Here are some tips on advanced estimating procedures that should provide worthwhile thought by any estimator.

Like the story of the two tramps on a park bench where one tramp tells his friend, “I’d give a thousand dollars to be one of them millionaires,” the estimator for the wall and ceiling contractor would give a week’s pay to know exactly how much to bid a big commercial job.

The only problem in both cases is: so would everyone else. And estimating—which may be more art than science anyway—is still pretty much done today as it was in 1910. Oh, the numbers may have changed radically, but the precise skill and care of estimating a wall and ceiling installation is, as it always has been, a matter of experience—and hope.

The multi-story building has always presented somewhat of a problem for any estimator because there is always the question of additional cost increments as the building increases in height and stories.

One contractor looked at a large complex of multi-story buildings in the Midwest, thought a moment of the job conditions, complexity, and type of construction and said, “It’s 4.5 million with a $200,000 profit.”

The fact is, he was comfortably close to the actual bid figure. It is also a fact that he was far enough away from the winning bid that had the contractor on the job gone in with those figures he would have given up some $50,000 in profit.

It’s nice to win the job with your bid. As far as emotion is concerned, winning a big job is the sweetest feeling in the world.

On the Table

The emotion isn’t so sweet, though, when the winning contractor has left a huge bundle on the table. This can often happen in a multi-story building.

Following, then, are some ideas which may be of value to a wall and ceiling construction firm’s estimator when he starts calculating the multi-story building.

When a multi-story building is similar or virtually the same on successive floors, there generally is no need to separate the individual floor take-offs.

But each floor should be entered so as to avoid an unfortunate omission however inadvertent. The use of various multiples as multipliers of one floor often leads to error.

For example, it has happened that a contractor multiplies wallboard requirements for floors 10 to 15. Quick subtraction of 15 minus 10 leads to a 5 floor total—which, of course is incorrect. Had the contractor counted out each floor on his fingers, 10, 11, 12, 13, 14 and 15 he would have come up with 6 floors. It isn’t very funny, especially if the mistake has happened to you.

And it is rather doubtful if any multi-floor building has ever been built where some variations on the way up occurred. A special installation for a tenant on one floor changes the wall from gypsum board to plaster, or another tenant goes in for office landscaping, or a special ceiling requirement is included in the specs. The wise estimator looks for and accounts for these exceptions.

(Continued on page 19)
Forces Working On All Floors

The most important consideration—and perhaps the one most difficult to measure accurately—is the fact that multi-story buildings have two contrasting forces affecting the labor expended on each floor as the building ascends.

The first, of course, is the recognition that as the floor being worked on increases in distance from the ground level where elevators and hoists start and where principle services’ are located, each floor should have a labor factor added.

This kind of adder will account for the increased difficulty factor. The figure most often used by contractors is 2% added per floor above the 3rd or 4th floor.

Working against this first factor is the labor reduction amount which can be attributed to repetitive work. While not so easily computed, this amount depends to a great extent on how well the wall and ceiling contractor gears for Pre-Fab and how repetitive the building actually is.

The table on page 22 shows the results of these two forces and are offered as potential base figures around which an experienced estimator can calculate cost differences as a building ascends.

It is important to remember that the 2% height increment to be added for each floor is “best guess/estimate” among many specialty contractors.

Also, the adjusted labor totals for contractors will vary depending on their own experience, knowledge of the general contractor, conditions, labor rules, local work practices, and hoisting techniques.

Upper stories — contractors agree — cost considerably more to do than lower stories. The figures given above are for ideal conditions and only when repetitive conditions provide the time saving/learning potential.

For non-repetitive work such as change orders, an estimator would

(Continued on page 22)
do well to figure up the cost of the change and then refer to column No. 5 for the purpose of determining the appropriate labor add-on for the increased building height.

Such consistency in determining change order prices can be most helpful in those situations where the general contractor or owner prefers to have some pre-set formula for determining change order prices. It is not the wall and ceiling contractor’s responsibility to perform change order work at someone else’s pricing; it should be done within the subcontractor’s price structuring, consistent with the degree of difficulty in managing labor and materials.

**Form Consistency Is Important**

Finally, an estimator should consistently use the company’s or his own take-off sheets when figuring up a multi-story building—or any other kind of building for that matter.

When an estimator uses scratch pads, scrap paper, adding machine tapes and other assorted paraphernalia, he is begging for a serious error to occur. And it will, sooner or later.

Any wall and ceiling construction company engaged in large, costly projects should have a complete supply of preprinted and highly organized printed forms upon which every project can be fitted.

It might cost a few dollars in printing to have such forms prepared, but the savings from errors in a project costing many thousands of dollars is well worth the investment in discipline, orderliness, and accuracy needed in even a routine take-off.

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**MULTI/STORY LABOR CALCULATIONS**

<table>
<thead>
<tr>
<th>1. Floor Number</th>
<th>2. Standard Labor Adjusted for Pre-Fab and Repetition</th>
<th>3. Height Increment For Each Floor</th>
<th>4. Cumulative Labor Add-on For Each Floor</th>
<th>5. Total Adjusted Labor for Repetitive Work Each Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>100%</td>
<td>-0-</td>
<td>-0-</td>
<td>100%</td>
</tr>
<tr>
<td>4</td>
<td>90%</td>
<td>2%</td>
<td>2%</td>
<td>92%</td>
</tr>
<tr>
<td>5</td>
<td>80%</td>
<td>2%</td>
<td>4%</td>
<td>84%</td>
</tr>
<tr>
<td>6</td>
<td>75%</td>
<td>2%</td>
<td>6%</td>
<td>81%</td>
</tr>
<tr>
<td>7</td>
<td>70%</td>
<td>2%</td>
<td>8%</td>
<td>78%</td>
</tr>
<tr>
<td>8</td>
<td>65%</td>
<td>2%</td>
<td>10%</td>
<td>75%</td>
</tr>
<tr>
<td>9</td>
<td>60%</td>
<td>2%</td>
<td>12%</td>
<td>72%</td>
</tr>
<tr>
<td>10</td>
<td>55%</td>
<td>2%</td>
<td>14%</td>
<td>69%</td>
</tr>
<tr>
<td>11</td>
<td>50%</td>
<td>2%</td>
<td>16%</td>
<td>66%</td>
</tr>
<tr>
<td>11—X</td>
<td>50%**</td>
<td>—</td>
<td>16%-10%</td>
<td>66%-60%</td>
</tr>
</tbody>
</table>

**Probably the minimum reduction for labor savings in a repetitive/learning situation.**