



2025

**Dennis D. Gleason, CPE
35th Edition**

NATIONAL PAINTING COST ESTIMATOR



**Cost Estimates and Bid Prices for Surface Prep and
Painting on any Job - Brush, Roll or Spray**



2025 NATIONAL PAINTING COST ESTIMATOR

Edited by Dennis Gleason, CPE
35th Edition



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How to Use This Book

Paint estimating is more of an art than a science. There's no price that's exactly right for every job and for every bidder. That's because every painting job is unique. No single material cost, no labor estimate, no pricing system fits all types of work. And just as every job varies, so do painting companies. No two painting contractors have the same productivity rates, the same labor burden, the same overhead expense and the same profit requirements.

The best paint estimates are always custom-made for a particular job. They're based on the contractor's actual productivity rate, material cost, labor cost, overhead percentage and profit expectations. No estimating book, no computerized estimating system, no estimating service can possibly account for all the variables that make every job and every painting company different. Only a skilled estimator using professional judgment and a proven estimating system can produce consistently reliable estimates on a wide variety of painting jobs.

So, Why Buy This Book?

That's easy. This is the most complete, authoritative and reliable unit cost guide ever made available to paint estimators. No matter what types of work you estimate, no matter what your costs are, this book will help pro-

duce consistently accurate painting cost estimates in dollars and cents. But it isn't a substitute for expertise. It's not a simple way to do in minutes what an experienced paint estimator might not be able to do in hours. Instead, this unit cost guide will aid you in developing a good estimate of costs for any painting operation on any project. Think of this manual as one good estimating tool. But it's not (or at least shouldn't be) the only estimating tool you'll use.

For most jobs, I expect that the figures you see here will prove to be good estimates. But anyone who understands paint estimating will understand why judgment is needed when applying figures from this manual — or any other paint estimating guide. It's your responsibility to decide which conditions on the job you're bidding are like conditions assumed in this manual, and which conditions are different. Where conditions are different, you'll need good professional judgment to arrive at a realistic estimated cost.

This manual is also available by subscription on the Web. *National Estimator Cloud* includes all ten of Craftsman's 2025 construction cost estimating references. Each of these manuals has about 400 pages of current labor and material costs for construction — all neatly organized and indexed. Use these costs to build estimates and bids for nearly any type of project. Your work is kept secure on the Web.

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	Manhour productivity	Labor cost per hour	Labor burden percent	Labor burden dollars	Labor cost plus burden	Material price discount	Overhead percent	Profit
Slow (1P)	Low	\$26.55	24.0%	\$6.37	\$32.92	20%	19.0%	16%
Medium (2P)	Average	33.80	28.9%	9.77	43.57	30%	25.0%	12%
Fast (3P)	High	41.25	35.3%	14.56	55.81	40%	31.0%	7%

Notes: These rates are for painters. Hourly rates for wallcovering are different. See page 29. Slow, Medium and Fast jobs are defined on page 13. Labor burden percentages used in this book are summarized on page 31. National Estimator uses hourly rates in the Labor cost plus burden column. National Estimator shows productivity rates (Slow, Medium and Fast) and copies the words Slow, Medium or Fast to your estimate. It also copies the crew productivity code, either 1P (Slow), 2P (Medium), or 3P (Fast) to your estimating form. National Estimator allows you to enter any percentage you select for overhead and profit.

Figure 1

The basis for painting cost estimates in this book

How to Use the Tables

The estimating tables in this book show typical costs and bid prices for every painting operation you're likely to encounter, whether paint is applied by brush, roller, mitt or spray. Selecting the right cost table and the correct application method is easy. Tables are divided into four parts:

Part I: General Painting Costs

Part II: Preparation Costs

Part III: Industrial, Institutional and Heavy Commercial Painting Costs

Part IV: Wallcovering Costs

Each section is arranged alphabetically by operation. If you have trouble finding the tables you need, use the Table of Contents at the front of the book or the Index at the back of the book.

Once you've found the right table and the appropriate application method, you have to select the correct application rate. For each of the application methods (brush, roll, mitt or spray), the tables show three application rates: "Slow," "Medium," or "Fast." That's a very important decision when using this book, because each application rate assumes different manhour productivity, material coverage, material cost per gallon, hourly labor cost, labor burden, overhead and profit.

Your decision on the application rate to use (or which combination of rates to use) has to be based on your evaluation of the job, your painters and your company. That's where good common sense is needed.

Figure 1 shows crew codes, labor costs, labor burdens, material discounts, and profit for each of the three production rates for painting.

The "Slow" application rate in Figure 1 assumes lower productivity (less area covered per manhour), a lower labor cost (due to a less skilled crew), a lower labor burden (due to lower fringe benefits), a lower discount on materials (because of low volume), higher overhead (due to lower volume) and a higher profit margin (typical on small repaint or custom jobs). Figures in this "Slow" application row will apply where painters with lower skill levels are working on smaller or more difficult repaint jobs.

Look at the "Fast" row in Figure 1. These estimates will apply where a skilled crew (higher hourly rate and larger fringe benefits) is working under good supervision and good conditions (more area covered per manhour) on larger (volume discount on materials) and more competitive jobs (lower profit margin). Figures in the "Fast" application row assume high productivity and lower material coverage, (unpainted surfaces absorb more paint), like that of a residential tract job.

Each of the three application rates is described more completely later in this section.

	Pricing variables			Unit cost estimate					
	1	2	3	4	5	6	7	8	9
	Labor SF per man- hour	Material coverage SF/gallon	Material cost per gallon	Labor cost per 100 SF	Labor burden 100 SF	Material cost per 100 SF	Overhead per 100 SF	Profit per 100 SF	Total cost per 100 SF
Walls, gypsum drywall, orange peel or knock-down, roll, per 100 SF of wall area									
Flat latex, water base (material #5)									
Roll 1st coat									
Slow	400	300	61.20	6.64	1.59	20.40	5.44	5.45	39.52
Medium	538	275	53.60	6.28	1.82	19.49	6.90	4.14	38.63
Fast	675	250	45.90	6.11	2.15	18.36	8.25	2.44	37.31
Your customized figures				4.15	1.00	19.49	6.16	3.70	34.50
					24.00%		25.00%	12.00%	

Figure 2
Customize the tables
(From page 228)

The Easy Case: No Adjustments

Let's suppose the "Slow" application rate fits the job you're estimating almost perfectly. Your crew's productivity is expected to be low. From Figure 1, the labor cost will be \$26.55 per hour. Labor burden (fringes, taxes and insurance) will be 24.0 percent. Discount on materials will be 20 percent. Overhead will be 19 percent and profit will be 16 percent. Then your task is easy. All of your costs match the costs in the "Slow" row. No modifications are needed. The same is true if your costs fit the "Medium" or "Fast" rows.

But that's not always going to happen. More often, the job, your crew and your company won't fit exactly into any of the three rows. What then? More evaluation is required. You'll combine costs from several application rate rows to reach an accurate bid price. I call that *customizing your costs* and it's nearly always required for an accurate estimate.

Customizing Your Costs

Every company has a different combination of work-speed and experience, taxes, benefits, spread rates, equipment needs, percentage for overhead, and profit margin. These are the cost variables in paint estimating.

This book is designed so you can quickly and easily adjust estimates to reflect actual costs on the job you're estimating. It's important that you *read the rest of this section before using the cost tables in this book*. That's the only way to get from this manual all the accuracy and flexibility that's built into it.

In the remainder of this section I'll describe the assumptions I've made and the methods I used to compile the cost tables in this manual. Once you understand them, you'll be able to combine and modify costs in the estimating tables so your bids fit the job, your crew and your company as closely as possible.

When you start using the cost tables in this book, I suggest you circle numbers in the "Slow," "Medium," or "Fast" application rate rows that best fit your company and your jobs. To improve accuracy even more, write your own figures in the blank row below the "Fast" row in each table, like I've done in Figure 2.

A Practical Example

Figure 2 is part of an estimating table taken from page 228 of this book, General Painting Costs. I'm going to use it to show how to customize estimates to match

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your actual costs. In Figure 2 I've circled some of the costs I plan to use in a sample estimate and calculated others.

In column 1, *Labor SF per manhour*, I've circled 675 because I feel the journeyman painter assigned to this job can paint walls at the "Fast" rate of 675 square feet per hour. That's the number I plan to use for my estimate.

In column 2, *Material coverage SF/gallon*, I've reviewed my past performance and I expect coverage will be about 275 square feet per gallon of paint. So I've circled that figure.

In column 3, *Material cost per gallon*, I've circled 53.60 for my cost per gallon for flat water base latex (including tax and an allowance for consumable supplies), based on a 30 percent discount from the retail price.

So far, so good. That completes the first three columns, what I call the *pricing variables*. Now we can begin on the *unit cost estimate*, columns 4 through 9. Each of these columns show a price per 100 square feet of wall.

We'll start with column 4, *Labor cost per 100 SF*. Notice that I've written in 4.15 for this column. Here's why. Look back at Figure 1 and the "Slow" labor rate, with burden, at \$32.92. (See Figure 13 on page 29 for the wage rates for wallcovering.) Since I'm in a part of the country where prices, and wages, are lower than the national average, my experienced painters work for \$28.00, closer to the "Slow" labor cost, though they produce at the "Fast" rate of 675 SF per manhour. This gives me an advantage because my labor costs are lower than those in Figure 1. To calculate the labor cost per 100 SF, divide \$28.00 by 675 and then multiply by 100: $28.00/675 = .0415 \times 100 = 4.15$.

In column 5, *Labor burden 100 SF*, I've entered 1.00. This figure is a result of my labor cost at $\$4.15 \times 24.0$ percent, my labor burden (taxes, insurance and benefits) from the "Slow" row of Figure 1. Even though the labor rate is "Fast" and the labor cost is higher than the "Slow" rate, for this example labor burden at 1.00 will be most like work done at the "Slow" rate because this company doesn't offer many benefits.

In column 6, *Material cost per 100 SF*, I've circled 19.49, the number in the "Medium" row. Since I've used numbers in the "Medium" row in both columns 2 and 3, I can take the figure in column 6 for material costs directly from the table, without any calculations.

In column 7, *Overhead per 100 SF*, I've calculated the overhead dollar value by adding the labor cost, labor burden and material cost then multiplying that sum by the "Medium" overhead at 25 percent: $\$4.15 + \$1.00 + \$19.49 = \$24.64 \times .25 = \$6.16$.

In column 8, *Profit per 100 SF*, I've calculated the profit dollar value by adding the labor cost, labor burden, material cost and overhead then multiplying that sum by the "Medium" profit at 12 percent from Figure 1. The result is $\$4.15 + \$1.00 + \$19.49 + \$6.16 = \$30.80 \times .12 = \3.70 .

Column 9, *Total cost per 100 SF*, is the bid price — it's the sum of columns 4 through 8 for each row. Because I've circled costs that fall in more than one row, I can't use any figure in column 9. Instead, I simply add the circled or calculated figures in columns 4 through 8: $\$4.15 + \$1.00 + \$19.49 + \$6.16 + \$3.70 = \34.50 . That's my bid price per 100 square feet on this job. It's the combination of costs that fit my company, my painters and the job.

Using Your Good Judgment

Of course, judgment is required when using these tables, as it is when making any estimate. For example, if your journeymen painters earn the top wage of \$41.25 but work at the "Medium" production rate or slower, your labor cost per unit will be higher than the highest cost listed in column 4. An adjustment may be required.

Because figures in columns 7 and 8 are percentages of figures in columns 4, 5 and 6, you have to be careful when you blend costs from different rows. Let's look at an extreme (and unlikely) example.

Suppose you use costs from the "Slow" application row for columns 4 (6.64), 5 (1.59) and 6 (20.40) of Figure 2. The total of those three costs is \$28.63. Then you decide to use overhead from the "Fast" row because your overhead is about 31 percent of cost, not 19 percent of cost as in the "Slow" row (Figure 1). "Fast" overhead is listed as \$8.25 in Figure 2. The correct overhead figure is \$8.88, or 31 percent of the sum of "Slow" costs in columns 4, 5 and 6. Be aware of this small discrepancy and calculate figures for all the categories yourself to ensure extreme accuracy.

Converting Unit Prices

The last column in Figure 2 shows the total cost per 100 square feet of wall. Some estimating tables in this book show a total cost per 100 linear feet (such as for baseboard) or total costs per unit (such as for doors). To convert a cost per 100 square feet to a cost per square foot, move the decimal point two places to the left. Thus the cost per 100 square feet for the “Fast” rate in Figure 2 is \$32.51 or about 32.5 cents per square foot.

General Qualifications

It’s important that you understand the conditions the tables are based upon. I call these conditions the job qualifications. A qualifications statement follows each estimating table to help you understand what’s included and what’s excluded. Please read those *qualifications* before using costs from this manual in your estimates. The following points apply to *all* tables in this book:

Included Costs

- Minor preparation, both time and material. Normal preparation for new residential construction is included in the “Fast” row and for new commercial jobs in the “Medium” row. Minimal preparation is included for repaint jobs in the “Slow” row.
- Minimum setup and cleanup
- Equipment such as ladders, spray rigs and brushes are included in overhead for the “Fast” rate (residential tracts) or “Medium” (commercial) work. Add equipment costs at their rental rate for “Slow” (repaint) jobs.

Excluded Costs

- Equipment costs such as ladders, spray rigs, etc. for “Slow” (repaint) jobs. Add these at their rental rate whether or not you own the equipment.
- Extensive surface preparation. Add the cost of time and materials needed for more than “normal” preparation work. Also add time to remove and replace hardware and accessories, protect

adjacent surfaces, and do any extensive setup, cleanup, or touchup. (See the discussion of SURRPTUCU on the next page.)

- Mobilization or demobilization
- Supervision
- Material handling, delivery, or storage
- Sample preparation
- Mixing coatings
- Excessive material waste or spillage
- Equipment rental or placement costs
- Scaffolding rental and erection costs
- Subcontract costs
- Contingency allowance
- Owner allowances
- Commissions, bonuses, overtime, premium pay for shift adjustments (evening work), travel time or per diem.
- Bonds, fees, or permits
- Additional insurance to meet owner requirements
- Work at heights above 8 feet or beyond the reach of a wand or extension pole. (See the table for High Time Difficulty Factors on page 139.)

Surface Preparation

The Preparation estimating tables that follow Part I: General Painting Costs, apply to both interior and exterior surfaces.

Surface preparation is one of the hardest parts of the job to estimate accurately. Any experienced painter can make a reasonably good estimate of the quantity of paint and time needed for application. But the amount of prep work needed will vary widely — especially for repaint jobs. Some will need very little work. Others will take more time for prep than for painting.

