	841	.....	.1%	Wausau	544	.....	-.2%
Ardmore	734	.....	-.6%	Providence	029	.....	.6%	Vermont			-5%	Wyoming			-2%
Clinton	736	.....	-.3%	Warwick	028	.....	.7%	Albany	058	.....	-.7%	Casper	826	.....	.2%
Durant	747	.....	-13%	South Carolina			-4%	Battleboro	053	.....	-.4%	Cheyenne/ Laramie	820	.....	-.3%
Enid	737	.....	-.4%	Aiken	298	.....	.2%	Beecher Falls	059	.....	-.8%	Gillette	827	.....	.2%
Lawton	735	.....	-12%	Beaufort	299	.....	-.6%	Bennington	052	.....	-.8%	Powell	824	.....	-.8%
McAlester	745	.....	-.9%	Charleston	294	.....	-.1%	Burlington	054	.....	.3%	Rawlins	823	.....	.2%
Muskogee	744	.....	-.8%	Columbia	290-292	...	-.5%	Montpelier	056	.....	-.4%	Riverton	825	.....	-.7%
Norman	730	.....	-.4%	Greenville	296	.....	-.4%	Rutland	057	.....	-.8%	Rock Springs	829-831	...	.2%
Oklahoma City	731	.....	-.3%	Myrtle Beach	295	.....	-.9%	Springfield	051	.....	-.7%	Sheridan	828	.....	-.5%
Ponca City	746	.....	-.1%	Rock Hill	297	.....	-.8%	White River Junction	050	.....	-.6%	Wheatland	822	.....	-.7%
Poteau	749	.....	-.9%	Spartanburg	293	.....	-.4%	Virginia			-5%	CANADIAN AREA MODIFIERS			
Pryor	743	.....	-.8%	South Dakota			-8%	Abingdon	242	.....	-.9%	These figures assume an exchange rate of \$1.00 Canadian to \$0.93 U.S.			
Shawnee	748	.....	-10%	Aberdeen	574	.....	-.7%	Alexandria	220-223	...	.11%	Alberta			13%
Tulsa	740-741	...	-.1%	Mitchell	573	.....	-.8%	Charlottesville	229	.....	-.6%	Calgary	.....		.14%
Woodward	738	.....	-.2%	Mobridge	576	.....	-11%	Chesapeake	233	.....	-.3%	Edmonton	.....		.14%
Oregon			-5%	Pierre	575	.....	-13%	Culpeper	227	.....	-.5%	Fort McMurray	.....		.11%
Adrian	979	.....	-14%	Rapid City	577	.....	-.8%	Farmville	239	.....	-13%	British Columbia			7%
Bend	977	.....	-.8%	Sioux Falls	570-571	...	-.2%	Fredericksburg	224-225	...	-.5%	Fraser Valley	.....		.6%
Eugene	974	.....	-.3%	Watertown	572	.....	-.8%	Galax	243	.....	-12%	Okanagan	.....		.6%
Grants Pass	975	.....	-.6%	Tennessee			-3%	Harrisonburg	228	.....	-.8%	Vancouver	.....		.9%
Klamath Falls	976	.....	-10%	Chattanooga	374	.....	.0%	Lynchburg	245	.....	-.9%	Manitoba Average			0%
Pendleton	978	.....	-.4%	Clarksville	370	.....	.1%	Norfolk	235-237	...	-.2%	North Manitoba	.....		.0%
Portland	970-972	...	.10%	Cleveland	373	.....	-.2%	Petersburg	238	.....	-.4%	South Manitoba	.....		.0%
Salem	973	.....	-.3%	Columbia	384	.....	-.7%	Radford	241	.....	-10%	Selkirk	.....		.0%
Pennsylvania			-1%	Cookeville	385	.....	-10%	Reston	201	.....	.8%	Winnipeg	.....		.0%
Allentown	181	.....	.4%	Jackson	383	.....	-.4%	Richmond	232	.....	.2%	New Brunswick			-13%
Altoona	166	.....	-.8%	Kingsport	376	.....	-.5%	Roanoke	240	.....	-10%	Moncton	.....		-13%
Beaver Springs	178	.....	-.5%	Knoxville	377-379	...	-.1%	Staunton	244	.....	-.9%	Nova Scotia			-8%
Bethlehem	180	.....	.6%	McKenzie	382	.....	-.8%	Tazewell	246	.....	-.6%	Amherst	.....		-.8%
Bradford	167	.....	-.8%	Memphis	380-381	...	.2%	Virginia Beach	234	.....	-.5%	Nova Scotia	.....		-.7%
Butler	160	.....	-.2%	Nashville	371-372	...	.5%	Williamsburg	230-231	...	-.4%	Sydney	.....		-.8%
Chambersburg	172	.....	-.8%	Texas			-1%	Winchester	226	.....	-.5%	Newfoundland/ Labrador			-3%
Clearfield	168	.....	-.2%	Abilene	795-796	...	-.3%	Washington			0%	Ontario			7%
DuBois	158	.....	-10%	Amarillo	790-791	...	-.2%	Clarkston	994	.....	-.6%	London	.....		.7%
East Stroudsburg	183	.....	-.4%	Arlington	760	.....	.1%	Everett	982	.....	.3%	Thunder Bay	.....		.6%
Erie	164-165	...	-.7%	Austin	786-787	...	.4%	Olympia	985	.....	-.1%	Toronto	.....		.7%
Genesee	169	.....	-.7%	Bay City	774	.....	.23%	Pasco	993	.....	.2%	Quebec			-1%
Greensburg	156	.....	-.2%	Beaumont	776-777	...	.8%	Seattle	980-981	...	.12%	Montreal	.....		-.1%
Harrisburg	170-171	...	.3%	Brownwood	768	.....	-.9%	Spokane	990-992	...	-.3%	Quebec City	.....		-.1%
Hazleton	182	.....	-.5%	Brownwood	768	.....	-.9%	Tacoma	983-984	...	.3%	Saskatchewan			3%
Johnstown	159	.....	-.9%	Bryan	778	.....	-.5%	Vancouver	986	.....	.2%	La Ronge	.....		.3%
Kittanning	162	.....	-.6%	Childress	792	.....	-14%	Wenatchee	988	.....	-.5%	Prince Albert	.....		.2%
Lancaster	175	.....	.1%	Corpus Christi	783-784	...	.5%	Yakima	989	.....	-.4%	Saskatoon	.....		.5%
Meadville	163	.....	-11%	Dallas	751-753	...	.5%	West Virginia			-5%				
Montrose	188	.....	.2%	Del Rio	788	.....	-.8%	Beckley	258-259	...	-.6%				
				El Paso	798-799	...	-12%	Bluefield	247-248	...	.0%				
				Fort Worth	761-762	...	.1%	Charleston	250-253	...	.6%				
				Galveston	775	.....	.10%	Clarksburg	263-264	...	-.4%				
				Giddings	789	.....	-.1%								

Crew Compositions & Wage Rates

Crew Code		Manhours per day	Total costs \$/Hr.	\$/Day	Average Crew Rate (ACR) per Hour	Average Crew Rate (ACROP) per Hour w/O&P
AB	1 Air tool operator	8.00	\$42.62	\$340.96		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	16.00		\$574.00	\$35.88	\$50.23
AD	2 Air tool operators	16.00	\$42.62	\$681.92		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	24.00		\$914.96	\$38.12	\$53.37
BD	3 Bricklayers	24.00	\$36.70	\$880.80		
	2 Bricktenders	16.00	\$27.22	\$435.52		
	TOTAL	40.00		\$1,316.32	\$32.91	\$46.73
BK	1 Bricklayer	8.00	\$36.70	\$293.60		
	1 Bricktender	8.00	\$27.22	\$217.76		
	TOTAL	16.00		\$511.36	\$31.96	\$45.38
BO	2 Bricklayers	16.00	\$36.70	\$587.20		
	2 Bricktenders	16.00	\$27.22	\$435.52		
	TOTAL	32.00		\$1,022.72	\$31.96	\$45.38
2C	2 Carpenters	16.00	\$36.20	\$579.20	\$36.20	\$50.68
CA	1 Carpenter	8.00	\$36.20	\$289.60	\$36.20	\$50.68
CH	1 Carpenter	8.00	\$36.20	\$289.60		
	1/2 Laborer	4.00	\$29.13	\$116.52		
	TOTAL	12.00		\$406.12	\$33.84	\$47.38
CJ	1 Carpenter	8.00	\$36.20	\$289.60		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	16.00		\$522.64	\$32.67	\$45.73
CN	2 Carpenters	16.00	\$36.20	\$579.20		
	1/2 Laborer	4.00	\$29.13	\$116.52		
	TOTAL	20.00		\$695.72	\$34.79	\$48.70
CS	2 Carpenters	16.00	\$36.20	\$579.20		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	24.00		\$812.24	\$33.84	\$47.38
CT	1 Mosaic & terrazzo setter	8.00	\$33.90	\$271.20	\$33.90	\$48.14
CU	4 Carpenters	32.00	\$36.20	\$1,158.40		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	40.00		\$1,391.44	\$34.79	\$48.70
CW	2 Carpenters	16.00	\$36.20	\$579.20		
	2 Laborers	16.00	\$29.13	\$466.08		
	TOTAL	32.00		\$1,045.28	\$32.67	\$45.73
CX	4 Carpenters	32.00	\$36.20	\$1,158.40	\$36.20	\$50.68

Crew Code		Manhours per day	Total costs \$/Hr.	\$/Day	Average Crew Rate (ACR) per Hour	Average Crew Rate (ACROP) per Hour w/O&P
CY	3 Carpenters	24.00	\$36.20	\$868.80		
	2 Laborers	16.00	\$29.13	\$466.08		
	1 Equipment operator	8.00	\$41.28	\$330.24		
	1 Laborer	8.00	\$29.13	\$233.04		
TOTAL		56.00		\$1,898.16	\$33.90	\$47.45
CZ	4 Carpenters	32.00	\$36.20	\$1,158.40		
	3 Laborers	24.00	\$29.13	\$699.12		
	1 Equipment operator	8.00	\$41.28	\$330.24		
	1 Laborer	8.00	\$29.13	\$233.04		
TOTAL		72.00		\$2,420.80	\$33.62	\$47.07
DD	2 Cement masons	16.00	\$34.33	\$549.28		
	1 Laborer	8.00	\$29.13	\$233.04		
TOTAL		24.00		\$782.32	\$32.60	\$46.29
DF	3 Cement masons	24.00	\$34.33	\$823.92		
	5 Laborers	40.00	\$29.13	\$1,165.20		
TOTAL		64.00		\$1,989.12	\$31.08	\$44.13
DI	1 Drywall installer	8.00	\$35.23	\$281.84	\$35.23	\$49.32
DJ	1 Drywall installer	8.00	\$35.23	\$281.84		
	1 Laborer	8.00	\$29.13	\$233.04		
TOTAL		16.00		\$514.88	\$32.18	\$45.05
DK	1 Drywall installer	8.00	\$35.23	\$281.84		
	1 Drywall taper	8.00	\$35.18	\$281.44		
TOTAL		16.00		\$563.28	\$35.21	\$49.29
DL	2 Drywall installers	16.00	\$35.23	\$563.68		
	1 Drywall taper	8.00	\$35.18	\$281.44		
TOTAL		24.00		\$845.12	\$35.21	\$49.30
DM	2 Drywall installers	16.00	\$35.23	\$563.68	\$35.23	\$49.32
DT	1 Drywall taper	8.00	\$35.18	\$281.44	\$35.18	\$49.25
DU	2 Drywall tapers	16.00	\$35.18	\$562.88	\$35.18	\$49.25
EA	1 Electrician	8.00	\$39.24	\$313.92	\$39.24	\$56.90
EB	2 Electricians	16.00	\$39.24	\$627.84	\$39.24	\$56.90
ED	1 Electrician	8.00	\$39.24	\$313.92		
	1 Carpenter	8.00	\$36.20	\$289.60		
TOTAL		16.00		\$603.52	\$37.72	\$54.69
FA	1 Floorlayer	8.00	\$33.12	\$264.96	\$33.12	\$46.37
FB	2 Floorlayers	16.00	\$33.12	\$529.92		
	1/4 Laborer	2.00	\$29.13	\$58.26		
TOTAL		18.00		\$588.18	\$32.68	\$45.75
FC	1 Floorlayer (hardwood)	8.00	\$34.76	\$278.07	\$34.76	\$49.36

Crew Code		Manhours per day	Total costs \$/Hr.	\$/Day	Average Crew Rate (ACR) per Hour	Average Crew Rate (ACROP) per Hour w/O&P
FD	2 Floorlayers (hardwood)	16.00	\$34.76	\$556.14		
	1/4 Laborer	2.00	\$29.13	\$58.26		
	TOTAL	18.00		\$614.40	\$34.13	\$48.47
GA	1 Glazier	8.00	\$34.96	\$279.68	\$34.96	\$49.64
GB	2 Glaziers	16.00	\$34.96	\$559.36	\$34.96	\$49.64
GC	3 Glaziers	24.00	\$34.96	\$839.04	\$34.96	\$49.64
HA	1 Fence erector	8.00	\$37.49	\$299.93	\$37.49	\$53.24
HB	1 Fence erector	8.00	\$37.49	\$299.93		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	16.00		\$532.97	\$33.31	\$47.30
HD	2 Fence erectors	16.00	\$37.49	\$599.85		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	24.00		\$832.89	\$34.70	\$49.28
1L	1 Laborer	8.00	\$29.13	\$233.04	\$29.13	\$40.78
LB	2 Laborers	16.00	\$29.13	\$466.08	\$29.13	\$40.78
LC	2 Laborers	16.00	\$29.13	\$466.08		
	1 Carpenter	8.00	\$36.20	\$289.60		
	TOTAL	24.00		\$755.68	\$31.49	\$44.08
LD	2 Laborers	16.00	\$29.13	\$466.08		
	2 Carpenters	16.00	\$36.20	\$579.20		
	TOTAL	32.00		\$1,045.28	\$32.67	\$45.73
LG	5 Laborers	40.00	\$29.13	\$1,165.20		
	1 Carpenter	8.00	\$36.20	\$289.60		
	TOTAL	48.00		\$1,454.80	\$30.31	\$42.43
LH	3 Laborers	24.00	\$29.13	\$699.12	\$29.13	\$40.78
LJ	4 Laborers	32.00	\$29.13	\$932.16	\$29.13	\$40.78
LK	2 Laborers	16.00	\$29.13	\$466.08		
	2 Carpenters	16.00	\$36.20	\$579.20		
	1 Equipment operator	8.00	\$41.28	\$330.24		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	48.00		\$1,608.56	\$33.51	\$46.92
LL	3 Laborers	24.00	\$29.13	\$699.12		
	1 Carpenter	8.00	\$36.20	\$289.60		
	1 Equipment operator	8.00	\$41.28	\$330.24		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	48.00		\$1,552.00	\$32.33	\$45.27
LR	1 Lather	8.00	\$34.73	\$277.84	\$34.73	\$49.32
MB	1 Millwright finish carpenter	8.00	\$34.03	\$272.24	\$34.03	\$48.32
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	16.00		\$505.28	\$31.58	\$44.84

