

The Magic of One-and-Done Measurements

This acclaimed Montana design firm simplifies project workflow with laser scanning certainty



Brandner Design deployed the FARO Focus Laser Scanner to ensure accuracy on a high-end project in Bozeman, Montana.

Situation

So you think you've seen cool staircases, gee-whiz designer doors, and OMG countertops and sinks? Not so fast. It's a safe bet you've never seen anything like the ones manufactured in a 33,000 square foot workshop in Bozeman, Mont.

Welcome to Brandner Design. The award-winning 35-person studio/fabricator/manufacturer has made a name for itself in architectural and interior design circles for the way they artistically design and build nearly anything from steel and alloys, wood, or timber slabs. The applications range from

custom furniture and accessories to large-scale installations for Whole Foods, Intel, Nike, Microsoft, among other respected organizations. "We take things that people don't necessarily understand how to work with and create complicated designs with very tight tolerances with hard, difficult, and often unique finishes," says Brandner Design founder, creative lead, CEO, and CFO Jeff Brandner.

Challenge

The work requires an eclectic assortment of skill sets, from the delicate to not-so delicate.

The team is fearless about nearly every aspect of their work save one: Measuring as-built conditions.

Ask Nate Neergaard, the company's project studio manager, about measuring existing conditions. "We had a project in Philadelphia that kept me up at night worrying about," he says.

Brandner shares the concern. "It's difficult to get the information we need with a tape measure or even a laser line. We can't run around the country double-checking measurements. We have one shot to get it right. The customer expects a product that fits."

Today that insistence on perfection has been put to a spectacular test: The firm is building from the ground up a 3,600 square foot luxury home in an exclusive enclave just outside Bozeman. The home is of their own design, wood-framed with a steel substructure and appointed inside and out with Brandner Design ingenuity and craftsmanship. In effect, the project is a living portfolio of their design magic, from fireplaces with novel guillotine doors to bathroom vanities suspended from the ceiling and steel-plated exterior siding.

With so many of their designs requiring steel fabrication, the idea of making spot adjustments at the worksite to correct ill-fitting pieces, as you might do with lumber, isn't possible. "We're doing a really unique siding. About 50 percent of the exterior will be clad in stainless steel panels with a black patina. Those panels need to be cut exact to fit the design. If there are discrepancies in the framing, roof lines, or window locations, we have a big issue," says Brandner.

Solution

Neergaard had an idea: Why not consider measuring as-built conditions with laser scanning?

The project manager's suggestion proved to be an answer to a prayer. But not without some healthy skepticism and questioning. For example, the company's lead installer Ben Williams says, "I think I was the biggest devil's advocate against scanning." Brandner himself had reservations but put them aside with an eye on the technology's long-term impact on the business. After field tests, the Brandner team made laser scanning as-built conditions a part of their project workflow for at least four reasons:

1. Project Confidence. "I was aware of laser scanning, but didn't believe it was accurate as we needed," Neergaard recalls. "Working with steel requires great precision. We can't add filler strips or sand something down to make a size work." The eureka moment arrived when they compared "... our installers' as-built measurements with data from our FARO® Focus Laser Scanner. Everything checked out. We were excited. This is what we were looking for," Neergaard says.



Scan data of the project saved time, reduced risk and provided confidence across the team.

The CEO was blown away, too. "We're able to laser scan the walls within this house within .32 of an inch over 100 feet. We now produce and snap steel panels into place with perfect confidence, all pre-cut, labeled, and numbered. We save a tremendous amount of time," Brandner says.

2. New Business. Acting as the general contractor on a nearby homebuilding project is one thing, winning commissions for complex projects on either coast is another. "We do a lot commercial work around the country," observes Brandner. "Being able to send one guy with a scanner instead of a team to measure stuff is going to save us a huge amount of time, as well as the client's money. I can't even imagine how we could take these projects otherwise."

For Neergaard, it's the future. "We can accept jobs we once declined. One comes to mind in the San Juan Islands [Washington state]. We were reluctant to get involved because of the measuring risk and distance. Now it's a no-brainer to say yes." Brandner also likes the confidence laser scanning capability projects to current and potential clients, like large architectural firms. "We take responsibility for the data," Brandner says.

3. Application Ease. The software that powers the scanner is called FARO SCENE. Neergaard says it is very intuitive. "I'll get the SD

card, download all the information," he explains. "We'll run the scanned data into SCENE, register it, and process it. I'll start extrapolating certain items out of one big scan. Then I use Recap™ as a bridging software between SCENE and AutoCAD®. In AutoCAD I'll extrapolate a useable model, which is then given to the designers."

4. Team Building. Dillon Binstock, the company's administrative assistant, says the laser images lets the team back in the office "... see in detail what we're working on. It helps network everyone in the office" to the project.

Results

Brandner Design now claims a powerful new asset that lifts project quality, confidence, and business opportunities. "We're really only at the beginning stages of what it can do," Brandner says. "My guys were insistent on measuring with a laser scanner because of the complexities of our work. We're super excited to have it. It's now part of our workflow on every project," he says.

For More Information

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