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Preparation work for new construction jobs is relatively standard and consistent. You'll have to mask cabinets before spraying sealer on wet area walls, caulk at the baseboards, putty the nail holes in wood trim, and occasionally use a wire brush to smooth and clean a surface. The time required for this work is fairly predictable.

Labor cost for normal preparation of unpainted surfaces in new residential construction is included in the "Fast" labor costs and for new commercial construction in the "Medium" labor cost. The cost of materials for normal surface preparation on unpainted surfaces is included in the sundries allowance that's part of the "Fast" or "Medium" material cost.

But if more than normal surface prep work is needed, estimate the extra manhours and materials required and add these costs to your estimate.

Add for Repaint Preparation

The "Slow" unit costs include no surface preparation other than a quick wipedown. Preparation on a repaint job may take longer than the painting itself. That's why you have to estimate surface prep as a separate item and add that cost to your estimate.

A misjudgment in estimating preparation work can be very expensive. That's why I recommend that you bid surface preparation by the hour, using your shop rate for "time and material" jobs, or some other specified hourly rate. That protects you against cost overruns if the preparation takes longer than anticipated. But there's a danger here. Owners may be angry about the cost because they don't understand what's involved in preparation and why it takes so long. You can avoid this with a "not to exceed" bid that contains a maximum price for the prep work. Your bid should define the scope of preparation work in detail and list exactly what's included and excluded. Be sure to consider all the labor, material, and equipment costs involved.

If you have to bid repaint work, be sure to include all the miscellaneous costs. The acronym I use to identify these miscellaneous costs is SURRPTUCU: Setup (SU), Remove and Replace (RR), Protection (P), Touchup (TU) and Cleanup (CU). Add these costs to your repaint estimate if they require anything beyond minimum attention.

- 1) *Setup* includes unloading the vehicle, spreading the tarp and setting up the tools — everything that has to be done before prep or painting can begin.
- 2) Remove and replace everything that will interfere with painting, including door and cabinet hardware, the contents of cabinets, light fixtures, bathroom accessories, switch covers and outlet plates, among others.
- 3) *Protection* for furniture and adjacent surfaces such as floors, cabinets, plumbing or electrical fixtures, windows, and doors. Protection methods include masking, applying visqueen, laying drop cloths and applying a protective coating on windows.
- 4) *Touchup* time varies with the speed and quality of the painting job and how fussy the owner is. The more careful your painters are, the less touchup time needed. You can estimate touchup time accurately only if you know how well your crews perform. The Touchup table in this book is based on a percentage of total job cost.
- 5) *Cleanup* time is usually about the same as setup time, about 20 to 30 minutes each day for repaint jobs. Cleanup time begins when work stops for the day and ends when the crew is back in the truck and ready to go home. It includes cleaning tools, dismantling the paint shop and loading the vehicle.

Subcontractors

Painting contractors don't hire many subcontractors. But once in a while you'll need a specialist for sandblasting, waterblasting, wallcovering, scaffolding or pavement marking. Subcontract costs are not included in the estimating tables. Add the cost of any subcontract work that will be required.

Figure 3 shows some typical rates quoted by sandblasting subcontractors. Of course, prices in your area will probably be different. You could also figure sandblasting unit costs from the sandblasting estimating tables included in Part II, Preparation Costs, in this book.

Minimum charges: \$684.00, scaffolding not included		Epoxy coated - add	1.51 to 1.66/SF
Additional insurance: May be required to cover adjacent personal and real property which may not be protected.		With portable equipment - add	.87 to 1.25/SF
Sandblasting water soluble paints	\$1.25 to 1.43/SF	Commercial blast - 67% white stage	
Sandblasting oil paints	1.33 to 1.50/SF	Field welded, new, uncoated	
Sandblasting heavy mastic		ground runs	1.33 to 1.58/SF
(depends on coating thickness)	1.72 to 1.89/SF	above ground	1.66 to 2.61/SF
Sandblasting brick - light blast	1.25 to 1.43/SF	Previously painted surfaces - add	.80 to 1.43/SF
Sandblasting masonry block walls		Epoxy coated - add	1.43 to 1.66/SF
Clean up & remove grime - light	1.18 to 1.25/SF	With portable equipment - add	1.02 to 1.25/SF
- heavy	1.80 to 1.97/SF	Near white blast - 95% white stage	
Sandblasting structural steel		Field welded, new, uncoated	
Pricing rules of thumb:		ground runs	1.58 to 1.81/SF
Pipe up to 12" O.D.	1.80 to 2.68/SF	above ground	1.81 to 2.77/SF
Structural steel up to 2 SF/LF	1.66 to 1.92/SF	Previously painted surfaces - add	.80 to 1.43/SF
Structural steel from 2 to 5 SF/LF	1.97 to 2.21/SF	Epoxy coated - add	1.43 to 1.66/SF
Structural steel over 5 SF/LF	(depends on shape)	With portable equipment - add	1.02 to 1.25/SF
Tanks and vessels up to 12'0" O.D.	2.61 to 3.01/SF	White blast - 100% uniform white stage	
Tanks and vessels over 12'0" O.D.	2.61 to 3.01/SF	Field welded, new, uncoated	
Brush off blast - light blast (loose mill scale)		ground runs	2.37 to 2.77/SF
Field welded, new, uncoated		above ground	2.61 to 3.07/SF
ground runs	.80 to 1.02/SF	Previously painted surfaces - add	.80 to 1.33/SF
above ground	1.18 to 2.21/SF	Epoxy coated - add	1.43 to 1.66/SF
Previously painted surfaces - add	.80 to 1.43/SF	With portable equipment - add	.80 to 1.19/SF

Figure 3
Sandblasting pricing table

Figure 4 shows typical subcontract bids for pavement marking. Again, prices in your area may be different.

If you do much repainting, you'll probably want to buy a waterblasting rig. Even if you own the blaster, include a charge in each estimate for the equipment as though you rented it from a rental yard just for that job. Figure the unit costs for waterblasting from Part II of this book, Preparation Costs.

Consider using a waterblasting subcontractor if you don't need the service often. Figure 5 shows some typical rates for waterblasting. Make up a table like this based on quotes from subcontractors in your area. For a more detailed table, see Sandblasting in the Preparation section, page 303.

When you hire a subcontractor, make sure the quoted price includes everything that contractor has to do — all labor, material (with tax, if applicable), equipment,

overhead and profit. Add your overhead and profit percentage to the subcontractor's bid price when you enter that item on the estimate.

Contingencies

Occasionally you'll add a contingency allowance on bids for repaint projects where there are unknowns that can't be forecast before work actually begins. Contingency allowances are rarely needed when estimating new construction. When necessary, the contingency amount is usually from 3 to 5 percent. It can go higher, however, if there are unusual conditions or unknowns that make it hard to produce an accurate estimate. Include a contingency allowance in your estimates only if you have reason to expect:

- An uncertain scope of work (unknown job conditions)
- An inexperienced owner or general contractor
- Incomplete drawings

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Pricing rules of thumb:	
Number of parking spaces: Figure on one space per 300 SF of pavement	
Single line striping with light graphics application	\$12.30 per space
Single line striping with heavy graphics application	21.50 per space
Single striping, light graphics and 3' wheel stop	30.60 per space
Single striping, heavy graphics and 3' wheel stop	39.70 per space
Equipment pricing:	
Simple "inverted spray can" approximate cost	\$278.00
Professional striping machine cost range	5,710 to 6,290
Professional road/highway striper	318,000
Subcontractor pricing:	
Move on:	\$187.00 to 228.00
Striping prices:	
Single line striping	\$.56 to .73 per lineal foot
Bike lane striping	.73 to .85 per lineal foot
Fire lane, red curb	.73 to .85 per lineal foot
Symbol pricing:	
Templates - 8'0" template	\$215.00 to 256.00 each
Arrows	48.70 to 57.10 each
Handicap symbol, one color	20.00 to 27.10 each
two color	35.80 to 42.90 each
No parking fire lane stencil	3.86 to 4.72 each
Wheel stops:	
3'0" stops	\$27.10 to 34.40 each if pinned on asphalt 35.80 to 42.90 each if glued and pinned
6'0" stops	42.90 to 51.50 each if pinned on asphalt 51.50 to 58.80 each if glued and pinned (add for stops pinned to concrete)
Signs and posts:	
Sign only 12" x 18"	\$60.00 to 84.40
Post mounted 12" x 18"	158.00 to 217.00
Pavement markers:	
One way pavement markers	\$12.80 each
Two way pavement markers	17.10 each

Figure 4
Pavement marking pricing table

Minimum charges: \$715.00, scaffolding not included

Additional insurance: May be required to cover adjacent personal and real property

Pricing rules of thumb:

Up to 5,000 PSI blast	4 hour minimum \$158.00/hour
5,000 to 10,000 PSI blast	8 hour minimum \$228.00/hour
10,000 PSI blast	8 hour minimum \$282.00/hour
Wet sandblasting	4 hour minimum \$181.00/hour

Figure 5
Waterblasting pricing table

- Delays in beginning the project
- Owner involvement in supervision
- Below-standard working conditions

Don't use contingency allowances as a substitute for complete estimates. Include contingency only to cover what can't be estimated, not what you don't have time to estimate accurately.

heading are divided according to coating material, then by application method, and further into the "Slow," "Medium," and "Fast" application rates.

Column 1: Labor Productivity

This column shows units of work completed per manhour. My estimates assume that painters are experienced and motivated professionals. The labor productivity categories are shown in Figure 6.

My experience is that a painting company that can handle larger projects will have highly skilled, better qualified and more productive painters. The estimating tables also assume that repainting a surface usually takes about 35 percent more time than painting newly constructed surfaces. Much of this extra time is spent protecting adjacent areas.

Column Headings Defined

Take another look at Figure 2. The heading describes the surface to be coated: the type, texture, and often, condition. Sections within each surface

Slow	Medium	Fast
Repaint jobs	New commercial projects	New residential production
Custom painting	Industrial painting	Repetitious painting
Tenant improvements	—	—
Small jobs	Medium-sized jobs	Large projects
Single units	Two to four units	Five or more units
Low production	Average production	High production
High difficulty	Average difficulty	Low difficulty
Poor conditions	Average conditions	Good conditions
High quality	Average quality	Minimum quality
Semi-skilled crew	Skilled crew	Highly skilled crew
No supervision	Some supervision	Good supervision

Figure 6
Labor productivity categories

National Painting Cost Estimator

To establish your company's production levels, ask your field superintendent to monitor the time needed to complete each task and to keep records of crew productivity. You can use the Field Production Times and Rates form on pages 419 and 420 to track your painters' productivity. Make copies of the blank form and have your field superintendent or job foreman give one to each painter on every job. Your superintendent should check the forms frequently to insure they are accurate and kept up to date. Your best guide to productivity on future jobs is productivity on jobs already completed, and this form will help you keep track of your production time. Refer back to Figure 2 on page 7. You can use the results collected on these forms to complete the customized figures row under the "Fast" operation in Figure 2 for every operation in the National Painting Cost Estimator. Examples of how to use Figure 2 are on pages 7 through 9. The more you know about your painters' performance, the more accurate your estimates will be. But don't expect your estimates and actual production to always match exactly. Painters are human beings, not robots. You can't expect them to work at the same rate at all times.

Reduced Productivity

The tables in this book assume no overtime work. Excessive overtime puts a strain on your craftsmen and reduces productivity. A few consecutive days of overtime can drag productivity down to well below average. It's good practice not to assign overtime work on more than two consecutive days.

Work efficiency is also lower when men, materials and equipment are confined in a small area or required to work in cluttered, poorly lit or dirty rooms. Painters need elbow room to work efficiently and get maximum productivity. They're also more productive in a clean environment where they can see what they're doing. It's easier — and safer — to work in a well-lighted area that's relatively clear of debris. If the work area is confined or dirty, reduce estimated productivity accordingly.

Supervision

Supervision expense is not included in the cost tables. Add the cost of supervision to your estimates.

Most supervision is done by foremen. Every crew should have a project foreman designated, usually the most experienced and reliable painter on the job. When not supervising, project foremen should be painting.

Thus the project foreman is a working supervisor. Part of the foreman's time will be productive (applying coatings) and part will be nonproductive (directing the work).

If you have more than three or four jobs going at one time, you need a field superintendent. The field superintendent is the foreman's supervisor. His or her primary responsibility is to be sure that each foreman has the manpower, materials and equipment needed to get the job done. The field superintendent should monitor job progress to be sure manhour productivity and materials used are in line with estimates. Field superintendents usually are not working supervisors; all their time is nonproductive. Figure the field superintendent's salary as overhead expense, because you can't charge his salary to a specific job.

Your project foremen and field superintendent can make or break a job. The better they are, the more work will be done. You want a field superintendent who assigns the right painters to the right foreman, and a foreman who puts the right painters on the right tasks. The most experienced tradesmen should work on tasks that require more skill. Other painters should be used where less skill is needed. The project foreman is also responsible for job safety and quality control.

Your estimates will be more competitive if you can assume high productivity. That's only possible when you have good supervision, from both foremen and superintendent, and motivated crews.

Allowances for Supervision

Supervision isn't considered productive labor. A foreman isn't painting when he's scheduling, organizing a job and instructing his workers. Here are my rule-of-thumb allowances for nonproductive labor on painting jobs.

Custom homes. Allow 2.5 hours of nonproductive supervision for a home up to 1,500 square feet, 3 hours on a home between 1,500 and 2,000 square feet, 4 hours on a custom home between 2,000 and 2,500 square feet, and 5 hours on a larger home.

Model homes in a tract. One hour of nonproductive supervision for each day your crew will be on the job.

Most tract homes. One hour per house.

Higher-quality tract homes. Two hours per house.

Slow application and light coverage (Repaint jobs)	Medium application and medium coverage (Commercial projects)	Fast application and heavy coverage (Residential tracts)
Repaint jobs	Commercial projects	Residential production
Light usage	Moderate usage	Heavy usage
Low absorption	Moderate absorption	High absorption
Light application	Medium application	Heavy application
Low waste	Moderate waste	High waste
Quality paint	Standard paint	Production paint
Semi-skilled painters	Skilled crew	Highly skilled crew

Figure 7
Material coverage rates

Apartments and condos. Allow 1 hour per unit if there are 10 units or less. For 11 to 30 units, allow 0.75 hours of nonproductive time per unit. If there are more than 30 units, allow 0.5 hour per unit.