Crew Code		Manhours per day	Total costs \$/Hr.	\$/Day	Average Crew Rate (ACR) per Hour	Average Crew Rate (ACROP) per Hour w/O&P
ML	2 Bricklayers	16.00	\$36.70	\$587.20		
	1 Bricktender	8.00	\$27.22	\$217.76		
	TOTAL	24.00		\$804.96	\$33.54	\$47.63
MR	1 Millwright finish carpenter	8.00	\$34.03	\$272.24	\$34.03	\$48.32
NA	1 Painter (brush)	8.00	\$36.93	\$295.44	\$36.93	\$51.70
NC	1 Painter (spray)	8.00	\$38.03	\$304.20	\$38.03	\$53.24
PD	2 Plasterers	16.00	\$36.26	\$580.16		
	1 Plasterer helper	8.00	\$28.43	\$227.44		
	TOTAL	24.00		\$807.60	\$33.65	\$47.78
PE	3 Plasterers	24.00	\$36.26	\$870.24		
	2 Plasterer helpers	16.00	\$28.43	\$454.88		
	TOTAL	40.00		\$1,325.12	\$33.13	\$47.04
QA	1 Paperhanger	8.00	\$38.78	\$310.23	\$38.78	\$56.23
2R	2 Roofers (journeyman)	16.00	\$40.49	\$647.84	\$40.49	\$59.52
RG	2 Roofers (journeyman)	16.00	\$40.49	\$647.84		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	24.00		\$880.88	\$36.70	\$53.95
RJ	2 Roofers (wood shingles)	16.00	\$42.51	\$680.10	\$42.51	\$62.48
RL	2 Roofers (journeyman)	16.00	\$40.49	\$647.84		
	1/2 Laborer	4.00	\$29.13	\$116.52		
	TOTAL	20.00		\$764.36	\$38.22	\$56.18
RM	2 Roofers (wood shingles)	16.00	\$42.51	\$680.10		
	1/2 Laborer	4.00	\$29.13	\$116.52		
	TOTAL	20.00		\$796.62	\$39.83	\$58.55
RQ	2 Roofers (wood shingles)	16.00	\$42.51	\$680.10		
	7/8 Laborer	7.00	\$29.13	\$203.91		
	TOTAL	23.00		\$884.01	\$38.44	\$56.50
RS	1 Roofer (foreman)	8.00	\$44.53	\$356.26		
	3 Roofers (pitch)	24.00	\$41.71	\$1,000.99		
	2 Laborers	16.00	\$29.13	\$466.08		
	TOTAL	48.00		\$1,823.33	\$37.99	\$55.84
RT	2 Roofers (pitch)	16.00	\$41.71	\$667.33		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	24.00		\$900.37	\$37.52	\$55.15
SA	1 Plumber	8.00	\$41.98	\$335.84	\$41.98	\$60.87
SB	1 Plumber	8.00	\$41.98	\$335.84		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	16.00		\$568.88	\$35.56	\$51.55

Crew Code		Manhours per day	Total costs \$/Hr.	\$/Day	Average Crew Rate (ACR) per Hour	Average Crew Rate (ACROP) per Hour w/O&P
SC	1 Plumber	8.00	\$41.98	\$335.84		
	1 Electrician	8.00	\$39.24	\$313.92		
	TOTAL	16.00		\$649.76	\$40.61	\$58.88
SD	1 Plumber	8.00	\$41.98	\$335.84		
	1 Laborer	8.00	\$29.13	\$233.04		
	1 Electrician	8.00	\$39.24	\$313.92		
TOTAL	24.00		\$882.80	\$36.78	\$53.34	
SE	2 Plumbers	16.00	\$41.98	\$671.68		
	1 Laborer	8.00	\$29.13	\$233.04		
	1 Electrician	8.00	\$39.24	\$313.92		
TOTAL	32.00		\$1,218.64	\$38.08	\$55.22	
SF	2 Plumbers	16.00	\$41.98	\$671.68		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	24.00		\$904.72	\$37.70	\$54.66
SG	3 Plumbers	24.00	\$41.98	\$1,007.52		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	32.00		\$1,240.56	\$38.77	\$56.21
TB	1 Tile setter (ceramic)	8.00	\$34.45	\$275.60		
	1 Tile setter helper (ceramic)	8.00	\$25.90	\$207.23		
	TOTAL	16.00		\$482.83	\$30.18	\$42.85
UA	1 Sheet metal worker	8.00	\$40.75	\$326.00	\$40.75	\$57.87
UB	2 Sheet metal workers	16.00	\$40.75	\$652.00	\$40.75	\$57.87
UC	2 Sheet metal workers	16.00	\$40.75	\$652.00		
	2 Laborers	16.00	\$29.13	\$466.08		
	TOTAL	32.00		\$1,118.08	\$34.94	\$49.61
UD	1 Sheet metal worker	8.00	\$40.75	\$326.00		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	16.00		\$559.04	\$34.94	\$49.61
UE	1 Sheet metal worker	8.00	\$40.75	\$326.00		
	1 Laborer	8.00	\$29.13	\$233.04		
	1/2 Electrician	4.00	\$39.24	\$156.96		
TOTAL	20.00		\$716.00	\$35.80	\$50.84	
UF	2 Sheet metal workers	16.00	\$40.75	\$652.00		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	24.00		\$885.04	\$36.88	\$52.36
VB	1 Equipment operator	8.00	\$41.28	\$330.24		
	1 Laborer	8.00	\$29.13	\$233.04		
	TOTAL	16.00		\$563.28	\$35.21	\$49.29

Abbreviations Used in This Book

ABS	acrylonitrile butadiene styrene	F.H.A.	Federal Housing Administration	PSI	per square inch
ACR	average crew rate	fl. oz.	fluid ounce	PVC	polyvinyl chloride
AGA	American Gas Association	flt	flight	Qt.	quart
AMP	ampere	ft.	foot	R.E.	rounded edge
Approx.	approximately	ga.	gauge	R/L	random length
ASME	American Society of Mechanical Engineers	gal	gallon	RS	rapid start (lamps)
auto.	automatic	galv.	galvanized	R/W/L	random width and length
Avg.	average	GFI	ground fault interrupter	S4S	surfaced-four-sides
Bdle.	bundle	GPH	gallons per hour	SF	square foot
BTU	British thermal unit	GPM	gallons per minute	SL	slimline (lamps)
BTUH	British thermal unit per hour	H	height or high	Sq.	1 square or 100 square feet
C	100	HP, hp	horsepower	S.S.B.	single strength, B quality
cc	center to center or cubic centimeter	Hr.	hour	std.	standard
CF	cubic foot	HVAC	heating, ventilating, air conditioning	SY	square yard
CFM	cubic foot per minute	i.d.	inside diameter	T	thick
CLF	100 linear feet	i.e.	that is	T&G	tongue and groove
Const.	construction	Inst	install	U	thermal conductivity
Corr.	corrugated	I.P.S.	iron pipe size	U.I.	united inches
CSF	100 square feet	KD	knocked down	UL	Underwriters Laboratories
CSY	100 square yards	KW, kw	kilowatts	U.S.G.	United States Gypsum
Ctn	carton	L	length or long	VLF	vertical linear feet
CWT	100 pounds	lb, lbs.	pound(s)	W	width or wide
CY	cubic yard	LF	linear feet	yr.	year
Cu.	cubic	LS	lump sum		
d	penny	M	1000		
D	deep or depth	Mat'l	material		
Demo	demolish	Max.	maximum		
dia.	diameter	MBF	1000 board feet		
D.S.A.	double strength, A grade	MBHP	1000 boiler horsepower		
D.S.B.	double strength, B grade	Mi	miles		
Ea	each	Min.	minimum		
e.g.	for example	MSF	1000 square feet		
etc.	et cetera	O.B.	opposed blade		
exp.	exposure	oc	on center		
FAS	First and Select grade	o.d.	outside dimension		
		oz.	ounce		
		pcs.	pieces		
		pkg.	package		

Symbols

/	per
%	percent
"	inches
'	foot or feet
x	by
o	degree
#	number or pounds
\$	dollar
+/-	plus or minus

For crew abbreviations, please see Crew Compositions & Wage Rates chart, pages 15 to 19.

Acoustical and insulating tile

1. Dimensions

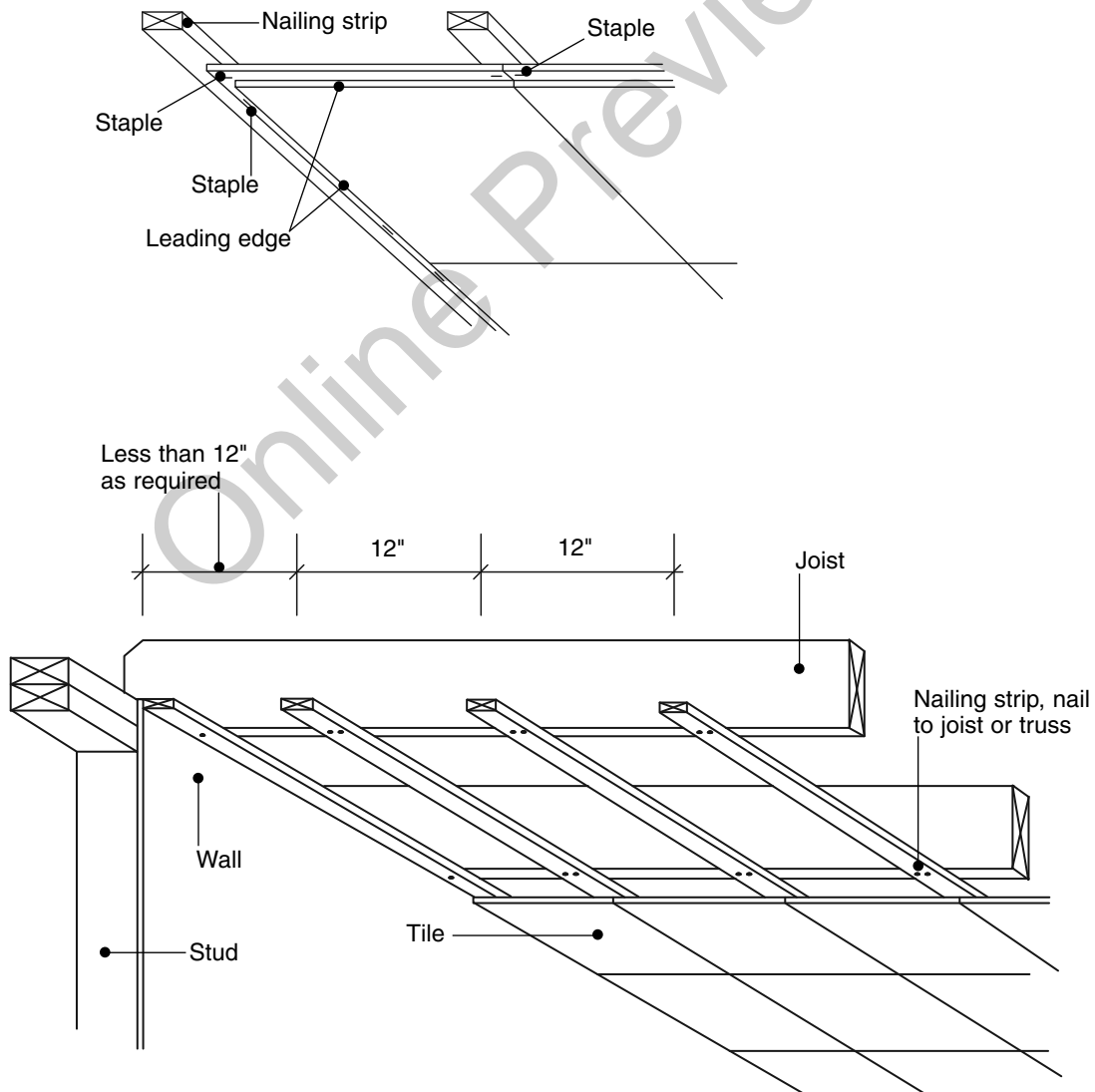
- a. Acoustical tile. 1/2" thick x 12" x 12", 24".
- b. Insulating tile, decorative. 1/2" thick x 12" x 12", 24"; 1/2" thick x 16" x 16", 32".

2. **Installation.** Tile may be applied to existing plaster (if joist spacing is suitable) or to wood furring strips. Tile may have a square edge or flange. Depending on the type and shape of the tile, you can use adhesive, staples, nails or clips to attach the tile.

3. **Estimating Technique.** Determine area and add 5 percent to 10 percent for waste.

4. **Notes on Material Pricing.** A material price of \$20.00 a gallon for adhesive was used to compile the Average Material Cost/Unit on the following pages. Here are the coverage rates:

12" x 12"	1.25 Gal/CSF
12" x 24"	0.95 Gal/CSF
16" x 16"	0.75 Gal/CSF
16" x 32"	0.55 Gal/CSF



Description	Oper	Unit	Vol	Crew Size	Man-hours per Unit	Crew Output per Day	Avg Mat'l Unit Cost	Avg Labor Unit Cost	Avg Equip Unit Cost	Avg Total Unit Cost	Avg Price Incl O&P
-------------	------	------	-----	-----------	--------------------	---------------------	---------------------	---------------------	---------------------	---------------------	--------------------

Acoustical treatment

See also *Suspended ceiling systems*, page 439

Ceiling and wall tile

Adhesive set

Tile only, no grid system

Demo	SF	Lg	LB	.012	1300	---	.35	---	.35	.49
Demo	SF	Sm	LB	.018	910.0	---	.52	---	.52	.73

Tile on furring strips

Demo	SF	Lg	LB	.009	1710	---	.26	---	.26	.37
Demo	SF	Sm	LB	.013	1197	---	.38	---	.38	.53

Mineral fiber, vinyl coated, tile only

Applied in square pattern by adhesive to solid backing; 5% tile waste
1/2" thick, 12" x 12" or 12" x 24"

Economy, mini perforated	Inst	SF	Lg	2C	.018	880.0	.76	.65	---	1.41	1.79
	Inst	SF	Sm	2C	.026	616.0	.84	.94	---	1.78	2.28
Standard, random perforated	Inst	SF	Lg	2C	.018	880.0	1.46	.65	---	2.11	2.59
	Inst	SF	Sm	2C	.026	616.0	1.61	.94	---	2.55	3.17
Designer, swirl perforation	Inst	SF	Lg	2C	.018	880.0	2.03	.65	---	2.68	3.25
	Inst	SF	Sm	2C	.026	616.0	2.24	.94	---	3.18	3.89
Deluxe, sculptured face	Inst	SF	Lg	2C	.018	880.0	2.44	.65	---	3.09	3.72
	Inst	SF	Sm	2C	.026	616.0	2.69	.94	---	3.63	4.41

5/8" thick, 12" x 12" or 12" x 24"

Economy, mini perforated	Inst	SF	Lg	2C	.018	880.0	.92	.65	---	1.57	1.97
	Inst	SF	Sm	2C	.026	616.0	1.02	.94	---	1.96	2.49
Standard, random perforated	Inst	SF	Lg	2C	.018	880.0	1.79	.65	---	2.44	2.97
	Inst	SF	Sm	2C	.026	616.0	1.98	.94	---	2.92	3.59
Designer, swirl perforation	Inst	SF	Lg	2C	.018	880.0	2.50	.65	---	3.15	3.79
	Inst	SF	Sm	2C	.026	616.0	2.75	.94	---	3.69	4.48
Deluxe, sculptured face	Inst	SF	Lg	2C	.018	880.0	3.02	.65	---	3.67	4.39
	Inst	SF	Sm	2C	.026	616.0	3.33	.94	---	4.27	5.15

