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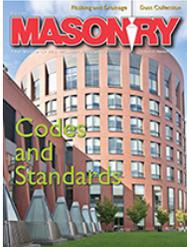


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April 2014

Scaffolding Production Enhancers



All the men I talk with are looking for ways to be more productive. Bricklayers are in short supply, and general contractors want the jobs done faster. Of course, elevating scaffold

A look at jobsite techniques and equipment that can help boost your bottom line

By Justin Breithaupt Jr.

I talk to a lot of mason contractors daily. The great majority of them have a lot of work on the books right now. We seem to be coming out of this horrible downturn. If your area isn't quite there yet, take heart; good times are coming.

All the men I talk with are looking for ways to be more productive. Bricklayers are in short supply, and general contractors want the jobs done faster. Of course, elevating scaffolding is a great way to get more units in the wall with fewer men, but this article includes other techniques contractors around the country are using. The new rules defining low-lift grouting are a huge labor saver.

Elevating scaffolding

When I was in the masonry business with my dad back in the '70s and early-'80s, he drilled "The Law" into my head: "When the block stops, the money stops." Nothing else matters.

His production push started back in 1969, when he used jack-up scaffolding instead of frames on one job. The men laid 30 percent more units per day on that job. Then he said something I'll never forget, "Every time we increase production by 15 percent, we duplicate our profit."

On that job, he tripled his projected profit. Stop and let that sink in. The labor number in your bid is five, six or seven times bigger than your profit number. On the average job, 15 percent of the labor number is equal to the profit number. Increase production by only 15 percent, and you double your profit. Increase it by 30 percent, and you triple your profit. So, not only will you have a happy general contractor and owner when you do the job 30 percent faster than with frames, you'll re-capture a lot of unspent payroll money and put it back in your pocket.

The nuts and bolts of how it works are just common sense really. Your men don't have to lay units faster; they just keep on working at a comfortable height, instead of stopping for 20 minutes several times a day to hop planks. Most important, they are always laying in their "sweet spot," which is waist high. They actually lay 20 percent to 40 percent more units in a day and are less tired.



Photo 1 - The Non-Stop system was designed so masons can start the wall off the scaffold, eliminating a costly crew move when the wall gets scaffold high. Notice the masons' walk boards are stored under the workbench. The masons' outrigger is pulled out and the boards are dropped in place in seconds.

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It broke my dad's heart, though, that his men hated the scaffolding; it was too wobbly and unstable. In order to keep doubling and tripling his profit, he teamed up with an engineer buddy and created his own scaffold system. That's how Non-Stop was born.

Another advantage we built into our scaffolding is the ability to move the scaffold in place and work off it before the wall is ever started (see Photo1). That saves moving the crew when the wall gets scaffold high. You pull out the masons' outriggers and keep working. That feature re-captures at least 20 minutes of production time on every wall.

Is it time to buy equipment?

When work is on the upswing, and you have enough work ahead to make your equipment dollar out, that's the time to buy. For instance, the rule of thumb for crank-up scaffolding is that every 100 feet saves you two bricklayers. That means seven bricklayers on elevating scaffolding will lay the same amount or more units as nine masons on frames.

Now, the national average cost for a bricklayer is \$43,200 per year – a lot more in some places, less in others (check your cost, it might surprise you). Two bricklayers cost you \$86,400 per year, and 100 feet of crank-up scaffolding runs about \$33,000. If you have four or five months of work ahead, buy it. It will pay for itself in that short time.

Cut down on scaffold planks

With scaffold planks costing as much as \$38 each in some areas, using less of them represents a significant savings. Using elevating scaffolding means you only plank one level, and you only need one-fourth as many boards. On a typical job where you might need 600 boards on frames, you'll only use 150 with crank-up scaffolding.

Scaffold erection and dismantle costs

Ever since they were invented in the '40s, tearing down your frames in between walls has always been an expensive and time-consuming process. Nobody cared back then, because frames were such a huge improvement over the wood scaffolding of the day.

Nowadays, if you're using elevating crank-up scaffolding, and even some mast climbers, you simply pick your towers with a forklift and move them to the next wall in about 10 minutes (see Photo 2). That's a five time reduction in labor cost, if you're spending \$1,000 to move your frames, you can move your towers for about \$200. And that's every wall. Plus, using an elevating system, you set up your scaffold once at the beginning of the job, and tear it down once, at the end of the job.



Photo 2 - The Swivel Forklift Bar allows your lift driver to grab towers from one wall and land them at the next wall in minutes, and at any angle. Notice the mud sills are nailed to the leveling jacks.

Low-lift grouting is now 12 feet, eight inches

Do you really enjoy laying six courses and then wasting 20 minutes (minimum!) moving your men somewhere else, several times a day? Pouring grout in four-foot lifts is a horrible production killer.

Well, several years back, the code was changed. The Building Code Requirements for Masonry Structures,

Specification for Masonry Structures TMS 602 now defines low-lift grouting as 12 feet, eight inches. Many larger contractors around the country are taking advantage of the change and reaping big savings.

To grout in 12-foot, eight-inch lifts, there are three conditions that are easy to meet:

- No intermediate bond beams
- Ten- to 11-inch slump
- Wall must be at least 4 hours old

The advantages are many:

- It's a lot more productive to keep your crew in one place and lay 19 courses of block, instead of six
- You thread in one piece of rebar, instead of multiple pieces
- No more reaching over rebar
- You pour one time, instead of three
- You wait for the inspector once, instead of three times.

