



Red-tag Fasteners!

Answering Excellent Questions About Fasteners

By Robert J. Shluzas

Catchy title isn't it? Got your attention! Is it the newest brand of fasteners? No, unfortunately it can be the dreaded result of a contractor making the wrong fastener selection. Just what are some of these "common mistakes," and how can we avoid them?

"A quality job done below cost and ahead of schedule." That's something we all want. Does it sound incompatible? And why would fastener selection play such an important role in reaching our goal? All excellent questions.

Let's look at contractor fastener selection and ways to avoid common mistakes. We did an informal survey of some industry experts—contractors!

I'll classify information under the three elements found in almost every construction problem:

Design

Installation

Product

Design

Structure design comes from a design professional communicated by the contractor take-offs. This is where the first and most common mistake may occur:

- **Wrong fastener size.** Fastener shape, length, head and shank sizes are specified for good reason. Fastener specs contribute to structural performance needed to meet/exceed building codes.

Contractors report choosing the wrong size fastener is their No. 1 mistake. The plan calls for a 1 1/4-inch (32-mm) length, and you happen to have extra 1 1/2 inch (38 mm) from the last job. Saving money? Maybe not! Based on the design criteria, the 1 1/4 inch (32 mm) may actually provide greater holding power than the 1 1/2 inch (38 mm)! This is very true in cold-formed steel construction.

It's not just the length. That same 1 1/4 inch (32 mm) spec may call out for a certain shank diameter. Pay attention—shank diameter may have more to do with a fastener's withdrawal value than the length!

Design problem: Wrong size fastener by contractor.

Quick fix: Read and understand the specs.

Sources: Specs, design professional, fastener manufacturer, building code.

Installation

The No. 1 fastener installation problem for a contractor is:

- **Buying on fastener unit cost versus installed cost.** The better fastener decision comes from looking at the total costs of an installation, including material, labor and variable cost reductions like equipment rentals.

Compare each fastening system's value elements when installing screws versus pneumatic pins for a CFS sheathing application. We can document fastener costs, labor rate (fully burdened at 20 percent) and other

known costs like fastener waste.

Please save the "that isn't what I pay" comments, and just focus on the concept here. You can plug in your numbers later. In fact, that can be your homework assignment!

Here goes:

Aerosmith Versapin Labor Comparison Calculator

Please complete the following questions.

What is your fully burdened labor rate per hour?	\$25.00
Minutes to install one 4 x 8 sheet with bulk screws?	14.00
What is your cost per screw?	\$0.002
How many screws per sheet are required?	64
Estimate percentage of wasted or lost screw per sheet?	16.00%
Input your cost of Versapin pins per pin	\$0.002
How 4 x 8 sheets are required for the project?	1000
Cost of Versapin Equipment	\$500.00

Calculations

Current Screw Method	Versapin Method
Install hours spent: 233.33	Install hours spent: 58.33
Install labor costs: \$5,833.33	Install labor costs: \$1,458.33
Screw costs: \$1,484.80	Pin cost: \$3,200.00
Total Costs: \$7,318.13	Total Costs: \$5,158.33

Assumptions:
Installation with Versapin is 4 times faster than traditional screw method
Versapin scrap/waste is not measurable

Output

Savings with use of Versapin	\$2,159.80
Number of sheets payoff for tool investment	187.98

Over \$2,000 in savings from the higher "priced" fastener that costs more than another! Why? It can be installed four times faster without waste. Had the contractor looked at fastener cost alone, he would be making the wrong selection. The \$.05 fastener beats the \$.02 screw!

Installation problem: Making a price-only fastener selection.

Quick fix: Do the math; find the installed cost.

Sources: Do a trial run with the new system to generate your own numbers.

Be sure fasteners are installed correctly. Examining a fastener's installed cost shows speed of installation is a great way to save money. Unfortunately, speed kills, too! If your fastening system (tools, fasteners and accessories) does not let your workers provide a consistently installed fastener, it is likely you will get a call back.

Advances in new equipment are hitting the market each year. Recently we've seen screw guns with better bit systems attached to higher torque motors. Pneumatic pin fastening has advanced more than any other system. New tools provide fastener guidance features to keep pins sinking straight, depth of drive to set the fastener head the same each time and new high-pressure tools that can join multiple layers of CFS with little or no recoil. Many of these tools weigh less than screw guns!

New tools are great, but you still cannot put your guys on auto pilot. Be sure to read and understand the manufacturer's installation instructions. Many suppliers provide on-site training and/or demo equipment.

Product

Here is a simple mistake that contractors report as a product problem:

- **Did you get what you paid for?** As you've seen, the right fastener for the right application with correct installation saves time and money. Be sure you have the right fastener. It's as simple as reading the label on the box!



The fastener industry tests and evaluates fasteners for performance in various building code applications. These evaluations are communicated to the market through various product listing specifications that give a report number listed on box labels, enabling building code officials and a contractor to identify the correct fastener is being used. Good PLS reports tell the fasteners are to spec. (See examples at p-e-i.com.)

Product problem: Get what you ordered.

Quick fix: Read product labels.

Sources: PLS, fastener manufacturer.

If you are still a price buyer after reading all this, consider one last mistake reported by contractors' report—aftermarket service. Does your supplier service what they sold you?

- **Service.** If your tools fail or your foreman did not order enough, you might find yourself shut down. Unacceptable, especially if the job carries liquidated damages! Sometimes it doesn't pay to keep driving back to the "big boxes" to buy all new equipment.

Avoid Mistakes

We have covered a lot of information, but any of these common mistakes are easily avoided, saving you time, money and aggravation!

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