3/4" thick, 12" x 12" or 12" x 24"

Economy, mini perforated	Inst	SF	Lg	2C	.018	880.0	1.02	.65	---	1.67	2.09
	Inst	SF	Sm	2C	.026	616.0	1.12	.94	---	2.06	2.61
Standard, random perforated	Inst	SF	Lg	2C	.018	880.0	1.99	.65	---	2.64	3.20
	Inst	SF	Sm	2C	.026	616.0	2.19	.94	---	3.13	3.84
Designer, swirl perforation	Inst	SF	Lg	2C	.018	880.0	2.78	.65	---	3.43	4.11
	Inst	SF	Sm	2C	.026	616.0	3.07	.94	---	4.01	4.85
Deluxe, sculptured face	Inst	SF	Lg	2C	.018	880.0	3.36	.65	---	4.01	4.78
	Inst	SF	Sm	2C	.026	616.0	3.70	.94	---	4.64	5.57

Applied by adhesive to furring strips ADD

Inst	SF	Lg	2C	.002	---	---	.07	---	.07	.10
Inst	SF	Sm	2C	.002	---	---	.07	---	.07	.10

Description	Oper	Unit	Vol	Crew Size	Man-hours per Unit	Crew Output per Day	Avg Mat'l Unit Cost	Avg Labor Unit Cost	Avg Equip Unit Cost	Avg Total Unit Cost	Avg Price Incl O&P
-------------	------	------	-----	-----------	--------------------	---------------------	---------------------	---------------------	---------------------	---------------------	--------------------

Stapled

Tile only, no grid system	Demo	SF	Lg	LB	.014	1170	---	.41	---	.41	.57
	Demo	SF	Sm	LB	.020	819	---	.58	---	.58	.82
Tile on furring strips	Demo	SF	Lg	LB	.010	1540	---	.29	---	.29	.41
	Demo	SF	Sm	LB	.015	1078	---	.44	---	.44	.61

Mineral fiber, vinyl coated, tile only

Applied in square pattern by staples, nails, or clips; 5% tile waste

1/2" thick, 12" x 12" or 12" x 24"

Economy, mini perforated	Inst	SF	Lg	2C	.017	960.0	.68	.62	---	1.30	1.64
	Inst	SF	Sm	2C	.024	672.0	.75	.87	---	1.62	2.08
Standard, random perforated	Inst	SF	Lg	2C	.017	960.0	1.37	.62	---	1.99	2.44
	Inst	SF	Sm	2C	.024	672.0	1.51	.87	---	2.38	2.95
Designer, swirl perforation	Inst	SF	Lg	2C	.017	960.0	1.94	.62	---	2.56	3.09
	Inst	SF	Sm	2C	.024	672.0	2.14	.87	---	3.01	3.68
Deluxe, sculptured face	Inst	SF	Lg	2C	.017	960.0	2.35	.62	---	2.97	3.56
	Inst	SF	Sm	2C	.024	672.0	2.59	.87	---	3.46	4.19

5/8" thick, 12" x 12" or 12" x 24"

Economy, mini perforated	Inst	SF	Lg	2C	.017	960.0	.83	.62	---	1.45	1.82
	Inst	SF	Sm	2C	.024	672.0	.92	.87	---	1.79	2.27
Standard, random perforated	Inst	SF	Lg	2C	.017	960.0	1.71	.62	---	2.33	2.83
	Inst	SF	Sm	2C	.024	672.0	1.88	.87	---	2.75	3.38
Designer, swirl perforation	Inst	SF	Lg	2C	.017	960.0	2.41	.62	---	3.03	3.63
	Inst	SF	Sm	2C	.024	672.0	2.66	.87	---	3.53	4.28
Deluxe, sculptured face	Inst	SF	Lg	2C	.017	960.0	2.93	.62	---	3.55	4.23
	Inst	SF	Sm	2C	.024	672.0	3.23	.87	---	4.10	4.93

3/4" thick, 12" x 12" or 12" x 24"

Economy, mini perforated	Inst	SF	Lg	2C	.017	960.0	.93	.62	---	1.55	1.93
	Inst	SF	Sm	2C	.024	672.0	1.03	.87	---	1.90	2.40
Standard, random perforated	Inst	SF	Lg	2C	.017	960.0	1.90	.62	---	2.52	3.05
	Inst	SF	Sm	2C	.024	672.0	2.10	.87	---	2.97	3.63
Designer, swirl perforation	Inst	SF	Lg	2C	.017	960.0	2.70	.62	---	3.32	3.97
	Inst	SF	Sm	2C	.024	672.0	2.97	.87	---	3.84	4.63
Deluxe, sculptured face	Inst	SF	Lg	2C	.017	960.0	3.27	.62	---	3.89	4.62
	Inst	SF	Sm	2C	.024	672.0	3.61	.87	---	4.48	5.37

Applied by staples, nails or clips to furring strips ADD

	Inst	SF	Lg	2C	.017	960.0	---	.62	---	.62	.86
	Inst	SF	Sm	2C	.024	672.0	---	.87	---	.87	1.22

Tile patterns, effect on labor

Herringbone, Increase manhours	Inst	%	Lg	2C	25.0	---	---	---	---	---	---
	Inst	%	Sm	2C	25.0	---	---	---	---	---	---
Diagonal, Increase manhours	Inst	%	Lg	2C	20.0	---	---	---	---	---	---
	Inst	%	Sm	2C	20.0	---	---	---	---	---	---
Ashlar, Increase manhours	Inst	%	Lg	2C	30.0	---	---	---	---	---	---
	Inst	%	Sm	2C	30.0	---	---	---	---	---	---

Description	Oper	Unit	Vol	Crew Size	Man-hours per Unit	Crew Output per Day	Avg Mat'l Unit Cost	Avg Labor Unit Cost	Avg Equip Unit Cost	Avg Total Unit Cost	Avg Price Incl O&P
-------------	------	------	-----	-----------	--------------------	---------------------	---------------------	---------------------	---------------------	---------------------	--------------------

Furring strips, 8% waste included

Over wood

1" x 4", 12" oc	Inst	SF	Lg	2C	.010	1600	.27	.36	---	.63	.82
	Inst	SF	Sm	2C	.014	1120	.30	.51	---	.81	1.05
1" x 4", 16" oc	Inst	SF	Lg	2C	.008	1920	.24	.29	---	.53	.68
	Inst	SF	Sm	2C	.012	1344	.26	.43	---	.69	.91

Over plaster

1" x 4", 12" oc	Inst	SF	Lg	2C	.013	1280	.27	.47	---	.74	.97
	Inst	SF	Sm	2C	.018	896	.30	.65	---	.95	1.26
1" x 4", 16" oc	Inst	SF	Lg	2C	.010	1600	.24	.36	---	.60	.78
	Inst	SF	Sm	2C	.014	1120	.26	.51	---	.77	1.01

Adhesives

Better quality, gun-applied in continuous bead to wood or metal framing or furring members.

Per 100 SF of surface area including 6% waste.

Panel adhesives

Subfloor adhesive, on floors

12" oc members

1/8" diameter (11 fl.oz./CSF)	Inst	CSF	Lg	CA	.075	106.0	4.02	2.72	---	6.74	8.30
	Inst	CSF	Sm	CA	.101	79.50	4.43	3.66	---	8.09	10.10
1/4" diameter (43 fl.oz./CSF)	Inst	CSF	Lg	CA	.075	106.0	16.00	2.72	---	18.72	21.70
	Inst	CSF	Sm	CA	.101	79.50	17.60	3.66	---	21.26	24.90
3/8" diameter (97 fl.oz./CSF)	Inst	CSF	Lg	CA	.075	106.0	36.10	2.72	---	38.82	44.20
	Inst	CSF	Sm	CA	.101	79.50	39.80	3.66	---	43.46	49.70
1/2" diameter (172 fl.oz./CSF)	Inst	CSF	Lg	CA	.075	106.0	63.90	2.72	---	66.62	75.30
	Inst	CSF	Sm	CA	.101	79.50	70.40	3.66	---	74.06	83.90

16" oc members

1/8" diameter (9 fl.oz./CSF)	Inst	CSF	Lg	CA	.056	143.0	3.21	2.03	---	5.24	6.43
	Inst	CSF	Sm	CA	.075	107.3	3.54	2.72	---	6.26	7.77
1/4" diameter (34 fl.oz./CSF)	Inst	CSF	Lg	CA	.056	143.0	12.80	2.03	---	14.83	17.20
	Inst	CSF	Sm	CA	.075	107.3	14.10	2.72	---	16.82	19.60
3/8" diameter (78 fl.oz./CSF)	Inst	CSF	Lg	CA	.056	143.0	28.90	2.03	---	30.93	35.20
	Inst	CSF	Sm	CA	.075	107.3	31.80	2.72	---	34.52	39.40
1/2" diameter (137 fl.oz./CSF)	Inst	CSF	Lg	CA	.056	143.0	51.10	2.03	---	53.13	60.10
	Inst	CSF	Sm	CA	.075	107.3	56.30	2.72	---	59.02	66.90

24" oc members

1/8" diameter (7 fl.oz./CSF)	Inst	CSF	Lg	CA	.052	154.0	2.41	1.88	---	4.29	5.33
	Inst	CSF	Sm	CA	.069	115.5	2.66	2.50	---	5.16	6.48
1/4" diameter (26 fl.oz./CSF)	Inst	CSF	Lg	CA	.052	154.0	9.59	1.88	---	11.47	13.40
	Inst	CSF	Sm	CA	.069	115.5	10.60	2.50	---	13.10	15.30
3/8" diameter (58 fl.oz./CSF)	Inst	CSF	Lg	CA	.052	154.0	21.70	1.88	---	23.58	26.90
	Inst	CSF	Sm	CA	.069	115.5	23.90	2.50	---	26.40	30.20
1/2" diameter (103 fl.oz./CSF)	Inst	CSF	Lg	CA	.052	154.0	38.30	1.88	---	40.18	45.50
	Inst	CSF	Sm	CA	.069	115.5	42.20	2.50	---	44.70	50.80

Index

A

- A.O. Smith water heaters 454-459
 Abbreviations used20
 Access doors375
 Accessibility
 site6
 workplace5
 Accessories
 air conditioning duct29-31
 bath39-43
 boiler264
 fiberglass panels169
 fireplaces171
 Accordion doors93
 Accurate estimating methods5
 Acoustical tile/panels
 adhesive cost21
 adhesive set22
 ceiling tile22-23
 demolition129
 dimensions21
 estimating technique21
 furring strips23-24
 installation21
 painting331
 patterns23-24
 stapled/no grid23
 suspended ceiling systems439-440
 wall tile22-23
 Acrylic
 bathtubs49-52
 diffusers278
 dome skylights427-428
 flooring, wood parquet blocks261
 Adhesives24-27
 ceiling panels22
 ceramic tile106
 drywall panels26-27
 floor panels23
 gypsum drywall panels26-27
 hardboard wall panels27
 plastic wall panels27
 polystyrene wall panels25-26
 polyurethane foam wall panels25-26
 subfloor24
 wall panels25-27
 Adjustable roof flashing451
 Adjuster, insurance5
 Adobe, brick290
 Aggregate, ready mix concrete103-105
 Air conditioning systems
 diffusers28
 ductwork29-31
 fans32
 system components28
 system units, complete35-37
 ventilation, residential33-34
 Air conditioning units
 fan coil35
 heat pumps36
 roof top36
 window37
 Air extractors, A/C duct30
 Air return, aluminum ventilation
 grilles34-35
 Air supply registers34-35
 Air tool operator
 crew rates15
 wages11
 Air tools, demolition115-116
 Alarm bell157
 Aluminum
 carport, freestanding75
 columns94
 cupola roof113
 diffusers28
 ductwork, A/C29
 exterior shutters387
 garage doors221
 grilles, ventilation34
 gutters and downspouts255
 kickplates134
 roofing359
 roofing, demolition123
 sash, window glass229
 screen doors150
 screening, wire, door150
 shower and tub doors376-380
 sliding glass door144-145, 378-380
 sliding glass door, demolition128
 thresholds135
 weathervanes113
 windows463-471
 windows, demolition126-127
 wire screening, door150
 Aluminum siding
 clapboard393
 corrugated393
 demolition393
 dimensions390
 estimating390
 installation390
 panels393
 shingles393
 American Standard Products
 Americast fixtures381-382, 418-420
 bathtubs47-52
 bidets447-448
 countertop bathroom sinks402-404
 kitchen sinks418-420
 pedestal sinks405-407
 shower bases381-382
 sinks418-420
 toilets443
 wall hung bathroom sinks411-412
 Americast
 shower bases381-382
 sinks418-420
 Angle bar, bathroom39, 40
 Anti-algae caulking82
 Antique bathtubs46-47
 Apron mold308
 Aqua Glass shower surround383
 Arch roof, calculating paint
 coverage327
 Architectural, cement, white105
 Archway, entrance160
 Area modification factors
 calculating12
 Canada14
 U.S.12
 Armstrong sheet vinyl352, 354
 Ash, V-grooved, paneling341
 Ash-sen, paneling341
 Ashlar pattern, tile installation23
 Asphalt shingles359-363
 demolition124, 359
 Asphalt tile flooring351, 353
 Assembled package
 door units137
 Astragal molding
 oak316
 pine304
 Attic
 access doors375
 ventilation33-34
 Average costs4
 Average manhours per unit4
 demolition114
 Awning windows472-475
 Awnings
 aluminum75
 canopies75-77
 canvas77
 patio76-77
 roll-up77
 window76-77
 wood, patio192
 Axial flow fans32