Nonproductive labor on commercial, industrial, institutional and government projects varies considerably. More complex jobs will require proportionately more nonproductive labor. Use your knowledge based on past experience to estimate supervision either as a percentage of job cost or by the square foot of floor.

Column 2: Material Coverage

The second column in the cost tables shows the estimated material coverage in units (usually square feet or linear feet) per gallon. Figure 7 shows the conditions likely to apply for each of the three material coverage rates. Every condition listed in each of these categories won't necessarily occur on every painting operation. For example, it's possible to have high waste and use low quality paint on a repaint job. But it's more likely that waste will be low and paint quality high on jobs like that.

The "Slow" (repaint) application rate assumes light coverage, "Medium" (commercial project) application rate assumes medium coverage and "Fast" (residential tract) application rate assumes heavy coverage. Light

coverage is typical on "Slow" (repaint) jobs because previously painted surfaces usually absorb 10 to 15 percent less paint than an unpainted surface. All coverage rates are based on paint that's been thinned according to the manufacturer's recommendations.

Of course, coverage varies with the paint you're using and the surface you're painting. Paint manufacturers usually list the recommended coverage rate on the container label. I've listed estimated coverage rates in the tables throughout this book.

Calculating Film Thickness

Many project specifications for commercial, industrial and government jobs identify the coating (film) thickness you have to apply to each surface. The thickness is given in mils, or thousandths of an inch. One mil is 0.001 inch.

The thickness of the dry paint film depends on the percentage of solids in the paint. If you apply a gallon of paint containing 100 percent solids over 1,600 square feet, the dry film will be 1 mil thick — that is, if 100 percent of the paint adheres to the wall. But if there's 10 percent waste (because of paint that's left in the can, on brushes, or spilled), only 90 percent of the material ends up on the surface.

Slow application	Medium application	Fast application
Repaint jobs	Commercial projects	Residential tracts
Low volume	Medium volume	High volume
20% discount	30% discount	40% discount

Figure 8
Material price discounts

Here's a formula for coverage rates that makes it easy to calculate mil thickness, including the waste factor. Coverage rate equals:

$$\frac{\% \text{ of solids} \times 1600}{\text{mil thickness}} \times (1.00 - \text{waste factor})$$

Here's an example. Assume you're applying paint with 40 percent solids (by volume), using a roller. The waste factor is 10 percent. You need a thickness of 5 mils.

Here's the calculation for the coverage rate:

$$\frac{.40 \times 1600}{5} \times (1.00 - .10) = 115.2 \text{ per gallon}$$

You may have to apply several coats to get a thickness of 5 mils. In any case, you'll have to use one gallon of paint for each 115.2 square feet of surface.

Waste Factors

Be sure to consider waste and spillage when you figure coverage rates. Professional painters waste very little paint. They rarely kick over a five-gallon paint bucket. But there's always some waste. My material coverage formulas include a typical waste allowance for each application method, whether it's brush, roller or spray. Of course, actual waste depends on the skill of your painters no matter what application method they use.

These are the waste factors I've built into the tables:

Brush	3 to 5%
Roll	5 to 10%
Airless spray	20 to 25%
Conventional spray.....	25 to 35%

Changes in Paint Formulation

In the late 1970s, the California State Air Resources Board established a "model rule" for lowering the solvent in oil-based paints. They mandated replacing solvent-based paint with water-based formulas. The objective was to lower the amount of solvents escaping into the air. This change in the formulation of oil-based paints is being adopted nationwide.

Changes in paint formulation will affect coverage rates and the cost for non-flat paints. Review actual coverage rates and paint prices and make adjustments where necessary before using the estimates in this book.

Column 3: Material Pricing

The third column in the cost tables shows the cost of materials. The "Slow," "Medium," and "Fast" prices in each table are based on the discounts usually offered by suppliers for volume purchases by contractor customers. The material discounts used in this book are defined in Figure 8.

The more paint a contractor buys over a given period, the greater the discount that contractor can expect. Most paint contractors get a discount of at least 20 percent off retail. Contractors buying in heavy volume usually get discounts that approach 40 percent off retail.

Material Pricing Tables

Figures 9, 10 and 11 show the material prices I've used for each of three application rates throughout this book. In the cost estimating tables each coating is identified by a material number. To find out more about the cost of any of these coatings, refer to the material number listed in Figure 9, 10 or 11.

Material prices at 20% discount

All pricing is based on production grade material purchased in 5 gallon quantities.

	Retail price guide	Contractor price at a 20% discount	Add 15% sundries & 10% escalation	Price with sales tax at 8%	Estimating prices with tax
Interior:					
Sealer, off white (wet area walls & ceilings)					
#1 - Water base	58.15	46.52	58.15	62.80	62.80
#2 - Oil base	81.65	65.32	81.65	88.18	88.20
Undercoat (doors, casings and other paint grade wood)					
#3 - Water base	59.95	47.96	59.95	64.75	64.80
#4 - Oil base	79.65	63.72	79.65	86.02	86.00
Flat latex (walls, ceilings & paint grade baseboard)					
#5 - Water base latex paint	56.70	45.36	56.70	61.24	61.20
Acoustic spray-on texture					
#6 - Primer	40.25	32.20	40.25	43.47	43.50
#7 - Finish	55.65	44.52	55.65	60.10	60.10
#8 - Dripowder mixed (pound)	2.05	1.64	2.05	2.21	2.21
Enamel (wet area walls & ceilings and openings)					
#9 - Water base enamel	70.10	56.08	70.10	75.71	75.70
#10 - Oil base enamel	157.20	125.76	157.20	169.78	169.80
System Estimate (cabinets, bookshelves, molding, interior windows)					
#11a - Wiping stain, oil base	103.70	82.96	103.70	112.00	112.00
#11b - Sanding sealer, lacquer	80.80	64.64	80.80	87.26	87.30
#11c - Lacquer, semi gloss	101.10	80.88	101.10	109.19	109.20
#11 - Stain, seal & 2 coat lacquer SYSTEM					
Average cost (11a + b + (2 x c))		77.34	96.68	104.41	104.40
#12 - Shellac, clear	139.60	111.68	139.60	150.77	150.80
#13 - Penetrating oil stain	185.20	148.16	185.20	200.02	200.00
#14 - Penetrating stain wax (molding)	166.90	133.52	166.90	180.25	180.30
#15 - Wax, per pound (floors)	33.05	26.44	33.05	35.69	35.70
#16 - Glazing (mottling over enamel)	104.05	83.24	104.05	112.37	112.40
#17 - Spray can, each (HVAC registers)	17.55	14.04	17.55	18.95	19.00
Exterior:					
Solid body/color stain (beams, light valance, fascia, overhang, siding, plant-on trim, wood shelves)					
#18 - Water base stain	77.60	62.08	77.60	83.81	83.80
#19 - Oil base stain	84.90	67.92	84.90	91.69	91.70
Semi-transparent stain (beams, siding, T & G ceiling)					
#20 - Water base stain	75.25	60.20	75.25	81.27	81.30
#21 - Oil base stain	64.60	51.68	64.60	69.77	69.80
#22 - Polyurethane (exterior doors)	217.25	173.80	217.25	234.63	234.60
#23 - Marine spar varnish, flat or gloss (exterior doors)					
Interior or exterior	139.25	111.40	139.25	150.39	150.40

Figure 9

Material prices at 20% discount

National Painting Cost Estimator

Material prices at 20% discount (cont.)

	Retail price guide	Contractor price at a 20% discount	Add 15% sundries & 10% escalation	Price with sales tax at 8%	Estimating prices with tax
Exterior enamel (exterior doors & trim)					
#24 - Water base	87.55	70.04	87.55	94.55	94.60
#25 - Oil base	122.10	97.68	122.10	131.87	131.90
Porch & deck enamel - interior or exterior					
#26 - Water base enamel	89.30	71.44	89.30	96.44	96.40
#27 - Oil base enamel	100.05	80.04	100.05	108.05	108.10
#28 - Epoxy, 1 part, water base	132.90	106.32	132.90	143.53	143.50
#29 - Epoxy, 2 part SYSTEM	238.75	191.00	238.75	257.85	257.90
System Estimate (exterior windows)					
#30a - Wiping stain, oil base	113.30	90.64	113.30	122.36	122.40
#30b - Sanding sealer, varnish	109.90	87.92	109.90	118.69	118.70
#30c - Varnish, flat or gloss	115.75	92.60	115.75	125.01	125.00
#30 - Stain, seal & 1 coat varnish SYSTEM					
Average cost (30a + b + c)		90.39	112.99	122.03	122.00
Masonry paint (masonry, concrete, plaster)					
#31 - Water base, flat or gloss	68.80	55.04	68.80	74.30	74.30
#32 - Oil base paint	96.65	77.32	96.65	104.38	104.40
#33 - Block filler	56.85	45.48	56.85	61.40	61.40
#34 - Waterproofing, clear hydro seal	79.60	63.68	79.60	85.97	86.00
Metal primer, rust inhibitor					
#35 - Clean metal	77.95	62.36	77.95	84.19	84.20
#36 - Rusty metal	92.35	73.88	92.35	99.74	99.70
Metal finish, synthetic enamel, gloss, interior or exterior					
#37 - Off white	80.85	64.68	80.85	87.32	87.30
#38 - Colors (except orange/red)	69.55	55.64	69.55	75.11	75.10
Anti-graffiti stain eliminator					
#39 - Water base primer & sealer	63.15	50.52	63.15	68.20	68.20
#40 - Oil base primer & sealer	72.25	57.80	72.25	78.03	78.00
#41 - Polyurethane 2 part SYSTEM	222.35	177.88	222.35	240.14	240.10
Preparation:					
#42 - Caulking, per fluid ounce	.90	.72	.90	.97	.97
Paint remover, per gallon					
#43 - Light duty	65.00	52.00	65.00	70.20	70.20
#44 - Heavy duty	102.25	81.80	102.25	110.43	110.40
#45 - Putty, per pound	18.70	14.96	18.70	20.20	20.20
#46 - Silica sand, per pound	1.50	1.20	1.50	1.62	1.62
#47 - Visqueen, 1.5 mil, 12' x 200' roll	59.60	47.68	59.60	64.37	64.40
#48 - Wood filler, per gallon	91.00	72.80	91.00	98.28	98.30

Figure 9 (continued)
Material prices at 20% discount

Material prices at 20% discount (cont.)

	Retail price guide	Contractor price at a 20% discount	Add 15% sundries & 10% escalation	Price with sales tax at 8%	Estimating prices with tax
Industrial:					
#49 - Acid wash (muriatic acid)	61.10	48.88	61.10	65.99	66.00
#50 - Aluminum base paint	254.75	203.80	254.75	275.13	275.10
Epoxy coating, 2 part SYSTEM					
#51 - Clear	308.35	246.68	308.35	333.02	333.00
#52 - White	298.20	238.56	298.20	322.06	322.10
Heat resistant enamel					
#53 - 800 to 1200 degree range	271.95	217.56	271.95	293.71	293.70
#54 - 300 to 800 degree range	256.25	205.00	256.25	276.75	276.80
#55 - Industrial bonding & penetrating oil paint	186.70	149.36	186.70	201.64	201.60
Industrial enamel, oil base, high gloss					
#56 - Light colors	201.55	161.24	201.55	217.67	217.70
#57 - Dark (OSHA) colors	226.65	181.32	226.65	244.78	244.80
#58 - Industrial waterproofing	81.95	65.56	81.95	88.51	88.50
#59 - Vinyl coating (tanks)	226.85	181.48	226.85	245.00	245.00
Wallcovering:					
Ready-mix:					
#60 - Light-weight vinyl (gal)	30.45	24.36	30.45	32.89	32.90
#61 - Heavy weight vinyl (gal)	28.65	22.92	28.65	30.94	30.90
#62 - Cellulose, clear (gal)	19.30	15.44	19.30	20.84	20.80
#63 - Vinyl to vinyl (gal)	59.95	47.96	59.95	64.75	64.80
#64 - Powdered cellulose, 2 - 4 ounces	12.85	10.28	12.85	13.88	13.90
#65 - Powdered vinyl, 2 - 4 ounces	15.75	12.60	15.75	17.01	17.00
#66 - Powdered wheat paste, 2-4 ounces	13.15	10.52	13.15	14.20	14.20

Note: Typically, powdered paste is in 2 to 4 ounce packages which will adhere 6 to 12 rolls of wallcovering.

Figure 9 (continued)
Material prices at 20% discount

National Painting Cost Estimator

Material prices at 30% discount

		Retail price guide	Contractor price at a 30% discount	Add 15% sundries & 10% escalation	Price with sales tax at 8%	Estimating prices with tax
Interior:						
	Sealer, off white (wet area walls & ceilings)					
#1 -	Water base	58.15	40.71	50.89	54.96	55.00
#2 -	Oil base	81.65	57.16	71.45	77.17	77.20
	Undercoat (doors, casings and other paint grade wood)					
#3 -	Water base	59.95	41.97	52.46	56.66	56.70
#4 -	Oil base	79.65	55.76	69.70	75.28	75.30
	Flat latex (walls, ceilings & paint grade baseboard)					
#5 -	Water base latex paint	56.70	39.69	49.61	53.58	53.60
	Acoustic spray-on texture					
#6 -	Primer	40.25	28.18	35.23	38.05	38.10
#7 -	Finish	55.65	38.96	48.70	52.60	52.60
#8 -	Dripowder mixed (pound)	2.05	1.44	1.80	1.94	1.94
	Enamel (wet area walls & ceilings and openings)					
#9 -	Water base enamel	70.10	49.07	61.34	66.25	66.30
#10 -	Oil base enamel	157.20	110.04	137.55	148.55	148.60
	System Estimate (cabinets, bookshelves, molding, interior windows)					
#11a -	Wiping stain, oil base	103.70	72.59	90.74	98.00	98.00
#11b -	Sanding sealer, lacquer	80.80	56.56	70.70	76.36	76.40
#11c -	Lacquer, semi gloss	101.10	70.77	88.46	95.54	95.50
#11 -	Stain, seal & 2 coat lacquer SYSTEM					
	Average cost (11a + b + (2 x c))		67.67	84.59	91.36	91.40
#12 -	Shellac, clear	139.60	97.72	122.15	131.92	131.90
#13 -	Penetrating oil stain	185.20	129.64	162.05	175.01	175.00
#14 -	Penetrating stain wax (molding)	166.90	116.83	146.04	157.72	157.70
#15 -	Wax, per pound (floors)	33.05	23.14	28.93	31.24	31.20
#16 -	Glazing (mottling over enamel)	104.05	72.84	91.05	98.33	98.30
#17 -	Spray can, each (HVAC registers)	17.55	12.29	15.36	16.59	16.60
Exterior:						
	Solid body/color stain (beams, light valance, fascia, overhang, siding, plant-on trim, wood shelves)					
#18 -	Water base stain	77.60	54.32	67.90	73.33	73.30
#19 -	Oil base stain	84.90	59.43	74.29	80.23	80.20
	Semi-transparent stain (beams, siding, T & G ceiling)					
#20 -	Water base stain	75.25	52.68	65.85	71.12	71.10
#21 -	Oil base stain	64.60	45.22	56.53	61.05	61.10
#22 -	Polyurethane (exterior doors)	217.25	152.08	190.10	205.31	205.30
#23 -	Marine spar varnish, flat or gloss (exterior doors)					
	Interior or exterior	139.25	97.48	121.85	131.60	131.60

Figure 10
Material prices at 30% discount

Material prices at 30% discount (cont.)