You will need a clean out at the bottom of each cell. That's what usually stops most people cold. Clean outs are a big pain in the behind, and often blow out, until now. A retired mason contractor, Randy Jensen, invented and manufactures the Smart Masonry System, a transparent plastic window (see Photo 3) that covers a clean out opening. It goes in place in literally a minute, allowing you to pour immediately after inspection. Randy says it will not blow out and leaves the grout flush with the surface of the block (see Photo 4) – huge improvement over nailing a piece of plywood to the wall (www.masonrystore.com).

Other time savers

Many new elevating scaffold

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users told me they kept their crew the same size as before when they moved to the new system. One "difficulty" they ran into – although they were glad to have the problem – was that their masons used up materials at a faster rate than

before, and sometimes the forklift had trouble keeping up.

They solved the problem by having the lift driver stay over and stage pallets of block by the scaffold. Jimmy Alvey, a contractor in San Antonio, told me, "Sometimes all the blocks have to be unloaded way on the other side of the site. It's amazing how much material a good forklift driver can stage around the job in an hour, when that's all he has to do. He's pulled in 90 different directions during the workday."

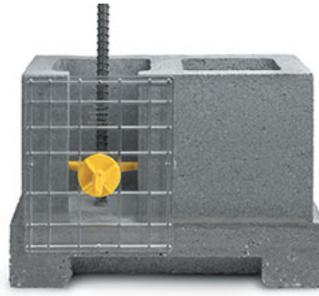


Photo 3 - The transparent window allows inspection of the cell, both before and after the pour. The manufacturer says he's never had a complaint about a blowout.

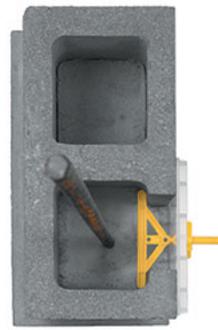


Photo 4 - A T-bolt holds the plastic window flush with the face of the wall. After the pour, the window is removed, and the T-bolt is snapped off.

Keep your towers assembled between jobs



Photo 5 - This contractor clamps his base towers together in packages of 10. Each one is four feet wide, allowing him to put two packs across his trailer. Each pack is 14 feet

A feature that really sets crank-up scaffolding apart from frames is the ability to move them from job to job, fully assembled (see Photo 5). Jimmy Alvey said, "When the job's finished, we lay them down and take the x-braces out. Then we clamp 18- or 27-foot-high towers together (see Photo 6) in bundles of 10. The bundles are only four feet wide, so we can put two across our trailer. We go to the next job, put the x-braces

in, and stand them at the first wall, sometimes all before the sun goes down."

In my research talking with contractors, I gathered more tips than I can include in one article. I'll put another article together containing the best nuggets I gathered. If you have a tip you'd like to share, please email it to me at my email address below.

Many thanks to Rashod Johnson, P.E., for the information on the new grout codes. He is president of The Roderick Group Inc., an engineering consulting firm, and Material Service Testing Laboratories Inc., a construction materials lab, both located in Chicago. Previously, he served as the MCAA's director of engineering.

Justin Breithaupt Jr. is the owner of Non-Stop Scaffolding Inc. His involvement in Non-Stop Scaffolding goes all the way back to the '70s, when he and his dad developed Non-Stop for their own masonry contracting business. He is a frequent speaker at local and national masonry association meetings, and a founder of the ANSI Adjustable Scaffolding Safety Standards committee. Justin can be reached at breithaupt@gmail.com or 800-845-0845.

Product Watch Benefits of the Low-Level Scissor Lift

There is a misconception that general contracting projects like framing, painting and installing HVAC, electrical systems or drywall require a 19-foot scissor lift. But there is more to choosing the best lift for your job than just how high it can go. Although low-level scissor lifts come in just below that 19-foot height, they go above and beyond their size in terms of capabilities.

Low-level access lifts are designed to increase safety, efficiency, ease of use and convenience, giving users the ability to complete 90 percent of the jobs typically reserved for 19-foot lifts. An added benefit is that, because of their size and maneuverability, the low-level lifts can be the first piece of equipment on the site and the last to leave.

A majority of jobs completed on any construction project or in any maintenance or industrial application occur in that 18- to 20-foot working height range. Lift heights of low-level access lifts typically are from eight to 14 feet, but six feet need to be added to calculate the working height. Therefore, the working height for most low-level access lifts is between 14 and 20 feet.

One of the key factors to consider when evaluating a lift beyond just height is working space. Many low-level lifts have two-person occupancy, but also can hold more weight – up to 750 pounds on some models. Platform sizes on low-level lifts range from 25 to 30 inches wide by 60 to 70 inches long. For even more room, extensions add up to 36 inches of platform length.

A scissor lift that can handle the weight and capacity of two workers plus all the tools

certainly is a productivity benefit. Entry heights on 19-foot lifts can be as high as 42 inches, which makes getting onto them a challenge, especially when carrying tools and supplies. Low-level scissor lifts are designed to cater to the contractor and maintenance markets with entry heights as low as 20 inches – only one step – which makes getting on and off the platform easier and safer.

Heavier lifts aren't the only thing that can damage floors; hydraulic systems can be a culprit, as well. The hydraulic system on low-level lifts typically only powers them up and down, while battery power operates the driving and steering. This configuration has only two connection points, so the chance of a leak is greatly reduced.

Low-level scissor lifts can be as narrow as 25 inches, and they feature stowed heights as low as 66 inches. This provides more clearance for getting under doorways and into elevators, even with taller materials on board. And, because users can choose the right lift with the right working height for the job, the risk of users becoming crushed between the ceiling and lift is reduced. Low-level lifts also feature platform lengths as short as 47 inches, so they can easily fit in any elevator in the United States that's built to code.

Justin Kissinger is marketing manager for Custom Equipment Inc.

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