B

 B & B casing299
 Back band casing300
 Backfilling161
 Backsplash
 butcher block113
 ceramic tile106
 engineered stone111
 Formica106, 108, 110
 granite109
 marble109
 quartz110
 Silestone111
 stainless steel112
 Balusters, stair434
 Balustrade, curved oak437
 Band mold307
 Bar nosing, oak317
 Bar sinks423
 Bars, towel40
 Base cabinets, kitchen62-64
 installation procedure61
 Base cap, molding/trim302
 Base molding
 finger joint pine310-311
 installation298
 resin flexible319-320
 wood bullnose round corner324-325
 Base shoe
 finger joint pine310
 oak314
 oak base round corners320
 resin319
 solid pine301-302
 Basement stairs435
 Bases, shower381-382
 Basketweave fence, redwood162
 Bath accessories39-43
 costs explained38
 demolition122
 Bath caulking81-82
 anti-algae82
 mildew resistant82
 Bathroom
 sinks402-418
 wall heaters267-268
 Bathroom angle bar39
 Bathroom door locksets134
 Bathroom heaters267-268
 Ceiling Heat-A-Lite267
 Ceiling Heat-A-Ventlite267
 Bathroom wallpaper453
 Bathtub wall, ceramic tile83
 Bathtubs
 acrylic49-52
 American Standard Products47-52
 antique46-47
 cast iron46-47
 demolition386
 fiberglass44
 free-standing46-47
 Kohler Products46-47, 49, 52-58
 recessed47
 remove & reset44-45, 59
 rough-in45
 shower fixture45, 47, 59
 shower tub units386
 slip resistant48
 steel48
 sunken49-52
 whirlpool49-58
 Batt insulation268-273
 demolition123
 Batten siding391
 Batts
 lattice305-306
 pine399-400
 redwood318
 Bead casing299
 Beams
 built-up176-177
 demolition118
 dimension lumber176-179
 glu-lam230-249
 single member177-178
 Bedroom door locksets134
 Bell court casing310
 Benefits, employer paid11
 Bevel siding
 demolition125
 dimensions390
 wood395-396
 Bi-folding closet doors86-88
 Bidets442, 447-448
 Birch
 blinds388
 doors147-150
 fire doors147
 paneling342
 shutters388
 Blender, kitchen172
 Blinds, exterior
 birch388
 Cellwood389
 door387
 pine387
 western hemlock388
 Block flooring, hardwood260
 Block, concrete
 demolition290
 dimensions282
 exterior walls292
 fences294-295
 foundations290-291
 heavyweight291
 lightweight291

partitions	293-294	Butyl caulk	80	elastomeric	82	Chimney, vent	449-451
retaining walls	290-291	BX cable	156	gun	82	Chimneys	
slump	295-296	Bypassing closet doors	89-92	latex	80	brick	284-285
walls	290-291	C		mildew resistant	82	demolition	284-285
walls, insulating	275	Cabinet crown mold	308	multi-purpose	80	factory built	170
Block, glass	297	Cabinetry	62-74	oil base	81	flashing	372
Blocking, demolition	179-180	Cabinets, kitchen	62-74	silicone	81	Chrome bath accessories	38
Board and batten siding		demolition	122	CDX plywood sheathing	215-216	Circline lighting fixtures	278
aluminum	390	description	60	Cedar		Circular area, paint coverage	327
wood	399-400	installation procedure	60	fencing	162-164	Clam shell casing	309
Board fence systems	162-167	natural finish	332	roofing	367-371	Clapboard siding	
Board sheathing		painting	332	siding	396	aluminum	393
demolition	215-216	quality of	60	Ceiling		demolition	123
subfloor	217	Cabinets, medicine	41-43	fans	32	Claw-foot bathtubs	46
wall	215	Cabinets, vanity	72-74	heat	267	Clay tile roofing	359-363
Board siding	399	Cable, service entrance	155	joists	185	demolition	124
demolition	125	Calculating		molding	298	Clay tile, shapes and sizes	283
Boilers		area modification factors	12	panels	22-23	Clean-up center, kitchen	60
accessories	264	overhead expenses	327	registers, air supply	34	Cleaning	328-329
conversion accessories	264	paint coverage	6	titles	22-23	Cleaning, paint preparation	
electric fired	261	total hourly cost	11	Ceiling applications		exteriors	334-335
gas fired	262-263	Calgon water softeners	462-463	drywall	153	interiors	328-329
hot water	261-264	Cambridge casing	310	drywall adhesive	26	Clients	
oil fired	263-264	Canada		paint	330-332	communication with	7
steam	261-264	adjusting factors	12	plaster lath	345	evaluating	7
Bolted ledgers	191	area modification factors	14	wallpaper	453	Closet door systems	86-94
Bottom plates	192	Canopies	75-77	Ceiling Heat-A-Ventlite		accordion	93
Box stairs	435-436	aluminum	75-77	bathroom heaters	267	bi-folding	86-88
Box-type rain gutter	255	canvass	77	Ceiling light fixtures		bypassing	89-92
Bracing	180	carport	75	indoor	278-279	demolition, with track	126
demolition	118	door	75-76	outdoor	280	hardware	93
Brass kickplates	134	roll-up	77	Ceiling systems, suspended	438	mirrored	91-92
Brick		window	76-77	demolition	438	prefinished	88
adobe	290	Canvas awnings	77	grid	438	sliding	89-92
chimneys	284-285	Cap molding	304	tile/panels, acoustical	22-23	track and hardware	93
columns	285-288	Cape Cod molding		Ceiling/wall tile		unfinished	86-88
concrete slump	296	base & shoe, pine	301	demolition	22	Closets	
demolition	116	base, oak	314	stapled	23	kitchen utility	64
dimensions	282	base, pine	311	Cellwood shutters	389	mirrored	91-92
mold, redwood	318	casing, oak	313-314	Cement		Clothes dryer vent	374
paint, one coat	335	casing, pine	300	architectural	105	Coal-fired furnace	266
running bond	284-285	casing, resin	319	painting	337	Collectors, solar	459-460
standard	284-289	Card reader, electrical	157	Cement masons		mounting kits	460
veneer	288-289	Carpenter		crew rates	16	Colonial molding	
walls	288-289	crew rates	15, 16, 17	wages	11	base & shoe	302
Bricklayer		wages	11	Ceramic tile		casing	300
crew rates	15, 17	Carpet	78-79	adhesive	106	chair rail	303, 325
wages	11	pad	78-79	bathtub wall installation	83	crown molding	303
Bricktender		Carport, freestanding	75	countertops	84, 106	spindles	321-323
crew rates	15, 17	Casement windows	475-486	cove/base	84	Colonial style	
wages	11	four ventilating lites	480-486	demolition	84	door frames	132
Bridging		one ventilating lite	475-476	dimensions	83	entrances	160
demolition	118	two ventilating lites	476-480	estimating techniques	83	shutters	388
solid, between joists	181-182	Casing		floors	84	Colonnades, columns	94-95
Bronze kickplates	134	finger joint pine	308-310	installation methods	83	Coloring, concrete	105
Bruner water softeners	462-463	oak	313-314	mortar	106	Column headings, book, explained	4
Builder's series spa	431-432	resin	319	wainscot cap	85	Columns	
Building Repair Estimate	10	solid pine	299-300	walls	85	aluminum	94
Building Repair Estimate form	8	Cast in place concrete	98-105	Chain link fence	164-166	brick	285-288
checklist	6	footings	98-99	Chain-drive garage door		brick, demolition	116
example	8	forming	100-101	opener	224	demolition	118
explanation	6, 9	foundations	100-101	Chair rail molding		entrance	94-95
Built-in dishwashers	130	interior floor finishing	103	finger joint pine	312	extruded aluminum	94
Built-in food center	172	reinforcing steel rods	102	oak	316	framing	183
Built-up roofing		retaining walls	100	pine	325	framing, demolition	183
demolition	124	slabs	102	wood bullnose round corner	325	wood	95
dimensions	357	Cast iron		Chamfer mold	308	Combo-fired furnaces	266
over concrete deck	365	bathroom sinks	415-417	Change orders	7	Common rafters	
over existing roof	363-365	bathtubs	46-47	Channel molding, Marlite	281	cut-up roofs	196-198, 201-202
over wood deck	364	boilers	262, 263	Checklist, estimating	6	gable or hip	193
Bullnose corner molding	324-325	kitchen sinks	420-421	Chemical additives, concrete	105	Communication with clients	7
Burglary detection systems	157-158	Caulking	80-82	Chemical feed pumps,	463	Compactors, trash	448
Burners, boiler	264	anti-algae	82	soft water systems	309	Composition shingle	
Butcher block countertops	113	bathub	81-82	Chesapeake casing	309	roofing	359-363
Button, doorbell	158	butyl flex	80	Chimes, doorbell	158		

slump brick	296	installation	130	Drawer base, kitchen	64	Enameled steel sinks, American Standard Products	418-420
solid bridging	118	sink combination	131	Drip edge flashing	374	End posts, chain link fence	166
steel garage doors	126	Disposers, garbage	225-226	Drip mold	308	Engineered stone countertops	111-112
stiffeners	119	Domes, skylight	425-427	Drop outlet, downspouts	255-257	Entrance columns	94-95
storm combination doors	126	Door		Drop siding		Entrance disconnect switch	155
stucco	128, 345	blinds, exterior	387	demolition	125	Entrance doors	138-139
studs	203-215	canopies	75-76	dimensions	391	demolition	126
subfloor	122	chimes	158	installation	391	steel	151-152
suspended ceilings	129	jamb assemblies	137	wood	397-398	Entrances	160
tile, clay or concrete	365	sill assembly	137	Drywall	153-155	Equipment operator	
toilets, bidets, urinals	442	sills, exterior	132	adhesive	26-27	crew rates	19
top plates	192	switches, electrical	157	ceiling application	153	wages	11
trim	299	Door frames		ceiling panels	154-155	Equipment unit cost, average	4
trusses	122	assembly	136	demolition	154	Estimate	
underlayment	217	Colonial	132	dimensions	153	adjusting for area	12-14
vanity cabinets	72	exterior, wood	132	estimating techniques	153	blank form	10
veneer, brick	116	Door openers, garage	224	fire resistant	155	charging for	7
wall furring strips	184	Door swing, kitchen cabinet	60	installation techniques	153	checklist	6
wall sheathing	215	Doorbell systems	158	painting	329-330	form	8-10
wallboard	128	Doors		repair, paint preparation	329	starting	7
wallpaper	129	access	375	tape joints	154	Estimating methods	5
walls	121	accordion	93	wall application	153	Estimating techniques	5, 6
walls, ceramic tile	85	bi-folding	86-88	wall panels	154	acoustical tile	21
walls, masonry	116, 290	birch	147-150	water resistant	155	aluminum siding	390
weather protection	123	bypassing	89-92	Dual glazed windows	465, 468, 471	batten siding	391
windows	126-127	closet	86-94	Duct		brick	282
wood deck	192	Colonial	136	accessories	30-31	built-up roofing	357
wood roofing	124	decorative glass	138-139	furnaces	265	ceramic tile	83
wood shakes/shingles	367-368	demolition	126	Ductwork, air conditioning	29	concrete block	282
wood siding	123-125	Douglas fir	143-144	Dumpster rental	114	concrete footings	96
Demolition, with air tools	115-116	Dutch	141-142	Duolux		drop siding	391
Description column, book	4	entrance	138-139	paneling	340	drywall	153
Designer Group spa	432-433	fire doors	147	pegboard	341	fiberglass shingles	356
Detailed estimate	5	frames, interior	133	Dutch doors	141-142	finish grading	96
importance of	7	French	143-144	Eaves, painting	327	forms, screeds and rods	96, 102-103
Detectors		French, sliding	145-146	Economy hardboard, paneling	340	insulating tile	21
fire	157-158	garden	144	Elastomeric caulking	82	mortar	344
infrared photoelectric	157	hardboard	147-149	Electric fired		painting	326
microwave	157	hollow core	147-148	bathroom heaters	267-268	plywood siding	392
motion	157	interior	147-150	boilers	261	quarry tile	282
smoke	157	interior systems	136	furnaces	265	roll roofing	356
ultrasonic	157	Lauan	147-149	Electric water heaters, solar	459-461	suspended ceilings	438
Diagonal let-ins	180	louver	87	Electrical work	155-159	vertical siding	391
Diameter casing, resin	319	mirrored	91-92	alarms	157-158	wallpaper	452
Diamond lath	344	package door units	137	burglary detection systems	157-158	wood shingle siding	392
metal	345	panel	140-141	doorbell systems	158	wood shingles	356
Diffusers		passage	147-148	EMT	156	Evaluating clients	7
acrylic	278	prehung	148-150	fire alarm systems	158	Excavation	160-161
air conditioning	28	screen	150	ground cable	156	Exit control locks	157
Digging	160	shower	376-380	ground rod with clamp	156	Exterior	
Dimension lumber		sliding	89-92	intercom systems	159	concrete block walls	292
beams	176-179	solid core	148, 149-150	meter socket	155	corner framing	175
blocking	179-180	steel	151-152	motion detectors	157	door frames	132
bracing	180	tub	376-381	panelboard	156	finishes, demolition	128-129
bridging	181-182	with sidelights	138-139	phone jack wiring	159	masonry walls demolition	117
columns	183	wood	141-144	service entrance cable	155	molding	312
demolition	118-122	Doors, finishing		signal bell	158	painting	326
diagonal let-ins	180	exterior, paint	336	smoke detector	157	redwood molds	318
fascia	183	interior, paint	331-332	television antenna wiring	159	shutters	387-389
girders	176-179	natural finish	332	weathercap	155	sills, doors	132
headers	184-185	Dormer louvers	374	wiring	156	wood doors	141-144
joists	185-191	Double door entrances	160	Electrician		Exterior key switch, garage door opener	224
ledgers	191	Double hung windows	487-489	crew rates	16, 18	Extractors, air duct	30
lintels	184-185	Double roll top countertop, Formica	107	wages	11	Extruded aluminum columns	94
patio decking	192	Double top plate	192	EMT	156	Extruded polystyrene foam insulation	277
plates	192	Douglas fir		Enameled cast iron sinks		Fabric awning	77
posts	183	doors	143-144	bar	423	Fabricated ductwork, A/C	29
rafters	193-202	fencing	162-164	bathroom	415-417	Factors, area modification	12
sheathing	215-217	Downspouts	255-257	kitchen	420-421	Fan coil, A/C system	35
solid roof decking	203	demolition	123	Kohler Products	415-417		
studs	203-215	drop outlet	255-257	utility	424		
Direct drive roof ventilator	32	painting	336, 338				
Disconnect switch, entrance	155	Drain detail	38				
Dish, soap	39	Drainage, gutters and downspouts	255-257				
Dishwashers	130-131						
built-in	130						
convertible	131						