	Retail price guide	Contractor price at a 30% discount	Add 15% sundries & 10% escalation	Price with sales tax at 8%	Estimating prices with tax
Exterior enamel (exterior doors & trim)					
#24 - Water base	87.55	61.29	76.61	82.74	82.70
#25 - Oil base	122.10	85.47	106.84	115.39	115.40
Porch & deck enamel - interior or exterior					
#26 - Water base enamel	89.30	62.51	78.14	84.39	84.40
#27 - Oil base enamel	100.05	70.04	87.55	94.55	94.60
#28 - Epoxy, 1 part, water base	132.90	93.03	116.29	125.59	125.60
#29 - Epoxy, 2 part SYSTEM	238.75	167.13	208.91	225.62	225.60
SYSTEM ESTIMATE (exterior windows)					
#30a - Wiping stain, oil base	113.30	79.31	99.14	107.07	107.10
#30b - Sanding sealer, varnish	109.90	76.93	96.16	103.85	103.90
#30c - Varnish, flat or gloss	115.75	81.03	101.29	109.39	109.40
#30 - Stain, seal & 1 coat varnish SYSTEM Average cost (30a + b + c))		79.09	98.86	106.77	106.80
Masonry paint (masonry, concrete, plaster)					
#31 - Water base, flat or gloss	68.80	48.16	60.20	65.02	65.00
#32 - Oil base paint	96.65	67.66	84.58	91.35	91.40
#33 - Block filler	56.85	39.80	49.75	53.73	53.70
#34 - Waterproofing, clear hydro seal	79.60	55.72	69.65	75.22	75.20
Metal primer, rust inhibitor					
#35 - Clean metal	77.95	54.57	68.21	73.67	73.70
#36 - Rusty metal	92.35	64.65	80.81	87.27	87.30
Metal finish, synthetic enamel, gloss, interior or exterior					
#37 - Off white	80.85	56.60	70.75	76.41	76.40
#38 - Colors (except orange/red)	69.55	48.69	60.86	65.73	65.70
Anti-graffiti stain eliminator					
#39 - Water base primer & sealer	63.15	44.21	55.26	59.68	59.70
#40 - Oil base primer & sealer	72.25	50.58	63.23	68.29	68.30
#41 - Polyurethane 2 part SYSTEM	222.35	155.65	194.56	210.12	210.10
Preparation:					
#42 - Caulking, per fluid ounce	.90	.63	.79	.85	.85
Paint remover, per gallon					
#43 - Light duty	65.00	45.50	56.88	61.43	61.40
#44 - Heavy duty	102.25	71.58	89.48	96.64	96.60
#45 - Putty, per pound	18.70	13.09	16.36	17.67	17.70
#46 - Silica sand, per pound	1.50	1.05	1.31	1.41	1.41
#47 - Visqueen, 1.5 mil, 12' x 200' roll	59.60	41.72	52.15	56.32	56.30
#48 - Wood filler, per gallon	91.00	63.70	79.63	86.00	86.00

Figure 10 (continued)
Material prices at 30% discount

National Painting Cost Estimator

Material prices at 30% discount (cont.)

	Retail price guide	Contractor price at a 30% discount	Add 15% sundries & 10% escalation	Price with sales tax at 8%	Estimating prices with tax
Industrial:					
#49 - Acid wash (muriatic acid)	61.10	42.77	53.46	57.74	57.70
#50 - Aluminum base paint	254.75	178.33	222.91	240.74	240.70
Epoxy coating, 2 part SYSTEM					
#51 - Clear	308.35	215.85	269.81	291.39	291.40
#52 - White	298.20	208.74	260.93	281.80	281.80
Heat resistant enamel					
#53 - 800 to 1200 degree range	271.95	190.37	237.96	257.00	257.00
#54 - 300 to 800 degree range	256.25	179.38	224.23	242.17	242.20
#55 - Industrial bonding & penetrating oil paint	186.70	130.69	163.36	176.43	176.40
Industrial enamel, oil base, high gloss					
#56 - Light colors	201.55	141.09	176.36	190.47	190.50
#57 - Dark (OSHA) colors	226.65	158.66	198.33	214.20	214.20
#58 - Industrial waterproofing	81.95	57.37	71.71	77.45	77.50
#59 - Vinyl coating (tanks)	226.85	158.80	198.50	214.38	214.40
Wallcovering:					
Ready-mix:					
#60 - Light-weight vinyl (gal)	30.45	21.32	26.65	28.78	28.80
#61 - Heavy weight vinyl (gal)	28.65	20.06	25.08	27.09	27.10
#62 - Cellulose, clear (gal)	19.30	13.51	16.89	18.24	18.20
#63 - Vinyl to vinyl (gal)	59.95	41.97	52.46	56.66	56.70
#64 - Powdered cellulose, 2 - 4 ounces	12.85	9.00	11.25	12.15	12.20
#65 - Powdered vinyl, 2 - 4 ounces	15.75	11.03	13.79	14.89	14.90
#66 - Powdered wheat paste, 2-4 ounces	13.15	9.21	11.51	12.43	12.40

Note: Typically, powdered paste is in 2 to 4 ounce packages which will adhere 6 to 12 rolls of wallcovering.

Figure 10 (continued)
Material prices at 30% discount

Material prices at 40% discount

		Retail price guide	Contractor price at a 40% discount	Add 15% sundries & 10% escalation	Price with sales tax at 8%	Estimating prices with tax
Interior:						
	Sealer, off white (wet area walls & ceilings)					
#1 -	Water base	58.15	34.89	43.61	47.10	47.10
#2 -	Oil base	81.65	48.99	61.24	66.14	66.10
	Undercoat (doors, casings and other paint grade wood)					
#3 -	Water base	59.95	35.97	44.96	48.56	48.60
#4 -	Oil base	79.65	47.79	59.74	64.52	64.50
	Flat latex (walls, ceilings & paint grade baseboard)					
#5 -	Water base latex paint	56.70	34.02	42.53	45.93	45.90
	Acoustic spray-on texture					
#6 -	Primer	40.25	24.15	30.19	32.61	32.60
#7 -	Finish	55.65	33.39	41.74	45.08	45.10
#8 -	Dripowder mixed (pound)	2.05	1.23	1.54	1.66	1.66
	Enamel (wet area walls & ceilings and openings)					
#9 -	Water base enamel	70.10	42.06	52.58	56.79	56.80
#10 -	Oil base enamel	157.20	94.32	117.90	127.33	127.30
	System Estimate (cabinets, bookshelves, molding, interior windows)					
#11a -	Wiping stain, oil base	103.70	62.22	77.78	84.00	84.00
#11b -	Sanding sealer, lacquer	80.80	48.48	60.60	65.45	65.50
#11c -	Lacquer, semi gloss	101.10	60.66	75.83	81.90	81.90
#11 -	Stain, seal & 2 coat lacquer SYSTEM					
	Average cost (11a + b + (2 x c))		58.01	72.51	78.31	78.30
#12 -	Shellac, clear	139.60	83.76	104.70	113.08	113.10
#13 -	Penetrating oil stain	185.20	111.12	138.90	150.01	150.00
#14 -	Penetrating stain wax (molding)	166.90	100.14	125.18	135.19	135.20
#15 -	Wax, per pound (floors)	33.05	19.83	24.79	26.77	26.80
#16 -	Glazing (mottling over enamel)	104.05	62.43	78.04	84.28	84.30
#17 -	Spray can, each (HVAC registers)	17.55	10.53	13.16	14.21	14.20
Exterior:						
	Solid body/color stain (beams, light valance, fascia, overhang, siding, plant-on trim, wood shelves)					
#18 -	Water base stain	77.60	46.56	58.20	62.86	62.90
#19 -	Oil base stain	84.90	50.94	63.68	68.77	68.80
	Semi-transparent stain (beams, siding, T & G ceiling)					
#20 -	Water base stain	75.25	45.15	56.44	60.96	61.00
#21 -	Oil base stain	64.60	38.76	48.45	52.33	52.30
#22 -	Polyurethane (exterior doors)	217.25	130.35	162.94	175.98	176.00
#23 -	Marine spar varnish, flat or gloss (exterior doors)					
	Interior or exterior	139.25	83.55	104.44	112.80	112.80

Figure 11
Material prices at 40% discount

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Material prices at 40% discount (cont.)

	Retail price guide	Contractor price at a 40% discount	Add 15% sundries & 10% escalation	Price with sales tax at 8%	Estimating prices with tax
Exterior enamel (exterior doors & trim)					
#24 - Water base	87.55	52.53	65.66	70.91	70.90
#25 - Oil base	122.10	73.26	91.58	98.91	98.90
Porch & deck enamel - interior or exterior					
#26 - Water base enamel	89.30	53.58	66.98	72.34	72.30
#27 - Oil base enamel	100.05	60.03	75.04	81.04	81.00
#28 - Epoxy, 1 part, water base	132.90	79.74	99.68	107.65	107.70
#29 - Epoxy, 2 part SYSTEM	238.75	143.25	179.06	193.38	193.40
System Estimate (exterior windows)					
#30a - Wiping stain, oil base	113.30	67.98	84.98	91.78	91.80
#30b - Sanding sealer, varnish	109.90	65.94	82.43	89.02	89.00
#30c - Varnish, flat or gloss	115.75	69.45	86.81	93.75	93.80
#30 - Stain, seal & 1 coat varnish SYSTEM Average cost (30a + b + c))		67.79	84.74	91.52	91.50
Masonry paint (masonry, concrete, plaster)					
#31 - Water base, flat or gloss	68.80	41.28	51.60	55.73	55.70
#32 - Oil base paint	96.65	57.99	72.49	78.29	78.30
#33 - Block filler	56.85	34.11	42.64	46.05	46.10
#34 - Waterproofing, clear hydro seal	79.60	47.76	59.70	64.48	64.50
Metal primer, rust inhibitor					
#35 - Clean metal	77.95	46.77	58.46	63.14	63.10
#36 - Rusty metal	92.35	55.41	69.26	74.80	74.80
Metal finish, synthetic enamel, gloss, interior or exterior					
#37 - Off white	80.85	48.51	60.64	65.49	65.50
#38 - Colors (except orange/red)	69.55	41.73	52.16	56.33	56.30
Anti-graffiti stain eliminator					
#39 - Water base primer & sealer	63.15	37.89	47.36	51.15	51.20
#40 - Oil base primer & sealer	72.25	43.35	54.19	58.53	58.50
#41 - Polyurethane 2 part SYSTEM	222.35	133.41	166.76	180.10	180.10
Preparation:					
#42 - Caulking, per fluid ounce	.90	.54	.68	.73	.73
Paint remover, per gallon					
#43 - Light duty	65.00	39.00	48.75	52.65	52.70
#44 - Heavy duty	102.25	61.35	76.69	82.83	82.80
#45 - Putty, per pound	18.70	11.22	14.03	15.15	15.20
#46 - Silica sand, per pound	1.50	.90	1.13	1.22	1.22
#47 - Visqueen, 1.5 mil, 12' x 200' roll	59.60	35.76	44.70	48.28	48.30
#48 - Wood filler, per gallon	91.00	54.60	68.25	73.71	73.70

Figure 11 (continued)
Material prices at 40% discount

Material prices at 40% discount (cont.)

	Retail price guide	Contractor price at a 40% discount	Add 15% sundries & 10% escalation	Price with sales tax at 8%	Estimating prices with tax
Industrial:					
#49 - Acid wash (muriatic acid)	61.10	36.66	45.83	49.50	49.50
#50 - Aluminum base paint	254.75	152.85	191.06	206.34	206.30
Epoxy coating, 2 part SYSTEM					
#51 - Clear	308.35	185.01	231.26	249.76	249.80
#52 - White	298.20	178.92	223.65	241.54	241.50
Heat resistant enamel					
#53 - 800 to 1200 degree range	271.95	163.17	203.96	220.28	220.30
#54 - 300 to 800 degree range	256.25	153.75	192.19	207.57	207.60
#55 - Industrial bonding & penetrating oil paint	186.70	112.02	140.03	151.23	151.20
Industrial enamel, oil base, high gloss					
#56 - Light colors	201.55	120.93	151.16	163.25	163.30
#57 - Dark (OSHA) colors	226.65	135.99	169.99	183.59	183.60
#58 - Industrial waterproofing	81.95	49.17	61.46	66.38	66.40
#59 - Vinyl coating (tanks)	226.85	136.11	170.14	183.75	183.80
Wallcovering:					
Ready-mix:					
#60 - Light-weight vinyl (gal)	30.45	18.27	22.84	24.67	24.70
#61 - Heavy weight vinyl (gal)	28.65	17.19	21.49	23.21	23.20
#62 - Cellulose, clear (gal)	19.30	11.58	14.48	15.64	15.60
#63 - Vinyl to vinyl (gal)	59.95	35.97	44.96	48.56	48.60
#64 - Powdered cellulose, 2 - 4 ounces	12.85	7.71	9.64	10.41	10.40
#65 - Powdered vinyl, 2 - 4 ounces	15.75	9.45	11.81	12.75	12.80
#66 - Powdered wheat paste, 2-4 ounces	13.15	7.89	9.86	10.65	10.70
Note: Typically, powdered paste is in 2 to 4 ounce packages which will adhere 6 to 12 rolls of wallcovering.					

Figure 11 (continued)
Material prices at 40% discount

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Figure 9 shows prices at a 20 percent discount off retail. It applies to “Slow” work and assumes light coverage on a previously painted surface. These costs would be typical for a lower-volume company handling mostly repaint or custom work.

Figure 10 reflects a 30 percent discount. It applies to “Medium” work and assumes medium coverage, as in commercial work.

