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Spotlight

Webinar
Schedule

Innovation
Survey

Why Buy vs. Build Needs to be Part of Your Offsite Construction Strategy

Throughout the construction industry, the topic of "offsite construction" has been and continues to lead the charge on addressing the skilled labor shortage. This has been the topic of so many industry reports over the last few years. It almost seems like everyone is already doing it. When in reality, the majority of trade contractors struggle with incorporating an offsite construction strategy into their business model. When you dig into what offsite construction is, it becomes clear that we are incorporating manufacturing concepts into the construction process. For those that have made the investments into an offsite construction effort, the path has been long and hard, but the results are simply undeniably great. At the same time, many of them have hit a plateau when it comes to scale and volume.

In the Manufacturing industry, that plateau is typically overcome by automation. For years the term "Low Mix, High Volume" was used to identify if a product line was worth automating. Although new automation technologies are beginning to change this concept, it is still the plateau offsite construction shops, and construction manufactures are dealing with. To increase volume, they need to invest in automation, but to offset the cost of automation, they need to be sure enough demand is in place to support the massive increase in volume that automation brings.

This is why Buy vs. Build (BVB) is not only critical for individual contractors that

want to get started in offsite construction, but also critical for contractors that already have offsite construction operations. BVB is a question that everyone in the construction industry should be asking themselves.

"Can I buy this assembly for less money than I can build it for?"

For this article, the typical strut hanger will be used as an example. Hangers are used by every electrical contractor to some degree. You can get hanger assemblies from several manufactures today. Strut Hanger Pro, ABB, Eaton, and Unistrut, to name a few. Distributors like Graybar work with many of these manufactures to ensure they have them in stock and of the highest quality.

To build your own configuration, follow the steps below.

- Go to www.struthangerpro.com.
- Click on the **"start build"** button.
- Create an account and once you do, you can log in to their configurator. The images below are an example configuration.

The screenshot shows the 'Customize Your Bracket' interface on the website. The 'Trapeze Bracket' is selected. The configuration parameters are: Strut Profile: 1-5/8" x 1-5/8", 12 Gage; Strut Length: 24"; Strut End Finish: Deburred; Rod Length: 22"; Rod Diameter: 3/8"; Number of Tiers: 1; Quantity: 1. A technical drawing of the trapeze bracket is shown with dimensions: a top width of 22", a bottom width of 24", and a height of 22". The 'Your Order' summary on the right shows: Number of Tiers: 1, Price: \$19.45; Rod Diameter: 3/8", Modify; Rod Length: 22", Delete; Strut End Finish: Deburred; Strut Length: 24"; Strut Profile: 1-5/8" x 1-5/8", 12 Gage; Quantity: 1.

The configuration above is \$19.45 before shipping.

Then, compare that to what it would take to build this yourself. Below is an example list of materials for the same hanger (prices listed are from a typical distributor website with no discount or shipping included).

- 3/8"x10' Zink Rod - $\$11.73/2 = \5.86
- 3/8" Hex Nut - $\$.10 \times 2 = \$.20$
- 3/8" Square Washer - $\$3.94 \times 2 = \7.82
- 1-5/8"x1-5/8"x10' Strut - $\$45.35/5 = \9.07
- 3/8" Flat Washer - $\$.10 \times 2 = \$.20$
- 3/8" Lock Washer - $\$.05 \times 2 = \$.10$
- 3/8" Hex Nut - $\$.10 \times 2 = \$.20$
- **Materials Total = \$23.45**

So, in this example, the materials cost is \$4.00 over the assembly price. We recommend you do the same break down using your material costs to see how you compare. After running the numbers with several different material costs from across the country, the best total material cost was \$16.23. The question here is, can you have your shop or field teams assemble this hanger for \$3.22 in labor?

The team over at Strut Hanger pro provided a bit of information from one of their clients.

Ben Patrick, an Electrical Foreman in Salt Lake City, UT, shares: "Cutting, assembling and installing these components on-site takes an average of 30 minutes each to complete under the best of circumstances."

However, on a recent project, Ben used prebuilt/bought hangers. "The total install time was cut down to 5 minutes." On a project with over 500 hangers, this took over 200 man-hours out of the schedule.

When the added safety, logistics improvements and Jobsite storage reduction are factored in, it becomes pretty easy to understand why NECA considers hangers as one assembly, every contractor should consider buying vs building.

Each month the NECA innovation and research team will be exploring another Buy vs. Build assembly opportunity.

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