Fans	.32	Fixed type skylights	.425-428	blocking	.179-180	Gas valve, fireplace	.171
ceiling	.32	Fixtures, lighting	.278-280	bracing	.180	Gate posts, chain link fence	.166
in-line centrifugal	.32	Flashing	.372-373	bridging	.181-182	Gates	
Fascia	.183	roof vent	.451	columns	.183	chain link fence	.166
demolition	.118	Flat Hoffco mold	.308	demolition	.118-125	split-rail	.167
Fascia bracket, downspouts	.255-257	Flat panels, fiberglass	.168	diagonal let-ins	.180	Georgian crown molding	.312
Federal unemployment insurance	.11	Flat streamline molding	.301	dimension lumber	.173	Girders	.176-179
Felt underlayment, sheet flooring	.350	base & base shoe	.301	fascia	.183	Glass	
Fence erector		casing, pine	.299	headers	.184-185	roof windows	.431
crew rates	.16	Flexible coated ductwork, A/C	.30	joists	.185-191	skywindows	.429-430
wages	.11	Flexible moldings, resin	.319-320	ledgers	.191	Glass and glazing	.227-229
Fence posts		Floor finishes, concrete	.96	lintels	.184-185	Glass bead & screen, solid pine	.304
chain link	.164, 166	Floor framing	.175	patio decking	.192	Glass block	.297
redwood	.162-163	applications	.175	plates	.192	Glass break alarm switch	.158
split rail	.167	joists	.185-191	posts	.183	Glass doors	
Fences		joists, demolition	.119	rafters	.193-202	demolition	.126, 128
chain link	.164-166	Floor mounted space heaters	.266	rough carpentry	.173-220	shower	.378-380
lateral reinforcing	.295	Flooring		sheathing	.215-217	sliding	.144-146
lightweight block	.295	ceramic tile	.83	solid roof decking	.203	tub	.378-381
masonry	.295	demolition	.84, 118	studs	.203-215	Glass shelf, bathroom	.39
masonry, demolition	.117	hardwood	.258-261	Free-standing bathtubs	.46-47	Glazed tile	.297
split rail	.167	installation, wood	.258-261	Free-standing carport	.75	Glazier	
Fiberboard sheathing	.215	mastic	.258	French doors	.143-144	crew rates	.16
Fiberglass		oak	.259-260	sidelites	.144, 152	wages	.11
bathtubs	.56-58	panel adhesive	.24	sliding	.145-146	Glazing	.227-229
ceiling panels	.439-440	parquet	.260-261	steel	.151-152	demolition	.127
garage doors	.222	parquet	.260-261	French, sidelites	.144	Glulam beams	.230-249
insulation, Johns-Manville	.268-273	quarry tile	.297	Fringe benefits	.11	3-1/8	.230-233
molding	.169	resilient	.350-355	Front end loader, excavation	.160	5-1/8	.233-238
panels	.168	Floorlayer		Fruit juicer	.172	6-3/4	.239-241
screening, door	.150	crew rates	.16	Full round molding, oak	.317	8-3/4	.242-245
shingles	.356	wages	.11	Furnaces		10-3/4	.246-249
shower tub units	.386	Floors, shower	.381-382	coal fired	.266	Glulam products	
shower units	.386	Floors, wood		combo fired	.266	beams	.230-249
1550 molding	.300, 301	cleaning	.328-329	duct	.265	ledgers	.253-254
Filler strips, chain link	.165	finishing	.333	gas fired	.265	purlins	.249-251
Filter, water	.453-454	natural finish	.333	oil fired	.266	sub-purlins	.251-252
Filters, water, soft water systems	.463	painting, wood	.333	wall	.267	Grab bars	.39
Finger joint pine moldings		sealing	.331	wood	.266	Grading	
base	.308-313	stainwax	.333	Furring strips	.24, 183-184	cast in place concrete	.102
casing	.308-310	waxing	.333	demolition	.119	footings	.98
chair rail	.312	Flue piping	.449-451	over plaster	.24	slabs	.102
cove molding	.312	Fluorescent lighting	.278	over wood	.24	Granite countertops	.109-110
crown & cornice molding	.312	Flush doors, steel	.151-152	G		Gravel stop	.373
exterior mold	.312	Flush face paneling, birch	.342	Gable		Grid system, suspended ceiling	.439-441
stool & apron	.313	Fluted casing	.309	ends	.204-205, 208-212	Grid, ceiling	.438
stops	.310	Foam insulation	.277	rafters	.193-195, 199-200	Grilles, aluminum	.34
Finish carpentry, demolition	.122	Foil-faced insulation	.269, 271, 273	shakes	.367	Ground cable	.156
Finish grading	.98	Folding closet doors	.86-88	shingles	.368-370	Ground rod	.156
Finishes		demolition	.126	Galvanized netting	.347	GROUT mix	.103-104
concrete floor	.96	Food centers, small appliance	.172	Galvanized steel		Guard, outside corner	.303
demolition	.128-129	Footings		ductwork, A/C	.29	Guide, how to use book	.4
natural	.332-333	cast in place	.98-99	fence posts	.164, 166	Gun applied adhesives	.24-27
paint	.328-339	concrete	.96-98	Gambrel roof, calculating paint coverage	.327	Gun, caulking	.82
wood floor	.333	excavation for	.161	Garage door openers	.224	Gusset, framing	.173
Finishing, concrete floor	.103	Forced warm air systems	.265-266	Garage doors	.221-224	Gutters and downspouts	.255-257
Fir, wood		Formica countertops	.106-109	demolition	.126	cleaning	.334
decking	.192	cost adjustments	.108	wood	.223-224	demolition	.123
doors, Dutch	.141-142	Forming, concrete		Garbage compactors	.448	painting	.327
flooring	.259	footings	.98	Garbage disposers		painting, 2-coats	.338
shutters	.387	foundation	.103	Badger	.225	Gypsum	
Fire alarm systems	.158	retaining wall	.100-101	In-Sink-Erator	.225	adhesive	.26-27
Fire damage	.6	slabs	.103	parts/accessories	.226	lath	.345
Fire doors	.147	Foundation vents, galvanized	.374	remove/reset	.225-226	panels, demolition	.128
Fire-resistant drywall	.153-155	Foundations		Garden doors	.144	plaster	.346
Fire-retardant fiberglass panels	.168	concrete block	.290-291	Garden windows	.493-498	plasterboard	.154-155
Fireplaces	.170-171	demolition	.100	one fixed lite	.493-497	H	
accessories	.171	poured from truck	.103	one sliding lite	.497-498	Half round molding, solid pine	.305
mantels	.281	Four bead casing	.299	Gas fired		Hand excavation	.160
Firestops, demolition	.119	Framing	.173-220	boilers	.262-263	Hand rail, molding, oak	.317
		applications	.173	furnaces	.265	Hand tools, definition	.114
		beams	.173	space heaters	.266-267	Handlesets, door	.134-135

Hanger applications	173	Incandescent lighting fixtures	279-280	Interior finishes		masonry installations	282
Hanging island cabinets	66	Indicating panels, detection	157	concrete floor	96	unit cost	4
Hardboard		Indoor lighting	278-280	demolition	128-129	Labor costs	
adhesive	27	Infrared lamps, Heat-A-Lite	267	painting	326	bath accessories	38
demolition	124	Inspection, visual	7	painting, estimating	326	local	4, 12
doors, interior	147-149	Installation techniques		Interlocking tile shingles	359-363, 365	tile patterns	23
installation	340	acoustical tile	21	Invoices, cataloguing	6	Laborer	
paneling	340	aluminum siding	390	Ironworker, reinforcing,		crew rates	17
plywood paneling	340	batten siding	391	wages	11	Lacquer	332-333
siding	393	bevel siding	390	Island cabinets, kitchen	65	Lantern post	280
underlayment	217	brick	282	J		Lasco	
Hardware		built-up roofing	357-358	Jacuzzi spa	431-433	shower stalls	383-385
door	134-135	ceramic tile	83	Jamb assembly, door	137	shower tub units	386
sliding door	89-92	concrete block	282	Jamb-type garage doors		Lateral reinforcing	
Hardwood flooring		concrete footings	96	aluminum	221	concrete block	291, 292
applications	258-261	dishwasher	130	fiberglass	222	concrete block partitions	295
block	260	drop siding	391	steel	223	Latex	
demolition	122	drywall	153	wood	223	caulking	80
fir	259	fiberglass shingles	356	Job summary file	6	paint, application	330-331
machine sand	259, 261	inside/outside siding corners	392	variance report	6	Lath and plaster	345-346
maple	259	insulating tile	21	Jobs, estimating	5	caulking	80
oak	259-260	lath	344	Johns-Manville fiberglass		demolition	128-129
parquet	260-261	molding/trim	298	insulation	268-273	installation	344
penetrating stainwax	228	mortar	344	Joists		Lather	
strip	259	painting	326	bridging	181-182	crew rates	17
teak	260	paneling	392	ceiling/floor	185-191	wages	11
walnut	260	plaster	344	demolition	119, 185-191	Lattice and battens, molding	305-306
waxing	333	plywood siding	392	framing hanger	173	redwood	318
yellow pine	259	quarry tile	282	insulation	268-269, 273-274	Lattice, batts	305-306
Hardwood molding	313-318	roll roofing	356	LF of stick	185-188	Lauan doors	147-149
Headers	184-185	sheet flooring products	350	SF of area	188-191	Lavatories	402-418
demolition	119	stucco	344	K		Lay-down type ventilators,	
Heat lamp, radiant heat	268	suspended ceilings	438	Key switch, exterior,		attic	34
Heat pumps	36	tile products	350, 391	garage door opener	224	Lay-in suspended	
Heat-A-Lite	267	wallpaper	452	Kickplates	134	ceiling system	440
Heat-A-Ventlite	267	wood shingle	356	Kitchen		Layout, kitchen	60
Heaters		wood shingle siding	392	counters, rule of thumb	60	Lazy Susan cabinet	64
electric, bath	267-268	Installation, National Estimator	7	food center	172	Ledger, demolition	120
space heater	266-267	instruction manual	7	sinks	418-422	Ledgers	191
wall	268	Insulating		wallpaper	453	glu-lam	253-254
wiring	268	block walls	275	work triangle	60	Let-ins, diagonal bracing	180
Heating systems		cavity walls	274-275	Kitchen cabinets	62-72	Liability insurance	11
boilers	262-263	glass	228-229	base with drawers	62-63	Light, bathroom heater	267
forced air	265-266	roofs	275-276	corner base	65	Light, medicine cabinet	42
furnace	265-267	walls	275-276	demolition	122	Lighting	
Heavyweight blocks,		Insulating tile, acoustical	21	description	60	fixtures	278-280
concrete	291	ceiling	22-23	drawer base	64	fluorescent	278
Help, National Estimator	7	demolition	129	hanging island	66	incandescent	279
Hemlock French doors	143-144	dimensions	21	installation procedure	60	indoor	278-280
Hermosa casing	310	wall	22-23	island base	65	outdoor	280
Hiders, identifying	6	Insulation		oven	67	porch ceiling	280
Hip		bat or roll	268-273	range	67-68, 69-72	porch wall	280
rafters	193-195, 199-200	demolition	123	refrigerator	69	post lantern fixture	280
shakes	367	extruded polystyrene		sink	67-68	track lighting	279
shingles	368-371	rigid foam	277	utility closet	64	wall fixtures	280
Historical price data	5	foil-faced	269, 271, 273	wall	69-72	Lightweight blocks, concrete	291
collecting	6	kraft-faced	269, 270, 272	with lazy Susan	64	Line posts, chain link fence	164
Hollow core doors	147-148	loose fill	273-274	Knife sharpener	172	Linoleum	
Hoods, range	348-349	perlite	274	Kohler Products		cove	355
Hook, robe	39	rafters	270-271	bar sinks	423	cove molding	305
Horizontal blocking	179-180	rigid	275-276	bathtubs	46-47, 49, 52-58	installation	350
Horizontal slide aluminum		studs	272-273	countertop bathroom sinks	404-405	Lintels	184-185
windows	466-471	unfaced	268, 270, 272	kitchen sinks	420-422	Lites, panel door	138-139
Hot air heating	265-267	Vermiculite	274	pedestal sinks	407-411	Loaded wage, total	11
Hot tub, whirlpool	431-433	Insurance claims adjuster	5	shower stalls	386	Local labor rates	4, 12
Hot water boilers	261-264	Insurance, liability	11	sinks	412-418	Locks, exit control	157
Hourly cost, total	11	Intercom systems	159	utility sinks	424	Locksets	134
How to use book	4	Interior		Kraft-faced insulation	269, 270, 272	Log lighter, fireplace	171
I		doors	147-150	L		Loose fill insulation	273-274
Ice crusher	172	painting	326	Labor		demolition	123
Imitation stone countertops	111-112	Interior doors		average output, demolition	114	Louver	
In-line centrifugal fans	32	frames, wood	133	concrete installation	96-97	closet doors	87
In-Sink-Erator garbage		types	136			vents	374
disposer	225						

Louvers natural finish 332 paint 331	Material pricing acoustical tile 21 bath accessories 38	outside corner guard 316 panel cap 316 panel mold 317 quarter round 315 S4S 317 screen mold 316 stops 315 Moldings, pine 299-308 astragal 304 base 301-302, 310-311 base & shoe 301-302 cap 304 casing 299-300, 308-310 chair rail 303, 312 cove 305, 312 crown & cornice 303, 312 exterior mold 312 flat stool 312 glass bead & screen 304 half round 305 lattice 305-306 outside corner guard 303 panel & decorative molds . . 306 quarter round 304 stool & apron 313 stops 302, 310 wood bullnose round corner . . 324-325	paneling, flush face 342 stairways 437 Oak grain resin molding 320 Oak hardwood molding astragal 316 bar nosing 317 base 314 casing 313-314 chair rail 316 cove 315 crown & cornice 315 full round 317 half round 315 hand rail 317 nose & cove 317 outside corner guard 316 panel cap 316 panel mold 317 quarter round 315 S4S 317 screen mold 316 stops 315 Ogee stops oak 315 pine 302 Oil base caulking 81 Oil fired boilers 263-264 furnaces 266 One coat paint applications cement base paint 337 exterior painting 335-337 interior painting 329-332 latex 330-331 latex enamel 330-331 natural finishes 332-333 sealer 330 sizing 329 stain 337 One-flue chimneys 284-285 Open stairs 436 Openers, garage door 224 Operation column 4 OSB strand board sheathing . 216 Outdoor lighting 280 Outside corner guard oak 316 solid pine 303 Oval streamline casing 299 Oven cabinets, kitchen 67 Overhead and profit 4, 6-7 Overhead expenses 6
Lumber beams 176-179 blocking 179-180 bracing 180 bridging 181-182 columns 183 demolition 118-122, 176 diagonal let-ins 180 dimension 176 fascia 183 girders 176-179 headers 184-185 joists 185-191 ledgers 191 lintels 184-185 patio decking 192 plates 192 posts 183 rafters 193-202 sheathing 215-217 solid roof decking 203 studs 203-215 Lumber list 7 Luminous panels, ceiling . 439-440	Membrane roofing demolition 364 over concrete deck 365 over existing roof 363 over wood deck 364 Metal joist hanger, application 173 Metal lath 345 Meter socket 155 Methods, estimating 5 Microwave detectors 157 Mildew resistant caulking . . . 82 Milled fence boards, dog-eared 162 Millwork and trim, paint . . 331, 334 Mineral fiber ceiling panels . . 23 Mineral surfaced roll roofing . 366 demolition 124 dimensions 356 mirror, medicine cabinet . . 41-42 Mirrors 43 3-way 41-42 tri-view 41-42 Mixer, kitchen 172 Mixing box, air conditioning duct 31 Modification factors, area . . 12 Molding and trim 298-325 demolition 122 1550 molding 300, 301 installation 298 Marlite 281 natural finishes 332 oak 313-318, 325 painting 334 pine 299-313, 324-325 redwood 318 resin flexible 319-320 711 molding 299, 301, 311, 313-314, 320 shapes 298 spindles 321-323 stops 310 3-step 299, 301 Moldings, oak astragal 316 bar nosing 318 base 314 base, bullnose round corner . . 325 casing 313-314 chair rail 316 cove 315 crown & cornice 315 full round 317 half round 315 hand rail 317 nose & cove 317	Moldings, redwood batts 318 exterior molds 318 lattice 318 Moldings, resin flexible blocks 319-320 diameter casing 319 diameter casing, oak grain . 320 oak grain 320 Moldings, spindles colonial design 321-322 Mediterranean design . . 322-323 planter design 321 Monterey casing 308-310 Mortar ceramic tile 106 installation 344 Mosaic tile, installation 83 Motion detectors 157 Motorized dampers, A/C duct . . 31 Mullion casing 300 Multi-blade dampers, A/C duct . 31 Multi-purpose caulk 80	
M Machine sand hardwood flooring . . . 259, 261 parquetry 260-261 Manhours per unit, average . . 4 Mannington sheet vinyl . . 352, 354 Mantels, fireplace 281 Maple flooring 259 Marble countertops 109-110 Marble setter, wages 11 Marble tops, vanity cabinets . 73 Marlite paneling 281 demolition 122 Mason, cement, crew rates . . 16 Masonite paneling, installation . . . 341 siding 394 Masonite panels, Marlite . . . 281 Masonry 282 adobe brick walls 290 block dimensions 282 brick 290 brick veneers 288-289 chimneys, brick 284-285 columns, brick 285-288 concrete block 290-295 concrete screen block . . . 296 concrete slump brick . . . 296 demolition 116-117 exterior walls, block 292 fences, concrete block . . . 295 fences, lightweight block . 295 floors, quarry tile 297 foundations, concrete block 290-291 glass block 297 glazed tile 297 painting 335 partitions, concrete block 293-294 quarry tile 297 retaining walls, block . . 290-291 textured screen block . . . 296 tile 297 walls 290	N Nailed ledgers 191 National Estimator program . . . 7 ShowMe video 7 Natural finishes 332 stain 337 Natural gas fired, boiler . . . 262-263 Netting, galvanized 347 Newels, stair 434 No wax sheet vinyl 352, 354 Non-acoustical rated panels . . . 439, 440 Non-taxable benefits 11 Nose & cove mold 308 Nosings, roof edge flashing . . . 372-373 Notes section 4 Nylon carpet 79	P Package door units 137 Pad, carpet 78-79 Paint characteristics 326 coverage, estimating 326 preparation 328-329 removal 329 Paint grade resin moldings . 319-320 Painter crew rates 17 wages 11 Painting and cleaning exterior 334-335 interior 326 Panel adhesives 24-25 doors 140-141 molds 307 shutters, exterior 387 Panel siding aluminum 393 hardboard 395	
O Oak bar nosing 317 flooring 259-260 paneling 342			