Figure 11 is the 40 percent discount table. It applies to “Fast” work and assumes heavier coverage typically required on unpainted surfaces in new construction. This discount is usually available only to large, high-volume painting companies that purchase materials in large quantities.

Here’s an explanation of the columns in Figures 9, 10 and 11:

Retail price guide: This is an average based on a survey of up to a dozen paint manufacturers or distributors, for standard grade, construction-quality paint, purchased in five gallon quantities.

Material pricing and discount percentages will vary from supplier to supplier and from area to area. Always keep your supplier’s current price list handy. It should show your current cost for all the coatings and supplies you use. Also post a list of all suppliers, their phone numbers, and the salesperson’s name beside your phone.

Prices change frequently. Paint quality, your supplier’s discount programs, their marketing strategy and competition from other paint manufacturers will influence the price you pay. Never guess about paint prices — especially about less commonly used coatings. Don’t assume that a product you haven’t used before costs about the same as similar products. It might not. A heavy-duty urethane finish, for example, will cost about twice as much as a heavy-duty vinyl coating. If you don’t know that, your profit for the job can disappear very quickly.

Prices at discount: The retail price, less the appropriate discount.

Allowance for sundries: It’s not practical to figure the cost of every sheet of sandpaper and every rag you’ll use on a job. And there’s no way to accurately

predict how many jobs you’ll get out of each brush or roller pole, roller handle, ladder, or drop cloth. But don’t let that keep you from including an allowance for these important costs in your estimates. If you leave them out, it’s the same as estimating the cost of those items as zero. That’s a 100 percent miss. Too many of those, and you’re out of the painting business. It’s better to estimate any amount than to omit some costs entirely.

Figure 12 is a sundries inventory checklist. Use it to keep track of the actual cost of expendable tools and equipment.

I’ve added 15 percent to the paint cost to cover expendable tools and supplies. This is enough for sundries on most jobs. There is one exception, however. On repaint jobs where there’s extensive prep work, the cost of sundries may be more than 15 percent of the paint cost. When preparation work is extensive, figure the actual cost of supplies. Then add to the estimate that portion of the sundries cost that exceeds 15 percent of the paint cost. You might have to double the normal sundries allowance. When it comes to prep work, make sure your estimate covers all your supplies.

Price with sales tax at 8 percent: This column increases the material cost, including sundries, by 8 percent to cover sales tax. If sales tax in your area is more or less than 8 percent, you can adjust the material cost, or use the price that’s closest to your actual cost.

In most cases contractors have to pay sales tax. If you don’t pay the tax yourself, you may have to collect it from the building owner or general contractor and remit it to the state taxing authority. In either case, include sales tax in your estimate.

Estimating prices with tax: The figures in the last column of Figures 9 through 11 are rounded to the nearest dime unless the total is under a dollar. Those prices are rounded to the nearest penny.

This system for pricing materials isn’t exact. But it’s quick, easy and flexible. Compare your current material costs with costs in Figures 9, 10 and 11. If your costs are more than a few percent higher or lower than my costs, make a note on the blank line below “Fast” in the estimating tables.

Sundry Inventory Checklist

Suppliers: D-Dumphy Paints
F-Fisher Paints
S-Superior Paints
P-Pioneer Paints

Supplier	Product number	Product	Inventory quantity	Unit	Cost	7/21	7/27	8/2	8/10
D	# —	Bender paint pads	3	Each	\$ 5.88				
D	#792	Brush - 3" nylon <i>Peacock</i>	2	Each	\$ 31.10		1		
D	#783	Brush - 4" nylon <i>Scooter</i>	2	Each	\$ 46.10			1	
D	#115	Brush - 5" nylon <i>Pacer</i>	2	Each	\$ 78.30			1	
D	#784	Brush - 3" bristle	2	Each	\$ 28.90			1	
D	#2170	Caulking bags	2	Each	\$ 6.24				
D	Latex	Caulking-DAP Acrylic latex	12	Each	\$ 3.29		12		
D	#2172	Caulking gun (Newborn)	2	Each	\$ 11.80		1		
P	# —	Hydraulic fluid	2	Qt	\$ 13.40				
P	# —	Lemon oil	2	Pint	\$ 6.68		1		
F	# —	Masking paper 18" wide	3	Roll	\$ 34.20				
F	Anchor	Masking tape 1 1/2"	24	Roll	\$ 5.00		12		12
P	#2176	Lacquer - 5 gallons	2	5's	\$ 151.00			1	
P	#2173	Sanding sealer - 5 gallons	2	5's	\$ 144.00		1		
P	#9850	Resin sealer - 5 gallons	2	5's	\$ 130.00				
P	#131	PVA sealer (clear) - 5 gallons	2	5's	\$ 137.00		1		
F	#8500	Particle masks 100/box	1	Box	\$ 22.40			1	
P	# —	Putty (Crawfords)	3	Qt	\$ 15.10		2		
F	#R-10	Respirators	1	Each	\$ 62.40				1
F	#R-49	Respirator cartridges 20/box	2	Box	\$ 72.50				
F	#R-51	Respirator filters 20/box	2	Box	\$ 51.70			1	
P	# —	Rags - 10 pound sack	2	Sack	\$ 37.20				
F	#AR 691	Roller covers 9" x 3/4"	6	Each	\$ 6.88		2		
F	#AR 692	Roller covers 9" x 3/8"	6	Each	\$ 7.02	3			2
F	#AR 671	Roller covers 7" x 3/4"	3	Each	\$ 5.70			1	
F	#AR 672	Roller covers 7" x 3/8"	3	Each	\$ 6.24		1		

Figure 12
Sundry inventory checklist

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Supplier	Product number	Product	Inventory quantity	Unit	Cost	7/21	7/27	8/2	8/10
F	#AR 611	Roller covers mini	3	Each	\$ 4.79			1	
F	#95	Roller frames 9"	6	Each	\$ 8.84	1	2		
F	#75	Roller frames 7"	5	Each	\$ 8.53	3		3	
F	#TSR	Roller frames mini	2	Each	\$ 4.94				
D	#40	Roller poles 4' wood tip	3	Each	\$ 4.36		1		
D	#10	Roller poles 6' wood tip	10	Each	\$ 6.74			2	
P	# 1	Roller pole tips metal	2	Each	\$ 5.40			2	
P	# —	Sandpaper (120C production)	2	Slve	\$ 80.40				1
P	# —	Sandpaper (220A trimite)	2	Slve	\$ 62.50				
P	# —	Sandpaper (220A garnet)	1	Slve	\$ 56.90		1		
D	# —	Spackle (Synkloid)	3	Qt	\$ 8.77	1		1	
D	#42/61	Spray bombs (black ^b /white ^w)	12	Each	\$ 5.11	^b 12			^w 12
F	# —	Spray gun tips #3 or #4	10	Each	\$ 12.70			3	
F	#2762	Spray gun couplers	10	Each	\$ 3.45			5	
F	#S-71	Spray socks 48/box	1	Box	\$ 27.60				
D	#5271	Stip fill	1	Gal	\$ 14.80			1	
D	#5927	Strainer bags	2	Each	\$ 2.40	1			
D	#JT-21	Staples - 5/16"	2	Box	\$ 3.90				
P	50 Gal	Thinner, lacquer	1	Drum	\$ 692.00				
P	50 Gal	Thinner, paint	1	Drum	\$ 345.00				1
P	# —	Thinner, shellac (alcohol)	1	Gal	\$ 16.20				
D	# —	Visqueen 1.5 mil 12' x 200'	3	Roll	\$ 40.40				
D	#5775	Work pots (2 gal. plastic)	3	Each	\$ 4.65		1		2
	#				\$				
	#				\$				
	#				\$				
	#				\$				
		Order date:				7/21	7/27	8/2	8/10
		Ordered by: (initials)				jj	jj	jj	jj
		Purchase order no.				0352	0356	0361	0371

Figure 12 (continued)
Sundry inventory checklist

	Residential Wallcovering				Commercial Wallcovering				Flexible Wood Wallcovering			
Production Rate	Computer Program Crew Code	Labor Cost per Hour	Labor Burden per Hour	Labor Cost + Burden	Computer Program Crew Code	Labor Cost per Hour	Labor Burden per Hour	Labor Cost + Burden	Computer Program Crew Code	Labor Cost per Hour	Labor Burden per Hour	Labor Cost + Burden
Slow	1W	\$26.05	\$6.25	\$32.30	4W	\$25.05	\$6.01	\$31.06	7W	\$25.55	\$6.13	\$31.68
Medium	2W	33.30	9.62	42.92	5W	31.80	9.19	40.99	8W	32.55	9.41	41.96
Fast	3W	40.75	14.38	55.13	6W	38.75	13.68	52.43	9W	39.75	14.03	53.78

Figure 13
Hourly wage rates for wallcovering application

Price Escalation

Escalation is the change in prices between the time you bid a job and the time you pay for labor and materials. Painting contractors seldom include escalation clauses in their bids because they don't expect lengthy delays. That's why escalation isn't included as a separate item in the estimating forms, Figures 18 and 19.

Any minor price escalation will be covered by the 15 percent added to material prices for sundries. But don't rely on that small cushion to absorb major inflationary cost increases. Plan ahead if prices are rising. In that case, add 10% of your material costs as an escalation factor and include this figure as a separate line item in the estimate.

Many formal construction contracts include an escalator clause that allows the contractor to recover for cost increases during the time of construction — especially if there was an unreasonable delay through no fault of the subcontractor. This clause may give you the right to collect for increases in both labor and material costs.

If work is delayed after you've been awarded the contract, you may be able to recover for cost increases under the escalator clause. This is more likely on public projects than on private jobs. Also, if there's a significant delay due to weather, you may have a good argument for adjusting the contract amount.

You can protect yourself against escalation if you include an expiration date on your bids. If the contract award is delayed beyond your expiration date, you can review your costs and make necessary adjustments.

But be careful here. Increase the bid too much and you'll probably lose the contract. So raise your bid only if necessary, and then only by the amount of the actual cost increases. Don't try to make a killing on the job just because the bid prices have expired.

Column 4: Labor Cost

Column 4 in Figure 2 on page 7 shows the labor cost per unit. This figure is based on the productivity rate in column 1 and the wage rate in Figure 1. The wage rate for "Slow" (repaint) work is assumed to be \$26.55 per hour. The wage rate for "Medium" (commercial) work is \$33.80 per hour. The wage rate for "Fast" (residential tract) work is \$41.25 per hour. Wage rates for wallcovering are different (Figure 13).

Wage Rates Vary

Wages vary from city to city. In a listing of hourly construction wage rates in U.S. cities, the lowest rate for painters was \$21.51 an hour in Socorro, New Mexico, and the highest was \$58.58 for painters in Boston, Massachusetts. You might ask, "Why don't all the painters in Socorro move to Boston?"

I don't know the answer, except to suggest that painters aren't starving in Socorro. Nor are they getting rich in Boston. Working conditions and the cost of living are very different in those two cities. However, on private jobs using non-union tradesmen, wage rates usually don't vary as much from city to city. The wage you pay depends on the demand for painting and how many painters are available for work.

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Wages also change over time. For example, wage rates increased between 2009 and 2019. The national average union wage (including fringes) for painters in large cities went from \$34.62 in 2009 to \$37.82 per hour in 2019. In 2019, the average union wage for commercial work increased to as high as \$52.69 per hour. Always base your estimates on the actual wages you'll pay your **most experienced** painters.

Wages for Higher Skilled Specialists

Wages also vary with a workers' skill, dependability and with job difficulty. Generally higher paid painters are more productive than lower paid painters. Here's a chart to determine how much more per hour to estimate for supervision and for painting and surface preparation specialists. These figures are in addition to the basic journeyman rate.

Foremen	\$2.00 to 6.00
Field superintendents	\$9.00 to 12.00
Swing stage brush painters, spray painters, or paperhangers	\$1.00
Iron, steel and bridge painters (ground work)	\$2.00
Sandblasters, iron, steel, or bridge painters (swing stage)	\$4.00
Steeplejacks	\$5.00

Most government and defense painting contracts require compliance with the Davis Bacon Act, which specifies that contractors pay at least the prevailing wage for each trade in the area where the job is located.

Calculate Your Labor Rate

Use the wage rate in Figure 1 (\$26.55, \$33.80 or \$41.25 for "Slow," "Medium," or "Fast") that's appropriate for your company. Or, use a rate somewhere in between the rates listed. If you use your own wage rate, divide the hourly wage by the labor productivity (such as square feet per manhour in column 1). That's your labor cost per unit, say \$28.00/Hour. Multiply by 100 if the units used are 100 linear feet or 100 square feet. ($\$28 \div 400 \times 100 = \7.00 .)

Column 5: Labor Burden

For each dollar of wages your company pays, at least another 24 percent has to be paid in payroll tax and for insurance. That's part of your labor burden. The rest is fringe benefits such as vacation pay, health benefits and pension plans.

Federal taxes are the same for all employers. State taxes vary from state to state. Fringe benefits vary the most. Generally, larger companies with more skilled painters offer considerably more fringe benefits than smaller companies.

In the estimating tables, the labor burden percentage varies with the application rate. From Figure 1, for "Slow" (repaint) work, it's assumed to be 24.0 percent of \$26.55 or \$6.37 per hour. For "Medium" (commercial) work, the estimating tables use 28.90 percent of \$33.80 or \$9.77 per hour. For "Fast" (residential tract) work, the labor burden is 35.3 percent of \$41.25 or \$14.56 per hour.

Figure 14 shows how the labor burden percentages were compiled for each application rate.

FICA — Social Security tax: This is the portion paid by employers and is set by federal law. A similar amount is withheld from each employee's wage and deposited with a Federal Reserve bank by the employer.

FUTA — Federal Unemployment Insurance tax: Paid entirely by the employer and set by federal law. No portion is deducted from employee wages.

SUI — State Unemployment Insurance: Varies from state to state.

WCI — Workers' Compensation Insurance: Provides benefits for employees in case of injury on the job. Workers' comp is required by state law. Rates vary by state, job description and the loss experience of the employer.

Liab. Ins. — Liability Insurance: Covers injury or damage done to the public by employees. Comprehensive contractor's liability insurance includes current operations, completed operations, bodily injury, property damage, protective and contractual coverages with a \$1,000,000 policy limit.

