

Stick-Estimate Worksheet

by George Weissgerber, MCR, CKBR

In this age of information overabundance, keeping things simple is critical. One of the simplest estimating methods is the stick method, which many contractors use when they first get started — me included. I used to make a list of the materials I needed, then go to the hardware store and lumberyard to find out what everything cost. To determine a project’s price, I doubled the cost of the materials — thinking that would also cover my labor — added a bit for Murphy, then added overhead and profit. While I rarely lost money on materials, I often didn’t make what I wanted to on labor. Plus, doing the material takeoff and pricing that way was about as efficient as watching paint dry. (On the bright side, I didn’t need to maintain a material database, since I used whatever prices were marked on the materials at the lumberyard.)

Though today I generally use a unit-price estimating system (more on that in a future column), I still use the stick method for any task I have never attempted before. I’ve made a few upgrades, however, to my original process. To get a labor number, I look at job histories or consult with my production team and subcontractors. And trips to the lumberyard are now unnecessary because I can find pricing on the Internet or through email with

my favorite suppliers. But possibly the biggest difference — the subject of this column — is a form I designed that serves as a checklist of materials and labor steps required to complete a task, and also converts labor hours into labor dollars and calculates material costs — for instance, the cost of studs per linear foot of wall from the purchase price of a single 2x4x8.

Occasionally, a custom task becomes popular. Because my experiences with it are well-documented on this form, I can easily add the task to my unit-pricing database as a new unit. The fact is, this form applied to any task can be a building block for a unit-price system. For an example, I’ve put together a form (see facing page) that lists all the costs for replacing 100 square feet of decking. As you read through it, it’s important to keep a few assumptions in mind.

Unit of measure (UOM). To be useful, the unit of measure should make it easy to think through the project. In the case of decking, it would make no sense to estimate costs per square inch. And although one square foot may be the ideal unit of measure, the best way to approach this project is on a slightly larger scale. Here I’ve based the estimate on a 100-square-foot decking job; if I need

1

The item’s unit of measure (UOM) depends on the work being estimated; it should make thinking through the project easy.

2

Total cost per project UOM (100sf) includes materials, labor, subcontractors, overhead, and profit.

3

Base labor hours on actual job history. The time estimate is calculated for the project’s UOM, 100sf in this example.

4

Start-up and punch-out costs are often overlooked. It takes time to do the things listed here, and time is money.

5

Here, the hourly wage for the crew is \$50: the sum of \$30 for the average lead carpenter plus \$20 for the average helper.

6

The worksheet calculates labor burden based on the percentage entered. Leave it blank if “Cost of Crew” includes labor burden.

7

The “Estimating UOM” is always the same as the project UOM.

8

The “Purchase UOM” should match the units in which the materials are typically purchased.

9

Don’t forget delivery charges, shipping costs, or special-order upcharges.

10

Purchase price times quantity yields the estimating cost per project UOM — in this case, per 100sf.

11

The worksheet automatically calculates sales tax based on the rate entered.

12

Enter subcontractor costs, one per line. The “Quantity” column should reflect the project UOM.

Item or Task Worksheet

Item Description: Replace 100sf of existing PT decking with 1x6 Trex Transcend Tiki Torch (grooved), using hidden clips. Decking to be run perpendicular to the existing joists. Protect site, haul debris, broom clean-up.

Unit of Measure:

1	100sf	Enter unit of measure for typical project	Total Costs From Below:	\$1,528.63
			Mark-up Factor:	1.50
			Sale Price:	\$2,292.95 2

Labor:

Description	Crew Type / Size	Cost of Crew / Hr.	Time Hr. / UOM	Estimating Cost / UOM
Start-up: Mobilization, site protection, material delivery	Lead / helper - 2	\$50.00	1	\$50.00
Demo/Prep: Demo existing decking	Lead / helper - 2	\$50.00	1	\$50.00
Haul trash to dump	Driver - 1	\$18.00	1	
Rough-in: Rework deck joists as required	Lead / helper - 2	\$50.00	0.5	\$25.00
Finish: Install decking	Lead / helper - 2	\$50.00	2.5	\$125.00
Add for hidden fasteners	Lead / helper - 2	\$50.00	1	\$50.00
Punch Clean: Punch-out, clean-up, walk-through, collection	Lead / helper - 2	\$50.00	1	\$50.00
Labor Subtotals:			8	\$350.00
			30% Labor Burden:	\$105.00
			Total Cost of Labor:	\$455.00

Bill of Materials:

Description	Estimating UOM	Purchase UOM	Purchase Price	Quantity	Estimating Cost / UOM
Misc. site/dust protection materials	100sf	job	\$25.00	1	\$25.00
Trex Transcend 1x6-20' Tiki Torch (grooved)	100sf	20' board	\$69.93	12	\$839.16
Trex Hideaway Clips, 50sf, 90 clips / box	100sf	box	\$32.88	2	\$65.76
Trex Hideaway Starter Clips, 36 clips / box	100sf	box	\$33.49	1	\$33.49
Carbide-tipped saw blade	100sf	each	\$12.00	1	\$12.00
Min order delivery charge	100sf	trip	\$25.00	1	\$25.00
Subtotal Materials:					\$1,000.41
6.0% Sales Tax:					\$60.02
Total Cost of Materials:					\$1,060.43

Subcontractors:

Description	Estimating UOM	Sub UOM	Sub Price	Quantity	Estimating Cost / UOM
Total Cost of Subcontractors:					\$0.00

Other Costs:

Enter any misc. costs such as engineer, design, dump, or permit fees.

Description	Estimating UOM	Purchase UOM	Purchase Price	Quantity	Estimating Cost / UOM
Dump fees	100sf	\$/ton	\$66.00	.2	\$13.20
Total Cost of Others:					\$13.20

Business | Stick-Estimate Worksheet

a square-foot price, I can divide the worksheet results by 100.

Labor. The amount of time allotted to each task is the most difficult item on this worksheet to forecast. Not only is every company different, but every worker has different abilities. Initially, you could use estimating manuals for these numbers, but your goal should be to use labor figures based on the actual results of completed projects. This involves good labor tracking (see “Using a Simple Timecard to Collect Labor History,” 6/13) and regular updating of labor items in your estimates to reflect your crew’s productivity.

Crew type/size. Match your field crew’s abilities to the requirements of the job. In a small company, it might be best to enter specific employees by name; for a larger company, the main thing is to decide how many people will be needed at what level of skill for each task.

Cost of crew/hr. Add up the average hourly wages of the crew members. In this example, the \$50/hr. total is the sum of \$30/hr. for the average lead carpenter and \$20/hr. for the average helper.

Labor burden. An employee’s hourly wage is only part of the cost for labor. You also need to include the employer’s Social Security contribution (FICA), state and federal unemployment tax (SUTA and FUTA), workers’ comp insurance, and any benefits your company provides, such as health care, vacations, tool allowance, and uniforms. The total of these additional costs is called “labor burden” and is usually calculated as a percentage of the hourly wage (see “The True Cost of Labor,” 3/08).

Bill of materials. This is a simple quantity takeoff based on the “Estimating UOM,” which in this case is 100 square feet. The “Purchase UOM” matches the units in which each material line item is

typically purchased — for example, nails by the box or decking by a particular length.

Subcontractors. If you have a subcontractor quote, you won’t need to convert it to Project UOM. But many contractors estimate with flat rates without asking trade contractors for pricing. If that’s the case, make sure to use the “Quantity” column to convert to the project UOM — multiplying by 100, for example, to convert a square-foot price.

Notes. Use this field to explain anything that could be useful if someone asks, “Where did you come up with that?” For example, if you inflated labor estimates to reflect difficult site access, you can note it here to jog your memory.

In my next article, I’ll look at how to use unit-price estimating for larger projects.

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