Masonite	394	Pine shutters	387	redwood fence	162	Red cedar siding	
vinyl	395	Pine siding	398	split rail fence	167	bevel	396
Panelboard	156	Pits, digging	160	Prefabricated fireplaces	170	board and batten	399-400
Paneling		Plain siding, painting	335	Prefinished		board on board	399
demolition	122, 340	Plane and specification sheet	7	closet doors	88	drop	397
hardboard	340	Plank and beam construction,		panel shutters	389	lap	396
Marlite	281	roof decking	203	Prefit casting	308	shakes	400
plywood	340	Planter design spindles	321	Prehung doors		shingles	401
Panels		Plaster	344-347	steel	152	Redwood	
acoustical	22-23, 439, 440	ceilings	346	wood	149	cupolas	113
adhesive set	22-23	demolition	128, 345	Preparation, painting	328-329	decking	192
drywall	154-155	installation	344	Presdwood		fence posts	162-163
fiberglass	168	painting	330-331	paneling	340	fencing	162-164
mineral fiber	23	sealer application	330	pegboard	341	lath	345
painting	331	sizing, paint preparation	329	Price data	5-6	molding	318
Paper, wallcovering	452	walls	346	Productivity, your company	7	siding	396
Paperhanger		Plasterboard, gypsum	154-155	Profit allowance	4	Refrigerator cabinets	69
crew rates	18	Plasterer		Project schedule	7	Register kit, space heaters	267
wages	11	crew rates	17	Propane fired boiler	262-263	Registers, ventilation	34-35
Parquetry, hardwood flooring		wages	11	Property damage appraiser	5	Reinforced concrete	
Particleboard		Plastic		Provincial shutters	387	cast in place	99
demolition	217	laminated countertops	106-109	Pry bar	114	demolition	115-116
subfloor	217	panel adhesives	27	Pumps, heat	36	footing	99
underlayment, installation	340	shower stalls	383-385	Purlins, glu-lam	249-251	foundations	100-101
Parting bead mold	307	Plates	192	PVC, downspouts	256-257	slabs	102-103
Partition walls		gable ends	204-205	Q		Reinforcing	
concrete block	293-294	LF of stick	203-204	Quarry tile	297	cast in place concrete	102-103
demolition	121	LF of wall	212-215	demolition	118, 297	concrete	97
framing, stud/plates	203	per SF of wall area	205-212	dimensions	282	concrete block	291-295
studs	205-208	walls/partitions	212-215	floors	297	masonry	291-295
Passage doors, interior	147-148	Plumber		Quarter round molding		Reinforcing ironworker,	
latches	134	crew rates	18, 19	oak	315	wages	11
Paste		wages	11	solid pine	304	Reinforcing steel rods	103
flooring installations	350	Plumbing accessories, costs	38	Quartz countertops	110-111	Remodeling jobs, estimating	5
wallpaper	452	Plywood paneling	340	R		Repair estimate	5
Patio		demolition	340	Rabbeted window stool	306	example	8-9
awnings	76	installation	340	Radiant heaters	267-268	Residential electrical work	155-156
cover	76	Plywood sheathing	215-216	Radio controlled garage door		Residential jobs, estimating	5
framing	192	demolition	121	opener	224	Resilient flooring	
Patterns, acoustical tile,		Plywood siding		Rafters	193-202	demolition	129
labor	23	board and batten	399-400	common	193-198	installed over concrete	351-352
Pedestal sinks	405-411	board on board	399	cut-up roofs	196-198, 201-202	sheet products	350
Pediments	160	demolition	124	demolition	120, 193-202	subfloor	353-354
Peel-off caulk	82	dimensions	392	gable or hip	193-195, 199-200	tile products	350
Pegboard, installation	341	installation	392	insulation	270-271	Resin flexible molding	319-320
Pendant mounted worklights	278	Pocket door frame	133	LF of stick	193-198	oak grain	320
Per measure estimating	5	Police connect panel	158	SF of area	199-202	Retaining walls	290-291
Perlite, loose fill insulation	274	Polish, hardwood flooring		Railings, stair	434	concrete	100-101
Philippine mahogany paneling	343		259-261	Rails, spindle	323	demolition	100-101
Phone jack, wiring	159	Polycarbonate dome skylights		Rails, split rail fence	167	Ribblath	344
Photographs, before and after	6	425-427		Rain diverter	372	metal	345
Picture mold	308	Polystyrene		Rain gutters	255-257	Ridge or hip application,	
Picture windows	489-492	foam insulation	277	Raised panel louver doors	136	roofing	362-363
Pilasters	160	molded foam shutters	389	Range cabinets	67-68, 69-72	Rigid conduit	156
Pine moldings	299-308	panels, adhesive	25-26	Range hoods	348-349	Rigid foam insulation	277
astragal	304	Polyurethane foam panels,		designer models	349	Rigid insulating board	275-276
base	301-302, 310-311	adhesive	25-26	Rates, wage	11	Risers, stair	434
base & shoe	301-302	Ponderosa pine fireplace		Ready mix concrete	103-104	Robe hook	39
cap	304	mantels	281	Receptors, shower	381-382	Rod, shower curtain	39
casing	299-300, 308-310	Pop-up drain detail	38	demolition	381	Roll insulation	268-269
chair rail	303, 312	Porcelain enameled steel sink		Recessed		Roll roofing	365
cove	305, 312	bathroom	418	bathroom ceiling heaters	268	demolition	124
crown & cornice	303, 312	kitchen	418-420, 422	lighting	278	Roll valley	368-371
exterior mold	312	Porch columns	94-95	medicine cabinets	42-43	Roll-up awnings	77
flat stool	313	Porch floors, painting		wall heaters	268	Romex cable, wiring	156
glass bead & screen	304	cement	337	Rectangular ductwork, A/C	29	Roof	
half round	305	concrete	339	calculating paint coverage	327	decking	203
lattice	305-306	preparation, cleaning	334	Red cedar fence, split rail	167	decking, demolition	121
outside corner guard	303	wood	336	shakes	367	edge flashing	374
panel & decorative molds	307	Porch lighting	280	shingles	368-371	edging	374
quarter round	304	Portable dishwashers	131	Rectangular surface area,		flashing	372-373
stool & apron	313	Portland cement, ceramic tile		calculating paint coverage	327	flashing, adjustable	451
stops	302, 310	installation	83	insulation	275-276	sheathing	216
window stool	306	Post-formed countertops,		sheathings	6	strength	6
wood bullnose		Formica	106-107	ventilators	32	vents	374
round corner	324-325	Posts	183				
		chain link fence	164, 166				
		demolition	118, 183				

Roof top air conditioners	36	demolition	126	Shingles		Site work, demolition labor	114
Roof windows	431	wood	150	asphalt/fiberglass	359-363	base & base shoe	301
Roofer		Screen mold, oak	316	demolition	359	casing	300
crew rates	18	Screens, painting	336	nailed	125, 359-363	Sizing application, paint preparation	329
wages	11	Screw-worm garage door opener	224	roofing	359-363	Skirt board, stair	435
Roofing	356	Sealer, application		tile	365	Skylights	
aluminum	359	acoustical tile or panels	330	wood, roofing	368-371	acrylic dome	427-428
asphalt composition		sheetrock or plaster	330	Shoe mold/trim	310, 314, 320	fixed	425-428
shingles	359-363	Sectional-type garage doors		Shower		low profile	427-428
built-up	363-365	aluminum	222	bares/receptors	381-382	polycarbonate dome	425-427
clay tile	365	fiberglass	222	curtain rod	39	self flashing	425-427
composition shingles	359	wood	224	demolition	381	ventilating	426-428
demolition	123-124	Security, job site	6	fixtures	45, 59	Skywindows	
drip edge	374	Self-edge countertop, Formica 108		Shower bases	381-382	insulated glass	429-430
flashing	372-373	Self-flashing skylights	425-427	Shower doors		low profile	429-430
gravel stop	373	Self-flashing skywindows	430	hinged	376-378	Slabs	
membrane	363-365	Selvage roll, mineral surfaced roll roofing	365	sliding	378-380	concrete	102-103
mineral surfaced roll	365	Service entrance cable	155	Shower floors, slip resistant	383-385	demolition	102, 116
nails, estimating need	356	711 molding	311	Shower modules, space saver	383-385	Sledge hammer	114
parapet walls	357	oak base	314	Shower stalls		Sliding doors	
roll roofing	365	oak casing	313	demolition	383	aluminum frame	144-145
sheathing paper	371	pine base & base shoe	301	nonintegral	385	closet	89-92
shingles	359-363	pine casing	299	two wall models	384	French	145-146
tar usage	357	resin casing	320	Shower tub units	386	glass	144-146
tile	365	Shake roof	367	ShowMe video	7	hardware	89-92
top coat	357	demolition	367	Shutters, exterior		shower	378-380
wood shakes	367	Shake siding	400	aluminum, louvered	387	tub	378-381
wood shingles	368-371	demolition	125	birch	388	Slip-resistant shower floors	383-385
Roofs, wood shingle	368-371	Shear panel, adhesives	25	Cellwood	389	Slump block, concrete walls	295-296
staining	337	Sheathing		fir	387	Slump brick, concrete walls	296
Rosette plinth block		applications, framing	174	pine	387	Smith, A.O., water heaters	454-459
base & base shoe	302	demolition	121	western hemlock	388	Smoke detectors	158
casing	300	paper	371	Shutters, painting	338	Soap dish	39
Rough carpentry, framing 173-220		roof	216	Sidelites	138-139, 144	Soap holder	39
beams	176-179	subfloor	217	French	144, 152	Social Security	11
blocking	179-180	wall	215	Siding	390-401	Socket, meter	155
bracing	180	Sheet flooring products, installation	350	aluminum	393	Softeners, water	462-463
bridging	181-182	Sheet metal		battens	392	Soil type	6
columns	183	access doors	375	bevel	395	Solar block, fiberglass	168
demolition	118-125	clothes dryer vent set	374	board and batten	399-400	Solar collectors	459-460
diagonal let-ins	180	demolition	123	board on board	400	mounting kits	460
dimension	176	dormer louvers	374	clapboard	390	storage tanks	461
fascia	183	flashing	372-373	demolition	123-125	Solar water heating systems	459-461
girders	176-179	foundation vents	374	drop	397-398	Solid bridging	181-182
headers	184-185	gravel stop	373	furring strips	392	Solid core doors	148, 149-150
joists	185-191	roof edging	374	hardboard	394	Solid pine molding	
ledgers	191	roof flashing	372-373	Masonite	394	astragal	304
lintels	184-185	utility louvers	375	painting	337	base & base shoe	301-302
patio decking	192	vents	374-375	pine	398	cap	304
plates	192	vertical chimney flashing	372	plywood	400	casing	299-300
posts	183	Z bar flashing	372	shake	400	chair rail	303
rafters	193-202	Sheet metal worker		shingles	401	cove	305
sheathing	215-217	crew rates	19	vinyl	394	corn & cornice	303
solid roof decking	203	wages	11	wood	395-396	glass bead & screen	304
studs	203-215	Sheet vinyl flooring	350	Silestone countertops	111-112	half round	305
Rough fence board, squared ends	163	demolition	129	Silicone caulking	81	lattice	305-306
Rough-in, bathtub	45	Sheetrock	153-155	Sill assembly, door	137	outside corner guard	303
Running bond		ceilings	154-155	Sill plates	192	panel & decorative molds	307
adobe brick	290	demolition	154	Single top plate	192	quarter round	304
concrete slump brick	296	repair, paint preparation	329	Sink cabinets		Solid pine, molding	299-308
standard brick	285-288	sealer application	330	kitchen base	67-68	Solid roof decking	203
textured screen block	296	sizing	329	vanity	72-74	Soundness of structure	6
S		tape joints	154	Sinks		Space heaters	267-268
S4S molding	305-306	walls	154-155	bar	423	Spas, Jacuzzi	431-433
oak	317	Shelf		bathroom	402-418	trim kit	433
Sample Building Repair		glass, bathroom	39	countertop	415-417	Special systems, electrical	157-159
Estimate form	8	towel supply	40	kitchen	418-422	Spindle rails	323
Sanding		Shellac	332-333	pedestal	405-411	Spindles	
hardwood flooring	259, 261	Shingle roofs, wood	368-371	undercounter	404	colonial design	321-322
paint preparation	328-329	stain	337	utility	424	Mediterranean design	322-323
Schedule, project	7	Shingle siding		wall hung	411-415	planter design	321
Screeds, concrete	102	aluminum	394	Site accessibility	6		
Screen doors		stain	337				
aluminum frame	150	wood	401				