	Fixed burden					Fringe benefits					
	FICA	FUTA	SUI	WCI	Liab. Ins.	Vac	Med	Life	Pension	Training	Total
Slow	7.65%	0.6%	3.0%	5.5%	6.25%	0	1.0%	0	0	0	24.00%
Medium	7.65%	0.6%	4.5%	6.5%	6.65%	.5%	2.0%	.25%	.25%	0	28.90%
Fast	7.65%	0.6%	6.0%	8.5%	7.05%	1.5%	3.0%	.25%	0.5%	.25%	35.30%

Figure 14
Labor burden percentages

Fringe benefits: *Vac* is vacation pay. *Med* is medical insurance. *Life* is life insurance contribution. *Pension* is a pension plan contribution. *Training* is an apprentice training fund.

Vacation, life, pension and training payments depend on the agreement between employers and employees. These are voluntary contributions if not required by a collective bargaining agreement. Smaller companies are less likely to provide these benefits. The cost of fringe benefits in a painting company can range from zero to more than 10 percent of wages.

There are two types of overhead, direct overhead and indirect overhead. Only indirect overhead is included in the "Overhead" column of the estimating cost tables. Enter your direct overhead costs on a separate line on your take-off sheet.

Direct overhead is job site overhead, expenses you charge to a specific job. Examples include performance bonds, special insurance premiums, or rental of a job site storage trailer. These expenses are not included in the estimating tables and have to be added to your estimates. On many jobs, there may be little or no direct overhead.

Indirect overhead is office overhead, expenses that aren't related to any particular job and that tend to continue whether the volume of work increases or decreases. Examples are non-trade salaries, office rent, vehicles, sales and financial expenses, insurance, taxes and licenses.

The percentage of income spent on overhead is assumed to be lower for high volume companies and higher for low volume companies. A large company working many projects at the same time can spread overhead costs over many projects — charging a smaller percentage of overhead to each job. The more jobs, the lower the overhead per job — assuming overhead doesn't increase faster than business volume.

On the other hand, a small business may have to absorb all overhead on a single job. Even painting contractors who work out of their homes have overhead expenses.

Column 6: Material Cost per Unit

This column is the result of dividing column 3 (material cost) by column 2 (material coverage) for each application rate. For example, in Figure 2 in the "Medium" row, a material cost of \$53.60 is divided by material coverage of 275, then multiplied by 100 to arrive at \$19.49 per 100 square feet. That's the figure listed for "Medium" in column 6.

Column 7: Overhead

From Figure 1, the overhead rate for "Slow" (repaint) jobs is assumed to be 19 percent. For "Medium" (commercial projects), overhead is 25 percent. For "Fast" (residential tracts), overhead is 31 percent. The overhead cost per unit in each row is calculated by adding the labor cost per unit, labor burden per unit, and material cost per unit and then multiplying by the appropriate overhead percentage.

National Painting Cost Estimator

Here's one overhead expense every paint contractor has and that you might overlook: the cost of estimating jobs. That's part of the salary cost of the employee who does the estimating.

Figure Overhead Carefully

Estimating indirect (office) overhead isn't as easy as estimating labor and material. There aren't as many clear-cut answers. That's why indirect overhead is often underestimated. Don't make that mistake in your estimates. Underestimating overhead is the same as giving up part of your profit. After all, indirect overhead expenses are real costs, just like paint, labor and taxes.

In large painting companies, management accumulates indirect overhead costs and translates them into a percentage the estimator should add to the costs of each job. In smaller companies, the estimator should keep a record of indirect overhead expenses. With a good record of overhead expense, you can calculate your overhead percentage for future periods very accurately. Then it's easy to add a percentage for indirect overhead costs into your estimate.

Computing Your Overhead Percentage

Here's how to decide which overhead rate to use in the cost estimating tables:

- 1) List all your overhead expenses for at least the last six months; a year would be better. You need overhead cost information that goes back far enough to eliminate the effect of seasonal changes in business volume

If your company is new, estimate your annual overhead by projecting overhead costs for the first full year. For example, if you've been in business for five months and overhead has been \$5,500 so far, you can expect annual overhead to be about \$13,200 (\$5,500 divided by 5 and multiplied by 12).

- 2) Here's how to calculate your indirect overhead percentage:

$$\frac{\text{Annual indirect overhead}}{\text{Annual job expenses}} = \text{Overhead \%}$$

Calculate your indirect overhead by adding together your real (or anticipated) annual expenses for the following:

Salaries. Include what you pay for all employees except trade workers, plus payroll-related expenses for all employees.

Office and shop expense. Rent or mortgage, utilities, furniture and equipment, maintenance, office supplies and postage, storage sheds, warehouses, fences or yard maintenance.

Vehicles. Lease or purchase payments, maintenance, repairs and fuel.

Sales promotion. Advertising, entertainment and sales-related travel.

Taxes. Property tax and income tax, and sales tax (if not included in your material prices).

Licenses. Contractor's and business licenses.

Insurance. General liability, property and vehicle policies.

Interest expense. Loan interest and bank charges. Also consider loss of interest on payments retained by the general contractor until the job is finished.

Miscellaneous expenses. Depreciation and amortization on building and vehicles, bad debts, legal and accounting fees, and educational expenses.

Direct overhead is easier to figure. It's all job expenses except tradesman labor, payroll taxes and insurance, materials, equipment, subcontracts, and contingency expenses. Permits, bonds, fees and special insurance policies for property owners are also examples of direct overhead. Add the direct overhead expense on the appropriate lines in your estimate. Direct overhead is not included in the estimating tables in this manual.

Field Equipment May Be Part of Overhead

As you may have noticed, there's no equipment cost column in the estimating tables. Instead, field equipment expense is included in the overhead percentage for "Fast" and "Medium" work but not "Slow" work.

Equipment Rental Rates

Use the following rates only as a guide. They may not be accurate for your area.
Verify equipment rental rates at your local yard.

	Rental				Rental		
	Day	Week	Month		Day	Week	Month
Acoustical sprayer	71.50	214.00	534.00	Dehumidifier - 5000 Btu, 89 lb, 8.7 amp	87.20	261.00	651.00
Air compressors				Ladders			
Electric or gasoline, wheel mounted				Aluminum extension			
5 CFM, 1.5 HP, electric	43.00	131.00	330.00	16' to 36'	47.20	141.00	354.00
8 CFM, 1.5 HP, electric	51.50	151.00	379.00	40' to 60'	71.50	213.00	534.00
10 CFM, 5.5 HP, gasoline	58.80	175.00	438.00	Step - fiberglass or wood			
15 CFM, shop type, electric	65.70	198.00	496.00	6'	12.50	37.90	94.30
50 CFM, shop type, electric	87.20	261.00	651.00	8'	15.80	47.20	119.00
100 CFM, gasoline	119.00	354.00	887.00	10'	18.90	56.80	141.00
125 CFM, gasoline	133.00	402.00	1,000.00	12'	22.10	66.20	166.00
150 CFM, gasoline	150.00	449.00	1,120.00	14'	25.20	75.80	189.00
175 CFM, gasoline	165.00	496.00	1,240.00	16'	31.50	94.30	236.00
190 CFM, gasoline	180.00	543.00	1,370.00	20'	41.00	122.00	309.00
Diesel, wheel mounted				Ladder jacks - No guardrail.	12.50	31.50	78.60
to 159 CFM	133.00	402.00	1,200.00	Masking paper dispenser	31.50	78.60	197.00
160 to 249 CFM	165.00	495.00	1,480.00	Painter's pic (walkboards); No guardrail.			
250 to 449 CFM	244.00	732.00	2,180.00	(Also known as airplane planks, toothpicks and banana boards)			
450 to 749 CFM	363.00	1,090.00	3,270.00	16' long	12.50	37.90	94.30
750 to 1199 CFM	496.00	1,480.00	4,460.00	20' long	25.20	75.80	189.00
1200 CFM & over	725.00	2,170.00	8,100.00	24' long	31.50	94.30	236.00
Air hose - with coupling, 50' lengths				28' long	37.90	113.00	282.00
1/4" I.D.	9.43	28.70	71.50	32' long	44.40	133.00	330.00
3/8" I.D.	11.10	32.90	82.90	Planks - plain end microlam scaffold plank			
1/2" I.D.	12.50	36.00	94.30	9" wide	15.80	47.20	119.00
5/8" I.D.	14.30	42.90	107.00	10" wide	18.90	56.80	141.00
3/4" I.D.	15.80	47.20	119.00	12" wide	22.00	66.20	166.00
1" I.D.	17.20	51.50	130.00	Pressure washers (See Water pressure washers)			
1-1/2" I.D.	25.20	75.80	190.00	Sandblast compressor and hopper			
Boomlifts				To 250 PSI	94.30	282.00	710.00
3' x 4' to 3' x 8' basket				Over 250 to 300 PSI	134.00	402.00	1,000.00
20' two wheel drive	221.00	662.00	1,980.00	Over 600 to 1000 PSI	172.00	520.00	1,300.00
30' two wheel drive	267.00	804.00	2,410.00	Sandblast machines			
40' four wheel drive	307.00	922.00	2,770.00	150 lb pot with hood, 175 CFM compressor			
50' - 1000 lb.	507.00	1,510.00	4,540.00		363.00	1,090.00	2,730.00
Telescoping and articulating booms, self propelled, gas or diesel powered, 2-wheel drive				300 lb pot with hood, 325 CFM compressor			
21' to 30' high	315.00	944.00	2,820.00		648.00	1,930.00	4,860.00
31' to 40' high	394.00	1,180.00	3,540.00	600 lb pot with hood, 600 CFM compressor			
41' to 50' high	513.00	1,550.00	4,630.00		1,180.00	3,530.00	8,800.00
51' to 60' high	628.00	1,890.00	5,680.00				
Burner, paint	18.90	57.10	141.00				

Figure 15
Typical equipment purchase and rental prices

National Painting Cost Estimator

	Rental				Rental		
	Day	Week	Month		Day	Week	Month
Sandblast hoses - 50' lengths, coupled				Titan 660, 1 HP, electric	125.00	379.00	1,130.00
3/8" I.D.	15.80	47.20	120.00	Gasoline, .75 gpm	134.00	402.00	1,240.00
3/4" I.D.	22.10	66.20	165.00	Emulsion pumps			
1" I.D.	28.20	84.40	213.00	65 gal, 5 HP engine	110.00	332.00	993.00
1-1/4" I.D.	31.50	94.30	237.00	200 gal, 5 HP engine	125.00	374.00	1,130.00
1-1/2" I.D.	34.70	104.00	261.00	Emulsion airless, 1.25 gpm, gasoline	134.00	402.00	1,240.00
Sandblast accessories				Conventional pumps, gas, portable			
Nozzles, all types	28.20	85.90	213.00	High pressure, low vol. (HVLP)	71.50	213.00	638.00
Hood, air-fed	44.10	133.00	332.00	8 CFM complete	94.30	282.00	850.00
Valves, remote control (deadman, all sizes)	47.20	141.00	354.00	17 CFM complete	103.00	307.00	922.00
Sanders				85 CFM complete	119.00	354.00	1,060.00
Belt - 3"	22.10	66.20	166.00	150 CFM complete	172.00	520.00	1,570.00
Belt - 4" x 24"	26.80	80.00	202.00	Spray rig accessories: 6' wand	11.10	33.20	82.90
Disc - 7"	34.70	104.00	261.00	Striper, paint (parking lot striping)			
Finish sander, 6"	18.90	56.80	141.00	Aerosol	31.50	94.30	236.00
Floor edger, 7" disk, 29#, 15 amp.	31.50	94.30	236.00	Pressure regulated	45.90	133.00	332.00
Floor sander, 8" drum, 118#, 14 amp.	71.00	212.00	534.00	Swing stage, rental			
Palm sander, 4" x 4"	15.80	47.20	119.00	Any length drop, motor operated, excluding safety gear and installation or dismantling. Note: Must be set up by a professional to ensure safety.			
Palm sander, 4-1/2" x 9-1/4"	18.90	56.80	141.00	Swing stage	158.00	472.00	1,410.00
Scaffolding , rolling stage, caster mounted, 30" wide by 7' or 10' long				Basket	80.00	237.00	709.00
4' to 6' reach	62.80	125.00	252.00	Bosun's chair	80.00	238.00	709.00
7' to 11' reach	78.60	158.00	315.00	Swing stage safety gear, purchase only			
12' to 16' reach	110.00	221.00	441.00	Safety harness (141.00)			
17' to 21' reach	150.00	299.00	598.00	4' lanyard with locking snap at each end (103.00)			
22' to 26' reach	166.00	330.00	662.00	DBI rope grab for 5/8" safety line (110.00)			
27' to 30' reach	180.00	362.00	725.00	Komet rope grab for 3/4" safety line (158.00)			
Castors - each	15.80	31.50	47.20	Texturing equipment			
Scissor lifts				Texturing gun - w/ hopper, no compressor	8.00	23.70	71.50
Electric powered, rolling with 2' x 3' platform, 650 lb capacity				Texturing mud paddle mixer	11.10	33.00	100.00
30' high	119.00	354.00	1,060.00	Texturing outfit - 1 HP w/ gun, 50' hose, 75 PSI	17.40	52.00	156.00
40' high	205.00	616.00	1,840.00	Wallpaper hanging kit	26.80	80.00	241.00
50' high	236.00	710.00	2,130.00	Wallpaper steamer			
Rolling, self-propelled, hydraulic, electric powered				Electric, small, 10 amp	31.50	94.30	282.00
to 20' high	172.00	701.00	1,570.00	Electric, 15 amp	47.20	141.00	426.00
21' to 30' high	213.00	637.00	1,920.00	Pressurized, electric	59.80	180.00	540.00
31' to 40' high	267.00	804.00	2,410.00	Water pressure washer (pressure washer, water blaster, power washer)			
Rolling, self-propelled, hydraulic, diesel powered				1000 PSI, electric, 15 amp	71.50	213.00	637.00
to 20' high	197.00	592.00	1,780.00	2000 PSI, gas	119.00	354.00	1,060.00
21' to 30' high	244.00	732.00	2,180.00	2500 PSI, gas	125.00	379.00	1,130.00
31' to 40' high	315.00	946.00	2,820.00	3500 PSI, gas	139.00	417.00	1,240.00
Spray rigs							
Airless pumps, complete with gun and 50' of line							
Titan 447, 7/8 HP, electric	110.00	332.00	993.00				

Figure 15 (continued)
Typical equipment purchase and rental prices

New Construction and Commercial Work: The overhead percentage for “Fast” (residential tract) work and “Medium” (commercial) projects *includes* equipment costs such as ladders, spray equipment, and masking paper holders. Those items are used on many jobs, not just one specific job. The overhead allowance covers equipment purchase payments, along with maintenance, repairs and fuel. If you have to rent equipment for a specific new construction project, add that rental expense as a separate cost item in your estimate.

