At the heart of any contractor’s operation is his estimating department. Whether his business volume is large or small, his company young or old, his opportunity to make (or lose) money begins with the estimate. An accurate estimate keeps the contractor competitive and insures that, if he is the low bidder, he will start the job with all material, labor, equipment and overhead items covered and will have a good chance to make money on the job.

Most drywall contractors have spent years perfecting and fine tuning their method of preparing a bid, their method of quantity take-off and job cost calculation. The method is developed to the point that the contractor and his employees are comfortable with it and have confidence that the system will produce a profitable job. Probably the only way to improve on any of these systems is to be able to price a job quicker and more accurately. That is where a computer estimating system can help.

It is a fact that the majority of drywall contractors still do their estimating manually. A good many have, to some degree, investigated computer estimating systems but find them intimidating, confusing, expensive, or just plain different from what they are accustomed to doing. They have not been willing to shell out their hard-earned dollars for something that is unfamiliar, something that they are not sure will produce the same accurate estimate that they can produce by hand.

Among drywall companies, the methods used to arrive at this accurate estimate are almost as numerous as the companies employing them. As varied as these methods may be, they can usually be divided into two categories: (1) calculations by complete assembly (or unit pricing); and (2) calculation by individual components. Both estimating methods are easily adapted to computer estimating software.

**Unit Pricing**

In the assembly or unit price method of estimating, the complete cost of all material and labor is calculated for all items of the assembly based upon a set module size (e.g., 100 lineal feet at 10 feet high). Some contractors include general conditions, equipment and overhead charges in these unit prices while others prefer to add those costs based on the total job cost. Either way, this cost is then converted to a “per square foot cost” or “per lineal foot” cost. These unit prices are modified from time to time as material prices or labor costs fluctuate, but the material quantities and production rates are generally assumed to be the same from project to project.

Usually contractors who employ the unit price method of estimating have done so because of the speed with which they can “price out” a job after take-off is complete. There can be no argument with that fact. However, if you are the successful bidder, you must then calculate from your take-off quantities the exact amount of each material item required for the job, the amount of labor estimated and the other costs included in the precalculated unit prices. If there have been changes in the drawings or specifications, these changes must be incorporated into the unit prices and the entire job recalculated.

Using a computer estimating program, the assemblies can be “built” and unit prices calculated as easily as
by hand. But then the tremendous speed, organization and storage ability of the computer takes over. After your quantities for each assembly have been input, the estimating program can immediately: (1) provide you a complete material list for the entire job; (2) accept material price updates and reprice the job accordingly; (3) divide the job into different phases; (4) provide cost breakouts for those phases; and (5) keep all of this information on file so that you may change quantities and pricing again and again.

Component Pricing

Some estimators feel that the unit pricing method, even when done by computer, is not accurate enough for them. They prefer the component pricing method. All the necessary material quantities and costs, and labor hours and costs are calculated for each wall type, column type, bulkhead type, shaftwall type, etc. in the job. As you can imagine, when done by hand this involves an extremely large number of calculations. The chances for error greatly increase, but the estimator can more closely analyze each job condition and apply cost to it based on that particular job rather than using a broader, pre-calculated unit price.

Quite obviously there is not much speed involved when this method of estimating is done by hand. Perhaps for that reason many estimators have chosen not to price their jobs based on the component pricing method even though it probably provides a more accurate analysis of job conditions than the unit price method. With the time involved and the increased chance for mathematical error, it’s just not worth the effort.

Computers can also save time and money in estimating.

Thanks to the computer, however, the multitude of calculations can be accomplished in a very short length of time. In fact, with the use of the computer the time necessary to input data for a complete job in the unit price format is about equal to the time required to input the same job in the individual component format.

Most of the drywall estimating programs or software available use one of the two methods of estimating we have discussed. There are, however, a wide variety of data entry methods, material and labor calculation formulas, and the types of reports and summaries provided by the software. Some estimating systems use special keyboards, probes, light pens or wheels which act as data input devices so the estimator can measure quantities off the plans and input them directly into the computer; there is no need to write anything down. Special keyboards can be programmed by the estimator to handle many typical wall conditions, which reduces typing by the estimator to input his data. The pens or probes serve as counting mechanisms to input doors, comers and the like. A wheel is ideal as a rolling scale to input the lineal footage of walls. Of course, these systems require the estimator to have the plans near the computer when the take-off is performed.

Unit Pricing Software

Most of the estimating software based upon the unit price method allows the estimator to set up his own formulas to calculate material and labor quantities. These programs can usually be adapted to estimate a variety of different products since the basic software design allows the user to build his own assembly. While a database of drywall material items is normally included, a good deal of time
is still required initially to build the basic assemblies, verify the calculations and become familiar with the overall program operation. This is not altogether bad when you consider the great amount of flexibility this type of software allows the estimator. Formulas and assemblies can be fine-tuned or even deleted from the system at any time.

**Component Pricing Software**

Drywall estimating software using the component method of material and labor calculation is usually more structured than the assembly-based software. That is, the software asks the estimator specific questions as to the type and amount of materials required for the project, one wall type at a time. The formulas are generally built into the software when it is purchased and usually cannot be changed. This provides a certain measure of protection from under- or over-estimating quantities since the formulas cannot be accidentally changed, and the “question and answer” format of data entry serves as a good check list for materials required for the wall condition. As with the assembly-type software, a database of drywall materials and labor functions is normally included. One advantage to this approach is that these programs are usually (but not always) easier to learn. The estimator can begin generating computer estimates almost from the time the program is installed on the computer.

Regardless of the method of estimating a program uses, computer-generated estimates provide many advantages over an “old-fashioned” hand estimate.

1. **Speed:** An estimator with a calculator is no match for the computer.
2. **Accuracy:** Again, the estimator is only human. He will make mistakes.
3. **Time:** Material summaries are printed at the touch of a button. The entire job can be repriced in a matter of seconds. Adds, deducts and unit prices are produced in a flash.
4. **Money:** Sure, the initial system is no small investment, but items 1, 2 and 3 above give a good return on that
Another subtle advantage noticed by many companies using computer estimating is that new estimators are better trained and become productive more quickly. Since they do not have to learn the many formulas and calculations required to estimate a drywall job, they can concentrate on improving their take-off skills.

If you have already made the move to computer-generated estimates, you certainly have seen these advantages and maybe several more. If you have not made that move yet, talk to some of your fellow contractors who have, read all you can on the subject and look at as many of the programs on the market as you can. While there is a considerable investment in hardware and software, the long-term benefits will more than offset the initial cost. A few weeks after you are "computerized" you will wonder how you got along without it.

About the Author:
Phil Neely has been involved in estimating since 1970 when he moved from a position as carpenter to the sales/estimating department of Acousti Engineering of Alabama. When Acousti “computerized” its estimating, Phil worked with an independent programmer to write the company’s drywall and acoustical estimating software. He has also developed estimating software for EIFS and access flooring.