rails	323	Stucco	344-347	clay, roofing	365	Tub doors	
western hemlock	321-323	demolition	128	demolition	365	hinged	376-378
Split rail fence	167	exterior walls	347	glazed	297	sliding	381
Spotlight, indoor	279	installation	344	installation	350	Tub, bath	
Spring steel ductwork, A/C	30	painting	335, 338	insulating	21	acrylic	49-52
Sprung cove molding	305	Stucco mold	312	mineral fiber	23	antique	46-47
Square surface area,		redwood	318	painting	335, 338	cast iron	44-46, 53-56
paint coverage	327	Stud arrangement, framing	175	quarry	297	combination tub/shower	386
Stain	332	Studs		resilient flooring	351-354	demolition	386
Stainless steel countertops	112	bracing	180	resilient flooring,		enameled steel	45-46
Stainless steel sinks		demolition	121, 203-215	demolition	129	fiberglass	56-58
kitchen	422	gable ends	208-212	shingles	365	free-standing	44, 46-47
Kohler Products	423	horizontal blocking	179-180	Tile setter		recessed	47-48
Stainwax, penetrating, hardwood		insulating	272-273	crew rates	19	remove and reset	44-45, 59
floors	331	LF of stick	203-204	wages	11	rough-in	45
Stairs	434-437	LF of wall	212-215	Tile setter helper, wages	11	steel	44, 48
balusters	434	SF of wall area	205-212	Toilet roll holder	40	sunken	44-45, 49-52
balustrade, curved	437	Sub-purlins, glu-lam	251-252	Toilets		whirlpool	44-45, 47-58
basement	435	Subfloor		American Standard Prod	443	Two coat paint applications	
box-type	435-436	adhesive	24	floor mounted	443-446	cement base paint	339
carpeting	79	demolition	122	Kohler Products	444, 446	enamel	337-339
curved, oak	437	sheathing	217	one piece,		exterior painting	337-339
newels	434	Sunken bathtubs	44-45, 49-52	floor mounted	443-444	interior painting	333-334
nosing, mitered return	435	remove	59	remove and reset	442	latex	333-334
open type	436	Supply shelf, towel	40	wall mounted	446	stain	339
railings	434	Surface repair, paint		water saver models	442-446	Two-flue chimneys	284-285
risers	434	preparation	328-329	Tongue & groove roof decking	203	2 round edge casing	299
shop fabricated	435-437	Surface-mounted		Toothbrush holder	39	275 casing	310
skirt board	435	light fixtures	278-280	Top plates	192	U	
treads	435	Suspended ceilings		Top set base, flooring	355	Undercounter sinks	404
Stalls, shower	383-385	complete systems	439	Total hourly cost, calculating	11	Underlayment,	
Standard brick	284-289	demolition	129, 439	Towel		particleboard	340
Standard drywall	153	estimating materials	438	bars	40	Unemployment insurance	11
Stapled ceiling/wall tile	23	grid system components	441	ladders	40	Unfaced insulation	268, 270, 272
Stationary slat blinds	388	installation procedures	438	pins	40	Unfinished closet doors	86-88
Steam boilers	261-264	panels only	440	rings	40	Unfinished hardwood plywood	341-343
Steel		Suspension mounted space		shelves	40	Universal casing	300
bathtubs	48	heaters	266	Track lighting	279	resin	319
boilers	169-170	Swing door		Track, sliding door	93	Urinals	442
gutters and downspouts	255-256	cabinets	42-43	Track, type garage doors		Utility closets, kitchen	64
Steel doors		shower	376-378	aluminum	222	Utility louvers, vents	375
decorative, dual glazed	151	switchmats	158	fiberglass	222	Utility sinks,	
embossed raised panel	151	Symbols used in book	20	steel	223	Kohler Products	424
flush	152	System components, A/C	28-31	wood	224	V	
French	152	System units, A/C	35-37	Tractor backhoe, excavation	161	V-grooved paneling	341-343
garage doors	223	T		Transformer, doorbell	158	Valley roll	363-365
prehung package	152	Tape joints, drywall	154	Transmitters, garage door		Vanity cabinets	72-74
Steel posts,		opener	153	openers	224	marble top	73
chain link fence	164, 166	Taping compounds, drywall	153	Trash compactors	448	remove and reset	74
Steel reinforcing		Tarkett sheet vinyl	352, 354	Treads, stair	435	2-door	73
concrete	101	Taxable fringe benefits	11	Trenching	161	Variable volume dampers,	
masonry	291-295	Taxes, employer	11	Tri-view mirror,		A/C duct	31
Steel sash, window glass	227-228	Teak flooring	260	medicine cabinet	41-42	Varnish	332-333
Steps, painting		Techniques, estimating	5, 6	Triangular surface area,		Veneer, brick	288-289
cement	337	Telephone		calculating paint coverage	327	demolition	116
concrete	339	dialer	158	Trim		Vent chimney	449-451
wood	336	wiring	159	casing	299-300	damper	449
Stick by stick estimating	5	Television antenna wiring	159	demolition	299	Ventilating skylights	426-428
Stiffeners	180	Tempered glass	229	finger joint pine	308-313	Ventilating systems	28-31
demolition	119	door	144-145	oak	313-318	Ventilation	449-451
Stile and rail raised		Terrazzo countertops	112	oak grain resin	320	residential	33-34
panel doors	140-141	Terrazzo setter, wages	11	painting	331, 333	Ventilators	
Stone mason, wages	11	Thermostat wiring	159	redwood	318	attic	33-34
Stool & apron mold	313	3-step molding		solid pine	299-308	base	35
Stops, molding	310	base & base shoe	301	Trim and molding	298-325	lay-down type	34
ogee, oak	315	casing	299	Trim kit, spa	433	roof	32-33
ogee, pine	302	364 casing		Truck driver, wages	11	round top	451
rounded edge, oak	315	oak	313	Truss		wall type	33
Storm windows, painting	336	pine	300	construction, W-type	173	Vents	374-375
Streamline molding	301	resin	320	demolition	122	access doors	375
casing, oak	313	Thresholds		shop fabricated,		attic access	375
Strip flooring,		aluminum	135	wood	218-220	clothes dryer	374
installation	258-259	oak	133	Tub caulking	81-82		
Strip lighting	278	wood	133	anti-algae	82		
Structural soundness	6	Tile		mildew resistant	82		
		acoustical treatment	22-23				
		ceramic	83-85, 106				

dormer louvers	374	Wallpaper	452-453	vertical slide	463-466	dimension	118-125
foundation	374	demolition	129	wood	472-498	fascia	183
louver	374-375	Walls		Wire lath	347	girders	176-179
utility louver	375	acoustical tile	22-23	Wiring		hanger, joist	173
Vermiculite loose fill		adobe brick	290	burglary detection systems	157-158	headers	184-185
insulation	274	brick veneer	288-289	doorbell systems	158	joists	185-191
Vertical		cavity, insulating	274-275	electrical service	156	ledgers	191
chimney flashing	372	cement, painting	339	fire alarm systems	158	lintels	184-185
dampers, A/C duct	26	ceramic tile	85	food centers	172	patio decking	192
reinforcing, concrete block	292	ceramic tile demolition	85	intercom systems	159	plates	192
siding, dimensions	391	concrete block	290-291	outlets	156	posts	183
slide aluminum windows	463-466	framing	205-208	range hoods	348-349	rafters	193-202
Vertical crown molding,		furring strips	184	switches	156	sheathing	215-217
fiberglass	169	insulating	275-277	telephone jacks	159	solid roof decking	203
Vibrating plate compaction	161	masonry, demolition	116-117	television antennas	159	studs	203-215
Victorian casing, oak	314	partition	205-208	thermostat	159	Wood lath	344
Video, ShowMe	7	plaster	346	wall heaters, bathroom	268	Wood molding	
Vinyl		retaining	290-291	WM 374 casing	309	finger joint pine	308-313
base molding	355	screen block	296	Wood		oak	313-318
gutters and downspouts	256-257	shower	383-385	columns	95, 183	redwood	318
sheet flooring	351-354	slump block	296	countertops, butcher		solid pine	299-308
siding	395	slump brick	296	block	113	wood bullnose round	
tile flooring	351-354	stucco	347	cupolas	113	corner	324-325
wallpaper	452	studs/plates	205-208	decks	192	Wood paneling	
wallpaper, demolition	129	Walnut flooring	260	fences	162-164	demolition	122, 340
Vinyl coated mineral		Water closets	442-446	lath	345	hardboard	340-343
fiber tile	22-23	Water filters	453-454	patios	192	particleboard	340
Visual inspection	7	soft water systems	463	sash, window glass	227-228	plywood	341-343
Vitreous china sinks		Water heaters		screen doors	150	Wood roofing	
American Standard Products	402-404, 411-412	A.O. Smith	454-459	shutters	387-388	accessories	371
bathroom	402-415	accessories	461	thresholds	135	demolition	121, 124
Kohler Products	407-411, 412-415	cabinets/stands	459	windows	472-498	dimensions	356
utility	424	electric	454-457	Wood doors	141-144	shakes	368-371
Vitreous china toilets	442-446	gas	457-459	Dutch	141-142	shingles	368-371
Volume control dampers,		solar	459-461	fire, natural birch	147	Wood sheathing	
A/C duct	31	Water softeners		frames, exterior	132	applications	174
W		Bruner	462-463	French	143-144, 145-146	board	215-216
W-truss		Calgon	462-463	garage doors	223-224	fiberboard	215
construction methods	173	chemical feed pumps	463	garden	144	hardboard	217
shop fabricated,		storage tanks	462	hollow core	149	particleboard	217
wood	218-220	water filters	463	interior	147-150	plywood	215-216
Wage rates	11	Water-resistant drywall	153-155	raised panel	142	roof	216
all trades	11	Wax, flooring	259-261	screen	150	subfloor	217
craft compositions	15-19	Weather protection,		sliding glass	145-146	underlayment	217
Wainscot, ceramic tile	85	demolition	123	solid core	149-150	wall	215
installation	83	Weathercap	155	threshold	133	Wood siding	
Wall cabinets, kitchen	69-72	Weathervanes	113	Wood flooring		bevel	390
installation procedure	60	Well cap, downspouts	256-257	applications	258-261	board and batten	399-400
Wall heaters		Well outlet, downspouts	256-257	block	258	board on board	400
bathroom	268	Western hemlock		cleaning	328-329	demolition	125
furnace	268	shutters	388	finishing	333	dimensions	392
recessed	268	spindles	321-323	fir	259	drop	397-398
space heaters	266-267	Whirlpool bath	44-45, 47-58	maple	259	estimating	390
Wall hung bathroom sinks		spa	431-433	natural finish	333	installation	390
American Standard Products	411-412	White cement	105	oak	259-260	plywood	400
Kohler Products	412-415	Window		painting, wood	334	shakes	400
Wall insulation	275-277	molding, stool	306	parquet	260-261	shingle siding	392, 401
demolition	123	painting	338	sealing	331	vertical	399-400
Wall lighting fixtures	280	painting, finishing	332-333	stainwax	331	Wood steps, painting	336
Wall molding, ceiling grid		repair/reputty	335	strip	258	Woodburning fireplaces	170
systems	441	unit air conditioners	37	teak	260	Work triangle, kitchen	60
Wall mounted urinals	447-448	Windows	463-498	walnut	260	Workers' compensation	11
Wall outlets, wiring	156	aluminum	463-471	waxing	333	Workplace accessibility	5
Wall sheathing	215	awning	472-475	yellow pine	259	X, Y, Z	
adhesives	25-27	casement	475-486	Wood framing		X-type bridging	181
Wall type ventilators, attic	33	demolition	126-127	beams	176-179	XPS rigid foam insulation	277
Wallboard		double hung	487-489	blocking	179-180	Yellow pine flooring	259
demolition	128	garden	493-498	bracing	180	Z bar flashing	372
drywall application	153	horizontal slide	466-471	bridging	181-182		
		picture	489-492	columns	183		
		roof	431	demolition	176		
		sky	429-430	diagonal let-ins	180		

Practical References for Builders

Renovating & Restyling Older Homes

Any builder can turn a run-down old house into a showcase of perfection — if the customer has unlimited funds to spend. Unfortunately, most customers are on a tight budget. They usually want more improvements than they can afford — and they expect you to deliver. This book shows how to add economical improvements that can increase the property value by two, five or even ten times the cost of the remodel. Sound impossible? Here you'll find the secrets of a builder who has been putting these techniques to work on Victorian and Craftsman-style houses for twenty years. You'll see what to repair, what to replace and what to leave, so you can remodel or restyle older homes for the least amount of money and the greatest increase in value. **416 pages, 8½ x 11, \$33.50**

CD Estimator

CD Estimator (for *Windows*[™]) puts at your fingertips over 135,000 construction costs for new construction, remodeling, renovation & insurance repair, home improvement, framing & finish carpentry, electrical, concrete & masonry, painting, and plumbing & HVAC. Quarterly cost updates are available at no charge on the Internet. You'll also have the National Estimator program — a stand-alone estimating program for *Windows*[™] that *Remodeling* magazine called a "computer wiz," and *Job Cost Wizard*, a program that lets you export your estimates to QuickBooks Pro for actual job costing. A 60-minute interactive video teaches you how to use this CD-ROM to estimate construction costs. And to top it off, to help you create professional-looking estimates, the disk includes over 40 construction estimating and bidding forms. **CD Estimator is \$133.50**

National Renovation & Insurance Repair Estimator



Current prices in dollars and cents for hard-to-find items needed on most insurance, repair, remodeling, and renovation jobs. All price items include labor, material, and equipment breakouts, plus special charts that tell you exactly how these costs are calculated. Includes a free download of an electronic version of the book with *National Estimator*, a stand-alone *Windows*[™] estimating program. An interactive multimedia video that shows how to use the software to compile renovation and repair cost estimates is free at www.costbook.com.

488 pages, 8½ x 11, \$89.50. Revised annually

Markup & Profit: A Contractor's Guide, Revisited

In order to succeed in a construction business, you have to be able to price your jobs to cover all labor, material and overhead expenses, and make a decent profit. But calculating markup is only part of the picture. If you're going to beat the odds and stay in business — profitably, you also need to know how to write good contracts, manage your crews, work with subcontractors and collect on your work. This book covers the business basics of running a construction company, whether you're a general or specialty contractor working in remodeling, new construction or commercial work. The principles outlined here apply to all construction-related businesses. You'll find tried and tested formulas to guarantee profits, with step-by-step instructions and easy-to-follow examples to help you learn how to operate your business successfully. Includes a link to free downloads of blank forms and checklists used in this book. **336 pages, 8½ x 11, \$47.50**

Also available as an eBook (ePub, mobi for Kindle), \$39.95 at www.craftsman-book.com

Construction Forms for Contractors

This practical guide contains 78 practical forms, letters and checklists, guaranteed to help you streamline your office, organize your jobsites, gather and organize records and documents, keep a handle on your subs, reduce estimating errors, administer change orders and lien issues, monitor crew productivity, track your equipment use, and more. Includes accounting forms, change order forms, forms for customers, estimating forms, field work forms, HR forms, lien forms, office forms, bids and proposals, subcontracts, and more. All are also on the CD-ROM included, in Excel spreadsheets, as formatted Rich Text that you can fill out on your computer, and as PDFs. **360 pages, 8½ x 11, \$48.50**

eBook (PDF) also available; \$24.25 at www.craftsman-book.com

Paper Contracting: The How-To of Construction Management Contracting

Risk, and the headaches that go with it, have always been a major part of any construction project — risk of loss, negative cash flow, construction claims, regulations, excessive changes, disputes, slow pay — sometimes you'll make money, and often you won't. But many contractors today are avoiding almost all of that risk by working under a construction management contract, where they are simply a paid consultant to the owner, running the job, but leaving him the risk. This manual is the how-to of construction management contracting. You'll learn how the process works, how to get started as a CM contractor, what the job entails, how to deal with the issues that come up, when to step back, and how to get the job completed on time and on budget. Includes a link to free downloads of CM contracts legal in each state. **272 pages, 8½ x 11, \$55.50**

eBook (PDF) also available; \$27.75 at www.craftsman-book.com

Plumber's Handbook Revised

Explains how to install plumbing systems that will pass inspection — the first time. Clearly illustrated, with diagrams, charts and tables that make it easy to select the right material and install it correctly. Covers vents, waste piping, drainage, septic tanks, hot and cold water supply systems, wells, fire protection piping, fixtures, solar energy systems, gas piping and more. Completely updated to comply with the current editions of the *International Plumbing Code (IPC)* and the *Uniform Plumbing Code (UPC)* that are standards for most cities and code jurisdictions. New tables, illustrations and chapters bring this book current with recent amendments to the plumbing codes. **304 pages, 8½ x 11, \$41.50**

The Blue Book Network Guide to Construction Costs 2015

The Blue Book Network Guide to Construction Costs 2014 is a practical resource for all your construction estimating needs. Whether the job is for general construction, remodeling, building maintenance, or repair, the Blue Book Network Guide to Construction Costs provides the most accurate and up-to-date data for material and installation costs, labor and equipment rates, and even adjusted allowances for overhead and profit. All unit and summary costs for every type of structure are broken down, and organized in the 16-Division CSI Masterformat. It also includes prevailing wage rates for over 400 U.S. Metropolitan areas (based on the latest data published by the Department of Labor), square foot costs, Americans with Disabilities costs (ADA), production and demolition rates, energy factors, purchasing costs, equipment rental rates and much more! **6½ x 11, \$52.95**

National Home Improvement Estimator

Current labor and material prices for home improvement projects. Provides manhours for each job, recommended crew size, and the labor cost for removal and installation work. Material prices are current, with location adjustment factors and free monthly updates on the Web. Gives step-by-step instructions for the work, with helpful diagrams, and home improvement shortcuts and tips from experts. Includes a free download of an electronic version of the book, and *National Estimator*, a stand-alone *Windows*[™] estimating program. An interactive multimedia tutorial that shows how to use the software to compile home improvement cost estimates is free at www.costbook.com.