Repaint Jobs: Overhead rates for “Slow” (repaint) work do *not* include equipment costs. When you estimate a repaint job, any small or short-term job, or a job that uses only a small quantity of materials, *add* the cost of equipment at the rental rate — even if the equipment is owned by your company.

Rental yards quote daily, weekly and monthly equipment rental rates. Figure 15 shows typical rental costs for painting equipment. Your actual equipment costs may be different. Here’s a suggestion that can save you more than a few minutes on the telephone collecting rental rates. Make up a blank form like Figure 15 and give it to your favorite rental equipment suppliers. Ask each supplier to fill in current rental costs. Use the completed forms until you notice that rates have changed. Then ask for a new set of rental rates.

Commissions and Bonuses

Any commissions or bonuses you have to pay on a job aren’t included in the estimating tables. You must add these expenses to your bid.

Painting contractors rarely have a sales staff, so there won’t be sales commissions to pay on most jobs. There’s one exception, however. Most room addition and remodeling contractors have salespeople. And many of their remodeling projects exclude painting. In fact, their contract may specify that the owner is responsible for the painting. These jobs may be a good source of leads for a painting contractor. Develop a relationship with the remodeling contractor’s sales staff (with the remodeling contractor’s approval, of course). If you have to pay a sales commission for the referral, this is direct overhead and has to be added to the estimate.

Some painting contractors pay their estimators a bonus of 1 to 3 percent per job in addition to their salary. If you offer an incentive like this, add the cost to your estimate, again as a direct overhead item.

An Example of Overhead

Here’s an example of how overhead is added into an estimate. A painting company completed 20 new housing projects in the last year. Average revenue per project was \$50,000. Gross receipts were \$1,000,000 and the company made a 5 percent profit.

Gross income	\$1,000,000
Less the profit earned (5%)	<u>- 50,000</u>
Gross expenses	950,000
Less total direct job cost	- 825,000
Indirect overhead expense	125,000
$\frac{125,000 \text{ (overhead cost)}}{825,000 \text{ (direct job cost)}}$	$= 0.1515 \text{ or } 15.15\%$

When you’ve calculated indirect overhead as a percentage of direct job cost, add that percentage to your estimates. If you leave indirect overhead out of your estimates, you’ve left out some very significant costs.

Column 8: Profit

The estimating tables assume that profit on “Slow” (repaint) jobs is 16 percent, profit on “Medium” (commercial) projects is 12 percent and profit on “Fast” (residential tract) jobs is 7 percent. Calculate the profit per unit by first adding together the costs in columns 4 (labor cost per unit), column 5 (labor burden per unit), column 6 (material costs per unit), and column 7 (overhead per unit). Then multiply the total by the appropriate profit percentage to find the profit per unit.

It’s my experience that larger companies with larger projects can survive with a smaller profit percentage. Stiff competition for high volume tract work forces bidders to trim their profit margin. Many smaller companies doing custom work earn a higher profit margin because they produce better quality work, have fewer jobs, and face less competition.

Risk factor	Normal profit (assume 10%)		Difficulty factor		Proposed profit range
High risk	10%	x	1.5 to 3.5	=	15% to 35%
Average risk	10%	x	1.3 to 1.4	=	13% to 14%
Moderate risk	10%	x	1.0 to 1.2	=	10% to 12%
Low risk	10%	x	0.5 to 0.9	=	5% to 9%

Figure 16
Risk factors and profit margin

Profit and Risk

Profit is usually proportionate to risk. The more risk, the greater the potential profit has to be to attract bidders. Smaller companies handling custom or repaint work have more risk of a major cost overrun because there are many more variables in that type of work. It's usually safe to estimate a smaller profit on new work because new work tends to be more predictable. The risk of loss smaller.

How do you define risk? Here's my definition: Risk is the *headache factor*, the number and size of potential problems you could face in completing the project. Repaint jobs have more unknowns, so they're a greater risk. And dealing with an indecisive or picky homeowner can be the greatest headache of all. You may need to use a profit margin even higher than the 15 to 35 range indicated for high-risk work in Figure 16.

Tailoring Your Profit Margin

Of course, your profit margin has to be based on the job, your company and the competition. But don't cut your profit to the bone just to get more work. Instead, review your bid to see if there are reasons why the standard costs wouldn't apply.

I use the term *standard base* bid to refer to my usual charge for all the estimated costs, including my standard profit. Before submitting any bid, spend a minute or two deciding whether your standard base bid will apply.

Risk Factors

Your assessment of the difficulty of the job may favor assigning a risk factor that could be used to modify your profit percentage. The higher the risk, the higher potential profit should be. My suggestions are in Figure 16.

As you might expect, opinions on difficulty factors can vary greatly. There's a lot of knowledge involved. You need experience and good judgment to apply these factors effectively.

Bidding Variables

Of course, your profit may be affected by an error in evaluating the job risk factor. You can greatly reduce the risk by accurately evaluating the bidding variables in Figure 17. Make adjustments to your standard base bid for example, if you expect your crews to be more or less efficient on this project, or if you expect competition to be intense. If there are logical reasons to modify your standard base bid, make those changes.

But remember, if you adjust your standard base bid, you're not changing your profit margin. You're only allowing for cost variables in the job. Adjust your standard base costs for unusual labor productivity, material or equipment cost changes, or because of unusual overhead conditions. Review the following bidding variables when deciding how to adjust your standard base bid.

Reputations and Attitudes ■ Owner ■ Architect ■ General Contractor ■ Lender ■ Inspector	The Site ■ Location (distance from shop and suppliers) ■ Accessibility ■ Working conditions ■ Security requirements ■ Safety considerations
The Project ■ Building type ■ Project size ■ Your financial limits ■ Start date ■ Weather conditions ■ Manpower availability and capability	Competition ■ Number bidding ■ Their strength, size and competence
Desire for the work	

Figure 17
Bidding variables

The Bottom Line

The profit margin you include in estimates depends on the way you do business, the kind of work you do, and your competition. Only you can decide what percentage is right for your bids. Don't take another paint estimator's advice on the "correct" profit margin. There's no single correct answer. Use your own judgment. But here are some typical profit margins for the kinds of work most painting contractors do.

Repaints:	Custom	20 to 35%
	Average	15 to 20%
Commercial or industrial		10 to 15%
New residential:	1-4 units	10 to 12%
	5 or more	5 to 7%
Government work		5 to 7%

Column 9: Total Cost

The costs in Column 9 of Figure 2, and all the estimating tables in this book, are the totals per unit for each application rate in columns 4, 5, 6, 7, and 8. That includes labor, labor burden, material cost, overhead and profit.

Sample Estimate

Figure 18 is a sample repaint estimate, using the slow production rate, for a small house with many amenities. The final bid total is the bid price. Figure 19 is a blank estimating form for your use.

This Manual Works Two Ways

This manual is also available by subscription on the Web as part of *National Estimator Cloud*. For only a few dollars a month, you get all ten of Craftsman's 2025 construction cost estimating guides. Each has about 400 pages of current labor and material costs for construction – all neatly organized and indexed. Use these costs to build estimates, bids and invoices for nearly any type of painting or wallcovering project.

National Estimator Cloud:

- Prints estimates, bids and invoices as Word, Excel or PDF documents.
- Runs as a secure app on the Web so you can write estimates anywhere you have a Web connection.
- Exports invoices to QuickBooks, either desktop or the online.
- Bids and invoices can show as much or as little detail as you want.
- Supports progress billing. Send an invoice for work done during the pay period. *National Estimator Cloud* keeps track of work that's been invoiced and work yet to be billed.
- Material costs are updated regularly as prices change.
- Costs only a few dollars a month. Cancel any time you want.

Date 1/7/25
 Customer Dan Gleason
 Address 3333 A Street
 City/State/Zip Yourtown, USA 77777
 Phone (619)555-1212
 Estimated by CHS

Due date 1/15/25
 Job name Gleason Repaint
 Job location 3333 A Street
 Estimate # 14-012
 Total square feet 1,020 SF (5 rooms)
 Checked by Jack

Interior Costs

Operation	Material	Application Method	Dimensions	Quantity SF/LF/Each	Unit Cost	Total Cost	Formula Page
1 Ceilings - T & G	Semi-Trans-WB	R + B	17.5x15.3x13	348 SF	x .6014 = \$	209.00	86
2 Beams to 13H	Solid Body-WB	R + B	17.5 x 7	122.5 LF	x 3.6119 = \$	442.00	45
3 Ceilings - GYP. Drywal	Orange Peel-Flat	R	127 + 127	254 SF	x .4215 = \$	107.00	65
4 Ceilings - GYP. Drywall	Sealer-WB	R	75 + 15 + 40	130 SF	x .4189 = \$	54.00	65
5 Ceilings - GYP. Drywall	Enamel-WB	R	75 + 15 + 40	130 SF	x .4614 = \$	60.00	65
6 Walls - GYP. Drywall	Orange Peel-Flat	R	675+392+392	1,459 SF	x .3952 = \$	577.00	228
7 Walls - Above 8' (clip)	Orange Peel-Flat	R	70+85=155x13	201.5 SF	x .3952 = \$	80.00	228
8 Walls - GYP. Drywall	Sealer-WB	R	280+128+208	616 SF	x .4552 = \$	280.00	228
9 Walls - GYP. Drywall	Enamel-WB	R	280+128+208	616 SF	x .5180 = \$	319.00	228
10 Doors-Flush	Undercoat-WB	R + B	Opening Count	10 Ea	= 209.75 = \$	210.00	108
11 Doors-Flush	Enamel-WB	R + B	Opening Count	10 Ea	= 227.61 = \$	228.00	108
12 Baseboard - Prime	Flat w/walls	R + B	64 + 49 + 49	162 LF	x .1560 = \$	25.00	43
13 Baseboard - Finish	Enamel-WB	B	11+16+35	62 LF	x .6037 = \$	37.00	43
14 Railing - W.I. - Preprimed	Enamel/Off-white	B	42" High	15 LF	x 2.8219 = \$	42.00	180
15 Valance-Light-2" x 8"	Solid Body Stain	B	2 x 8	10 LF	x 2.6417 = \$	26.00	224
16 Registers	Spray Can	Spray	1,020 SF Home	1,020 SF	x .0878 = \$	90.00	182
17				x	= \$		
18				x	= \$		
Total Interior Costs (includes overhead and profit) = \$							2,787.00

Exterior Costs

Operation	Material	Application Method	Dimensions	Quantity SF/LF/Each	Unit Cost	Total Cost	Formula Page
1 Roof Jacks - 1 Story	Finish-enamel	B	1 Story	1 House	x 53.05 = \$	53.00	183
2 S.M. Diverter-3" W	Finish-enamel	B	14	14 LF	x .3913 = \$	5.00	198
3 S.M. Vents & Flashing	Finish-enamel	B	1 Story	1 House	x 78.30 = \$	78.00	199
4 Fascia - 2 x 8	Solid-WB-Roll	Roll	66 + 59	125 LF	x 1.3126 = \$	164.00	120
5 Overhang - 24"	Solid-WB-Roll	R + B	(132+76)x1.5	312 SF	x 1.0841 = \$	338.00	160
6 Siding - R.S. Wood	Solid-water	Roll	(1/2x24x4.5)x2	108 SF	x .7881 = \$	85.00	210
7 Plaster / Stucco	Masonry - WB	Roll	255+255+204+204	918 SF	x .6982 = \$	641.00	169
8 Door - Panel (Entry)	Enam2 coats-WB	R + B	Entry	1 Ea	x 96.27 = \$	96.00	101
9 Door - Flush	Enam2 coats-WB	R + B	Exterior	1 Ea	x 41.38 = \$	41.00	98
10 Plant-On Trim - 2 x 4	Solid-water	R + B	66 + 62 + 52	180 LF	x .9357 = \$	168.00	162
11 Pass Through-Preprimed	Finish-enamel	B	10	10 LF	x 2.4445 = \$	24.00	162
12 Pot Shelf	Solid-water	R + B	27	27 LF	x 3.1631 = \$	85.00	172
13				x	= \$		
14				x	= \$		
15				x	= \$		
16				x	= \$		
17				x	= \$		
18				x	= \$		
Total Exterior Costs (includes overhead and profit) = \$							1,781.00

Figure 18
 Sample painting estimate

Preparation Costs

Operation	Dimensions	Quantity SF/LF/Each	Unit cost Per SF	Total cost	Formula Page
1 Sand/Putty Wood Ceil (Siding x 1.3)	17.5 x 15.3 x 1.3	348 SF	x .2526 = \$	88.00	300
2 Sand and Putty Int. Wall	675 + 392 + 392	1,459 SF	x .2391 = \$	349.00	300
3 Lt. Sand Ext. Doors & Trim (Frames)	14 Ea x 21 SF x 2 Sides	588 SF	x .1818 = \$	107.00	301
4 Wash Int. Walls/Ceil-Enamel	280 + 128 + 208	616 SF	x .2391 = \$	147.00	313
5 Waterblast Exterior Stucco	125 + 210 + 108 + 918	1,361 SF	x .0649 = \$	88.00	315
6 Sand and Putty Ext. Trim	125 + 210 + 108	443 SF	x .2526 = \$	112.00	300
7 Caulk Ext. Windows-1/8" gap	20 + 15 + 10 + 20 + 12	77 SF	x .8532 = \$	82.00	298
8			x = \$		
9			x = \$		
10			x = \$		
Total Preparation Costs (includes overhead and profit) = \$				973.00	

SURRPTUCU Costs

Operation	Description	Labor hours	Labor w/ Burden (at \$32.93)	Approximate material cost	Totals	Formula Page
SetUp	2 Days @1/day	2.0	65.86	—	66.00	6
Remove/Replace	Hardware & Plates	1.25	41.16	—	41.00	6
Protection	Furniture & Floors	2.0	65.86	47.25	113.00	6
TouchUp is applied as a percentage of the total costs. See Extensions						
CleanUp	2 Days @1/day	2.0	65.86	—	66.00	6

Equipment Costs

Equipment description	Rental days	Daily cost	Total cost	Formula Page
Pressure Washer	1	101.00	\$ 101.00	34
Ladders, 6', 2 Ea	1	21.00	\$ 21.00	33
Palm Sander 4" x 4"	1	13.40	\$ 13.00	34
			\$	
			\$	
			\$	
Total Equipment Costs			\$ 135.40	