568 pages, 8½ x 11, \$88.75. Revised annually

Construction Contract Writer

Relying on a "one-size-fits-all" construction contract to fit your jobs can be dangerous — almost as dangerous as a handshake agreement. *Construction Contract Writer* lets you draft a contract in minutes that precisely fits your needs and the particular job, and meets state and federal requirements. You answer a series of questions — like an interview — to construct a legal contract for each project you take on. Anticipate where disputes could arise and settle them in the contract before they happen. Include the warranty protection you intend, the payment schedule, and create subcontracts from the prime contract by just clicking a box. Includes a feedback button to an attorney on the Craftsman staff to help should you need it — *No extra charge. \$149.95*. Download *Construction Contract Writer* at <http://www.constructioncontractwriter.com>



Contractor's Guide to QuickBooks

QuickBooks has many new features that simplify a building contractor's bookkeeping work. You'll wonder how you managed without them. To help you make the most of these new features, or to make getting set up with *QuickBooks* almost painless, this user-friendly manual walks you through *QuickBooks*' detailed setup procedure and explains step-by-step how to create a first-rate accounting system. You'll learn in days, rather than weeks, how to use *QuickBooks* to get your contracting business organized, with simple, fast accounting procedures. But setting up *QuickBooks* from scratch can be time-consuming. On the free download included with purchase of the book you'll find a *QuickBooks* file preconfigured for a construction company. Open it, enter your company's data, add info on your suppliers, subs and customers, and you're up and running. The setup's done for you. **288 pages, 8½ x 11, \$68.50**

See checklist for other available editions.

eBook (PDF) also available; \$34.25 at www.craftsman-book.com
eBooks also available for 2007, 2008, 2009, 2010 and 2012

National Construction Estimator

Current building costs for residential, commercial, and industrial construction. Estimated prices for every common building material. Provides man-hours, recommended crew, and gives the labor cost for installation. Includes a free download of an electronic version of the book with *National Estimator*, a stand-alone Windows™ estimating program. An interactive multimedia video that shows how to use the software to compile construction cost estimates is free at www.costbook.com.

672 pages, 8½ x 11, \$87.50. Revised annually

Craftsman's Construction Installation Encyclopedia

Step-by-step installation instructions for just about any residential construction, remodeling or repair task, arranged alphabetically, from *Acoustic tile* to *Wood flooring*. Includes hundreds of illustrations that show how to build, install, or remodel each part of the job, as well as manhour tables for each work item so you can estimate and bid with confidence. Also includes a CD with all the material in the book, handy look-up features, and the ability to capture and print out for your crew the instructions and diagrams for any job. **792 pages, 8½ x 11, \$65.00**

eBook (PDF) also available; \$32.50 at www.craftsman-book.com

Insurance Restoration Contracting: Startup to Success

Insurance restoration — the repair of buildings damaged by water, fire, smoke, storms, vandalism and other disasters — is an exciting field of construction that provides lucrative work that's immune to economic downturns. And, with insurance companies funding the repairs, your payment is virtually guaranteed. But this type of work requires special knowledge and equipment, and that's what you'll learn about in this book. It covers fire repairs and smoke damage, water losses and specialized drying methods, mold remediation, content restoration, even damage to mobile and manufactured homes. You'll also find information on equipment needs, training classes, estimating books and software, and how restoration leads to lucrative remodeling jobs. It covers all you need to know to start and succeed as the restoration contractor that both homeowners and insurance companies call on first for the best jobs. **640 pages, 8½ x 11, \$69.00**

eBook (PDF) also available; \$34.50 at www.craftsman-book.com

Home Building Mistakes & Fixes

This is an encyclopedia of practical fixes for real-world home building and repair problems. There's never an end to "surprises" when you're in the business of building and fixing homes, yet there's little published on how to deal with construction that went wrong — where out-of-square or non-standard or jerry-rigged turns what should be a simple job into a nightmare. This manual describes jaw-dropping building mistakes that actually occurred, from disastrous misunderstandings over property lines, through basement floors leveled with an out-of-level instrument, to a house collapse when a siding crew removed the old siding. You'll learn the pitfalls the painless way, and real-world working solutions for the problems every contractor finds in a home building or repair jobsite. Includes dozens of those "surprises" and the author's step-by-step, clearly illustrated tips, tricks and workarounds for dealing with them.

384 pages, 8½ x 11, \$52.50

eBook (PDF) also available; \$26.25 at www.craftsman-book.com

Contractor's Survival Manual Revised

The "real skinny" on the down-and-dirty survival skills that no one likes to talk about — unique, unconventional ways to get through a debt crisis: what to do when the bills can't be paid, finding money and buying time, conserving income, transferring debt, setting payment priorities, cash float techniques, dealing with judgments and liens, and laying the foundation for recovery. Here you'll find out how to survive a downturn and the key things you can do to pave the road to success. Have this book as your insurance policy; when hard times come to your business it will be your guide. **336 pages, 8½ x 11, \$38.00**

Profits in Buying & Renovating Homes

Step-by-step instructions for selecting, repairing, improving, and selling highly profitable "fixer-uppers." Shows which price ranges offer the highest profit-to-investment ratios, which neighborhoods offer the best return, practical directions for repairs, and tips on dealing with buyers, sellers, and real estate agents. Shows you how to determine your profit before you buy, what "bargains" to avoid, and how to make simple, profitable, inexpensive upgrades. **304 pages, 8½ x 11, \$24.75**

Working Alone

This unique book shows you how to become a dynamic one-man team as you handle nearly every aspect of house construction, including foundation layout, setting up scaffolding, framing floors, building and erecting walls, squaring up walls, installing sheathing, laying out rafters, raising the ridge, getting the roof square, installing rafters, subfascia, sheathing, finishing eaves, installing windows, hanging drywall, measuring trim, installing cabinets, and building decks. **152 pages, 5½ x 8½, \$17.95**

Building Code Compliance for Contractors & Inspectors

An answer book for both contractors and building inspectors, this manual explains what it takes to pass inspections under the 2009 *International Residential Code*. It includes a code checklist for every trade, covering some of the most common reasons why inspectors reject residential work — footings, foundations, slabs, framing, sheathing, plumbing, electrical, HVAC, energy conservation and final inspection. The requirement for each item on the checklist is explained, and the code section cited so you can look it up or show it to the inspector. Knowing in advance what the inspector wants to see gives you an (almost unfair) advantage. To pass inspection, do your own pre-inspection before the inspector arrives. If your work requires getting permits and passing inspections, put this manual to work on your next job. If you're considering a career in code enforcement, this can be your guidebook. **8½ x 11, 232 pages, \$32.50**

eBook (PDF) also available; \$16.25 at www.craftsman-book.com

Estimating Home Building Costs, Revised

Estimate every phase of residential construction from site costs to the profit margin you include in your bid. Shows how to keep track of man-hours and make accurate labor cost estimates for site clearing and excavation, footings, foundations, framing and sheathing finishes, electrical, plumbing, and more. Provides and explains sample cost estimate worksheets with complete instructions for each job phase. This practical guide to estimating home construction costs has been updated with digital *Excel* estimating forms and worksheets that ensure accurate and complete estimates for your residential projects. Enter your project information on the worksheets and *Excel* automatically totals each material and labor cost from every stage of construction to a final cost estimate worksheet. Load the enclosed CD-ROM into your computer and create your own estimate as you follow along with the step-by-step techniques in this book.

336 pages, 8½ x 11, \$38.00

eBook (PDF) also available; \$19.00 at www.craftsman-book.com

Home Inspection Handbook

Every area you need to check in a home inspection — especially in older homes. Twenty complete inspection checklists: building site, foundation and basement, structural, bathrooms, chimneys and flues, ceilings, interior & exterior finishes, electrical, plumbing, HVAC, insects, vermin and decay, and more. Also includes information on starting and running your own home inspection business. **324 pages, 5½ x 8½, \$24.95**

Buy this complete book here: <https://goo.gl/WLDOWr>

Builder's Guide to Room Additions

How to tackle problems that are unique to additions, such as requirements for basement conversions, reinforcing ceiling joists for second-story conversions, handling problems in attic conversions, what's required for footings, foundations, and slabs, how to design the best bathroom for the space, and much more. Besides actual construction, you'll even find help in designing, planning, and estimating your room addition jobs.

352 pages, 8½ x 11, \$34.95

Paint Contractor's Manual

How to start and run a profitable paint contracting company: getting set up and organized to handle volume work, avoiding mistakes, getting maximum production from your crews and the most value from your advertising dollar. Shows how to estimate all prep and painting. Loaded with man-hour estimates, sample forms, contracts, charts, tables and examples you can use. **224 pages, 8½ x 11, \$34.00**

How to Succeed With Your Own Construction Business

Everything you need to start your own construction business: setting up the paperwork, finding the jobs, advertising, using contracts, dealing with lenders, estimating, scheduling, finding and keeping good employees, keeping the books, and coping with success. If you're considering starting your own construction business, all the knowledge, tips, and blank forms you need are here. **336 pages, 8½ x 11, \$28.50**

Rough Framing Carpentry

If you'd like to make good money working outdoors as a framer, this is the book for you. Here you'll find shortcuts to laying out studs; speed cutting blocks, trimmers and plates by eye; quickly building and blocking rake walls; installing ceiling backing, ceiling joists, and truss joists; cutting and assembling hip trusses and California fills; arches and drop ceilings — all with production line procedures that save you time and help you make more money. Over 100 on-the-job photos of how to do it right and what can go wrong. **304 pages, 8½ x 11, \$26.50**

Construction Spanish

Carry in your pocket over 1000 words and terms and 15 commonly-used phrases in both English to Spanish and Spanish to English for job use on residential, commercial and heavy commercial projects. If you want an inexpensive English-Spanish dictionary that fits in your shirt pocket, you should have a copy of this book. **120 pages, 3½ x 5, \$6.00**

Drafting House Plans

Here you'll find step-by-step instructions for drawing a complete set of house plans for a one-story house, an addition to an existing house, or a remodeling project. This book shows how to visualize spatial relationships, use architectural scales and symbols, sketch preliminary drawings, develop detailed floor plans and exterior elevations, and prepare a final plot plan. It even includes code-approved joist and rafter spans and how to make sure that drawings meet code requirements. **185 pages, 8½ x 11, \$34.95**

Download all of Craftsman's most popular costbooks for one low price with the Craftsman Site License. www.craftsmansitelicense.com



Craftsman Book Company
6058 Corte del Cedro
Carlsbad, CA 92011

Call me.
1-800-829-8123
Fax (760) 438-0398

In A Hurry?

We accept phone orders charged to your

Visa, MasterCard, Discover or American Express

Name _____
e-mail address (for order tracking and special offers) _____
Company _____
Address _____
City/State/Zip _____ This is a residence
Total enclosed _____ (In California add 7.5% tax)

Card _____
Exp. date _____ Initials _____

Order online <http://www.craftsman-book.com>
Free on the Internet! Download any of Craftsman's estimating costbooks for a 30-day free trial! www.costbook.com

*Free Media Mail shipping, within the US
when your check covers your order in full.*

Tax Deductible: Treasury regulations make these references tax deductible when used in your work. Save the canceled check or charge card statement as your receipt.

10-Day Money Back Guarantee

- 52.95 The Blue Book Network Guide to Construction Costs 2015
- 34.95 Builder's Guide to Room Additions
- 32.50 Building Code Compliance for Contractors & Inspectors
- 133.50 CD Estimator
- 48.50 Construction Forms for Contractors
- 6.00 Construction Spanish
- 68.50 Contractor's Guide to QuickBooks
- 57.00 Contractor's Guide to QuickBooks Pro 2010
- 56.50 Contractor's Guide to QuickBooks Pro 2009
- 54.75 Contractor's Guide to QuickBooks Pro 2008
- 53.00 Contractor's Guide to QuickBooks Pro 2007
- 49.75 Contractor's Guide to QuickBooks Pro 2005
- 48.50 Contractor's Guide to QuickBooks Pro 2004
- 47.75 Contractor's Guide to QuickBooks Pro 2003
- 46.50 Contractor's Guide to QuickBooks Pro 2002
- 45.25 Contractor's Guide to QuickBooks Pro 2001
- 38.00 Contractor's Survival Manual Revised
- 65.00 Craftsman's Construction Installation Encyclopedia
- 34.95 Drafting House Plans
- 38.00 Estimating Home Building Costs, Revised
- 52.50 Home Building Mistakes & Fixes
- 24.95 Home Inspection Handbook
- 28.50 How to Succeed With Your Own Construction Business
- 69.00 Insurance Restoration Contracting: Startup to Success
- 47.50 Markup & Profit: A Contractor's Guide, Revisited
- 87.50 Natl. Construction Est. w/FREE Natl. Est. Download
- 88.75 Natl. Home Improvement Est. w/FREE Natl. Est. Download
- 89.50 Natl. Renovation & Ins. Repair Est. w/FREE Natl. Est. Download
- 34.00 Paint Contractor's Manual
- 55.50 Paper Contracting: The How-To of Constr Mgmt Contracting
- 41.50 Plumber's Handbook Revised
- 24.75 Profits in Buying & Renovating Homes
- 33.50 Renovating & Restyling Older Homes
- 26.50 Rough Framing Carpentry
- 17.95 Working Alone
- 88.50 Natl. Repair & Remodeling Est. w/FREE Natl. Est. Download
- FREE Full Color Catalog

Prices subject to change without notice

Buy similar Craftsman Book Co. titles here: <https://www.Craftsman-Book.com>