Extensions

Supervision (2 Hr.)	\$ 66.00
Setup	\$ 66.00
Remove/replace	\$ 41.00
Protection	\$ 113.00
Cleanup	\$ 66.00
Equipment	\$ 135.00
Subcontracts	\$ 0
Commissions	\$ 0
Other costs	\$ 0
Subtotal	\$ 487.00
Overhead (19 %)	\$ 93.00
Profit (16 %)	\$ 78.00
Subtotal	\$ 171.00
Preparation	\$ 973.00
Interior total	\$ 2,787.00
Exterior total	\$ 1,781.00
Subtotal	\$ 5,541.00
Touchup (10 %)	\$ 554.00
Contingency (0 %)	\$ 0
Total base bid	\$ 6,753.00
Adjustment (-2 %)	\$ <-135.00>
Final bid total	\$ 6,618.00
Price per SF (1020)	\$ 6.49
Price per room (5)	\$ 1,324.00

Subcontractor Costs

Trade	Bid Amount
Pavement marking	\$ 0
Sandblasting	\$ 0
Scaffolding	\$ 0
Wallcovering	\$ 0
Waterblasting	\$ 0
Other	\$ 0
Other	\$ 0
Other	\$ 0
Total Subcontractor Costs	\$ —

Figure 18 (continued)
Sample painting estimate

Date _____
 Customer _____
 Address _____
 City/State/Zip _____
 Phone _____
 Estimated by _____

Due date _____
 Job name _____
 Job location _____
 Estimate # _____
 Total square feet _____
 Checked by _____

Interior Costs

	Operation	Material	Application Method	Dimensions	Quantity SF/LF/Each	Unit Cost	Total Cost
1					x	= \$	
2					x	= \$	
3					x	= \$	
4					x	= \$	
5					x	= \$	
6					x	= \$	
7					x	= \$	
8					x	= \$	
9					x	= \$	
10					x	= \$	
11					x	= \$	
12					x	= \$	
13					x	= \$	
14					x	= \$	
15					x	= \$	
16					x	= \$	
17					x	= \$	
18					x	= \$	
Total Interior Costs (includes overhead and profit) = \$							

Exterior Costs

	Operation	Material	Application Method	Dimensions	Quantity SF/LF/Each	Unit Cost	Total Cost
1					x	= \$	
2					x	= \$	
3					x	= \$	
4					x	= \$	
5					x	= \$	
6					x	= \$	
7					x	= \$	
8					x	= \$	
9					x	= \$	
10					x	= \$	
11					x	= \$	
12					x	= \$	
13					x	= \$	
14					x	= \$	
15					x	= \$	
16					x	= \$	
17					x	= \$	
18					x	= \$	
Total Exterior Costs (includes overhead and profit) = \$							

Figure 19

Blank painting estimate

Preparation Costs

Operation	Dimensions	Quantity SF/LF/Each	Unit cost	Total cost
1		x	= \$	
2		x	= \$	
3		x	= \$	
4		x	= \$	
5		x	= \$	
6		x	= \$	
7		x	= \$	
8		x	= \$	
9		x	= \$	
10		x	= \$	
Total Preparation Costs (includes overhead and profit) = \$				

SURRPTUCU Costs

Operation	Description	Labor hours	Labor cost (at _____)	Material cost	Totals
SetUp					
Remove/Replace					
Protection					
TouchUp is applied as a percentage of the total costs. See <i>Extensions</i>					
CleanUp					

Equipment Costs

Equipment description	Rental days	Daily cost	Total cost
		\$	
		\$	
		\$	
		\$	
		\$	
		\$	
		\$	
Total Equipment Costs			\$

Extensions

Supervision (_____)	\$
Setup	\$
Remove/replace	\$
Protection	\$
Cleanup	\$
Equipment	\$
Subcontracts	\$
Commissions	\$
Other costs	\$
Subtotals	\$
Overhead (____%)	\$
Profit (____%)	\$
Subtotal	\$
Preparation	\$
Interior total	\$
Exterior total	\$
Subtotal	\$
Touchup (____%)	\$
Contingency (____%)	\$
Total base bid	\$
Adjustment (____%)	\$
Final bid total	\$
Price per SF (_____)	\$
Price per room (_____)	\$

Subcontractor Costs

Trade	Bid Amount
Pavement marking	\$
Sandblasting	\$
Scaffolding	\$
Wallcovering	\$
Waterblasting	\$
Other _____	\$
Other _____	\$
Other _____	\$
Total Subcontractor Costs	\$

Figure 19 (continued)
Blank painting estimate

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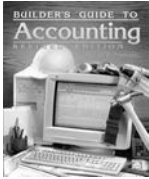
Practical References for Builders

National Estimator Cloud



Generate professional construction estimates for all residential and commercial construction from your internet browser. Includes 10 Craftsman construction cost databases, over 40,000 labor and material costs for construction, in an easy-to-use format. Cost estimates are well-organized and thoroughly indexed to speed and simplify writing estimates for nearly any residential or light commercial construction project – new construction, improvement or repair. Convert the bid to an invoice – in either QuickBooks Desktop or QuickBooks Online. Access your estimates anywhere with a Web browser. Monthly and one-time billing options available. Visit <http://craftsman-book.com/national-estimator-cloud> for more details.

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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.

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Estimate every phase of residential construction from site costs to the profit margin you include in your bid. Shows how to keep track of manhours 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.**

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488 pages, 8½ x 11, \$119.50. Revised annually.

Also available as an eBook (PDF), \$59.75 at

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How to Succeed With Your Own Construction Business

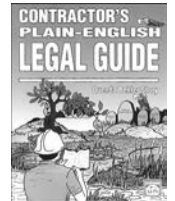
Everything you need to start your own construction business: setting up the paperwork, finding the jobs, advertising, using contracts, dealing with lenders, estimating, scheduling, finding and keeping good employees, keeping the books, and coping with success. If you're considering starting your own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

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Includes simple directions for starting your business, writing contracts that cover just about any eventuality, collecting what's owed you, filing liens, protecting yourself from unethical subcontractors, and more. For about the price of 15 minutes in a lawyer's office, you'll have a guide that will make many of those visits unnecessary. Includes a CD-ROM with blank copies of all the forms and contracts in the book. **272 pages, 8½ x 11, \$49.50.**



Contractor's Guide to QuickBooks by Online Accounting

This book is designed to help a contractor, bookkeeper and their accountant set up and use QuickBooks Desktop specifically for the construction industry. No use re-inventing the wheel, we have used this system with contractors for over 30 years. It works and is now the national standard. By following the steps we outlined in the book you, too, can set up a good system for job costing as well as financial reporting.

156 pages, 8½ x 11, \$68.50.

Craftsman's Construction Installation Encyclopedia

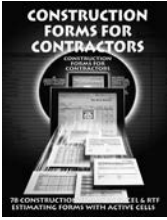
Step-by-step installation instructions for just about any residential construction, remodeling or repair task, arranged alphabetically, from *Acoustic tile* to *Wood flooring*. Includes hundreds of illustrations that show how to build, install, or remodel each part of the job, as well as manhour tables for each work item so you can estimate and bid with confidence. Also includes a CD-ROM 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.**

Also available as an eBook (PDF), \$32.50 at www.craftsman-book.com

Finish Carpenter's Manual

Everything you need to know to be a finish carpenter: assessing a job before you begin, and tricks of the trade from a master finish carpenter. Easy-to-follow instructions for installing doors and windows, ceiling treatments (including fancy beams, corbels, cornices and moldings), wall treatments (including wainscoting and sheet paneling), and the finishing touches of chair, picture, and plate rails. Specialized interior work includes cabinetry and built-ins, stair finish work, and closets. Also covers exterior trims and porches. Includes manhour tables for finish work, and hundreds of illustrations and photos. **208 pages, 8½ x 11, \$32.50.**

Construction Forms for Contractors



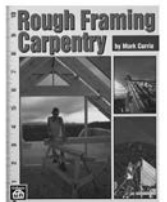
This practical guide contains 78 practical forms, letters and checklists, guaranteed to help you streamline your office, organize your jobsites, gather and organize records and documents, keep a handle on your subs, reduce estimating errors, administer change orders and lien issues, monitor crew productivity, 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.**

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

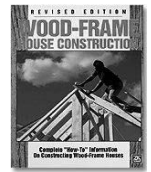
Estimating Excavation Revised eBook

How to calculate the amount of dirt you'll have to move and the cost of owning and operating the machines you'll do it with. Detailed, step-by-step instructions on how to assign bid prices to each part of the job, including labor and equipment costs. Also, the best ways to set up an organized and logical estimating system, take off from contour maps, estimate quantities in irregular areas, and figure your overhead. This revised edition includes a chapter on earthwork estimating software. As with any tool, you have to pick the right one. Written by an experienced dirt contractor and instructor of computer estimating software, this chapter covers the program types, explains how they work, gives the basics of how to use them, and discusses what will work best for the type of work you handle. This e-Book is the download version of the book in text searchable, PDF format. Craftsman eBooks are for use in the freely distributed Adobe Reader and are compatible with Reader 6.0 or above. **550 pages. Available only as an eBook (PDF), \$21.75, at www.craftsman-book.com**

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Step-by-step construction details, from the layout of the outer walls, excavation and formwork, to finish carpentry and painting. Packed with clear illustrations and explanations updated for modern construction methods. Everything you need to know about framing, roofing, siding, interior finishings, floor covering and stairs — your complete book of wood-frame homebuilding.

320 pages, 8½ x 11, \$25.50. Revised edition.



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Loaded with "how-to" information you'll use every day to get professional results on any job: the best way to prepare a surface for painting or repainting; selecting and using the right materials and tools (including airless spray); tips for repainting kitchens, bathrooms, cabinets, eaves and porches; how to match and blend colors; why coatings fail and what to do about it. Lists 30 profitable specialties in the painting business. **320 pages.**

Available only as an eBook (PDF), \$16.50 at www.craftsman-book.com

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This new edition explains simply and clearly, in non-technical, everyday language, how to install all components of a plumbing system to comply not only with recent changes in the *International Plumbing Code* and the *Uniform Plumbing Code*, but with the requirements of the *Americans with Disabilities Act*. Originally written for working plumbers to assure safe, reliable, code-compliant plumbing installations that pass inspection the first time, *Plumber's Handbook*, because of its readability, accuracy and clear, simple diagrams, has become the textbook of choice for numerous schools preparing plumbing students for the plumber's exams. Now, with a set of questions for each chapter, full explanations for the answers, and with a 200-question sample exam in the back, this handbook is one of the best tools available for preparing for almost any plumbing journeyman, master or state-required plumbing contracting exam.

384 pages, 8½ x 11, \$67.00.

eBook (PDF) also available; \$33.50 at www.craftsman-book.com

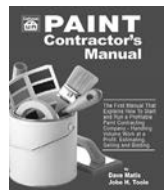


Paint Contractor's Manual

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 manhour estimates, sample forms, contracts, charts, tables and examples you can use.

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eBook (PDF) also available; \$23.25 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.**

Also available as an eBook (PDF), \$19.00 at www.craftsman-book.com

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Master the transition from wood to metal stud framing with this comprehensive guide. Written by industry expert Ray Clark, this book offers step-by-step instructions, essential tools, and proven techniques to excel in commercial metal stud framing. Ideal for experienced wood framers, it includes hundreds of job site photos and valuable tips to help you work quickly, accurately, and safely on commercial projects.

208 pages, 8½ x 11, \$65.50.

Also available as eBook PDF, \$32.75 at www.craftsman-book.com

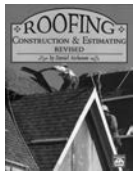
Home Building Mistakes & Fixes

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.

Also available as an eBook (PDF), \$26.25 at www.craftsman-book.com

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Detailed, step-by-step instructions, with photographs and diagrams, for installing, repairing and estimating nearly every type of roof covering available today for residential and commercial structures: asphalt shingles, roll roofing, wood shingles and shakes, clay tile, slate, metal, built-up, elastomeric, TPO and more. Provides guidance on sheathing, synthetic and felt

underlayment, as well as tips and tricks from an experienced pro for dealing with those difficult points on a roof that are prone to leaks, such as valleys and roof penetrations. For each roofing type, instructions are provided for estimating material quantities and labor costs, with formulas, easy-to-follow examples and sample estimates for you to test your skill. Use these methods to create reliable estimates that will help insure a profit on every job you take.

448 pages, 8½ x 11, \$62.50.

Also available as an eBook (PDF), \$31.25 at www.craftsman-book.com

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How to set up and operate a drywall contracting business. Here you'll find how to get set up as a drywall contractor, the tools you'll need, how to do the work, and how to estimate and schedule jobs so that you keep the work flowing and the money coming in. How to prevent drywall problems, spot hidden problems before you begin, and how to install and repair drywall in new construction or remodeling work. Lists the eight essential steps in making a drywall estimate and includes estimating forms and manhour tables for your use. This book is filled with practical tips, illustrations, pictures, tables and forms to help you build your career as a successful drywall contractor. **256 pages, 8½ x 11, \$38.95.**

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Estimating the cost of electrical work can be a very detailed and exacting discipline. It takes specialized skills and knowledge to create reliable estimates for electrical work. See how an expert estimates materials and labor for residential and commercial electrical construction. Learn how to use labor units, the plan take-off, and the bid summary to make an accurate estimate, how to deal with suppliers, use pricing sheets, and modify labor units. This book provides extensive labor unit tables and blank forms on a CD for estimating your next electrical job. **272 pages, 8½ x 11, \$59.00.**

Also available as an eBook (PDF), \$29.50 at www.craftsman-book.com



Easy Scheduling

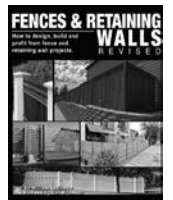
Easy Scheduling presents you with a complete set of "real world" scheduling tools that are specifically tailored to meet the needs of small- to medium-sized construction businesses. Step by step, it shows you how to use *Microsoft Project* to build a schedule that will synchronize everyone's efforts into an organized system that becomes the foundation of all planning and communication for all your jobs. You'll see how to establish realistic project goals, set checkpoints, activities, relationships and time estimates for each task, as well as establish priorities. You'll learn how to create a project flowchart to keep everyone focused and on track, and see how to use CSI (Construction Specification Institute) coding to organize and sort tasks, methods, and materials across multiple projects. If you want an easy way to schedule your jobs, *Microsoft Project* and *Easy Scheduling* is the answer for you. (Does not include Microsoft Project.) Published by BNI.

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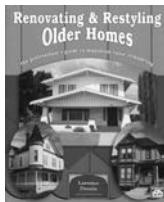


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