Excel Engineering: CFS Design 2-3X Faster with Greater Accuracy

About Excel Engineering

Founded in 1990, Wisconsin-based Excel Engineering is a full-service design firm with more than 140 professional architects, engineers and associates. Repeat business, client referrals and a reputation for superior plans have grown the company to over $600 million in construction annually.

EXCEL
ARCHITECTS • ENGINEERS • SURVEYORS

The Challenge

With the growing popularity of cold-formed steel, it's become one of the fastest growing segments of the business at Excel Engineering. In recent years, the firm has become a leader in prefabricated cold-formed steel panel design and had the opportunity to take on increasingly larger projects such as multi-story hotels, condo complexes and nursing homes.

Early on, Excel designed these projects primarily by hand and with AutoCAD, a time-consuming process that left room for error. "There was zero automation," says Karl Scherzer, Principal. "We basically did it line by line with no ability to create multiple iterations at one time and no checking mechanism."

> ***"Vertex BD is the most well-thought-out program we've seen. Other programs are not laid out nearly as nicely, and Vertex BD takes into account the things that happen in the real world, the little issues that can occur during construction."***
>
> **Kristopher Kitowski, Excel Senior Technician**

Solution

After looking at several software solutions for panel fabrication, Excel brought in Vertex BD, a flexible building design tool that automates creation of architectural and structural drawing sets, fabrication drawings, material reports, manufacturing data, and architectural visualizations – all from one building model.

"Vertex BD is the most well-thought-out program we've seen," says Kristopher Kitowski, Senior Technician. "Other programs are not laid out nearly as nicely, and Vertex BD takes into account the things that happen in the real world, the little issues that can occur during construction."

Ease of use – while still providing powerful capabilities – factored in as well. "It's complex enough to handle different conditions, but simple enough that you can't get lost. It's intuitive to use compared to other programs."

In fact, as Excel adds to its cold-formed steel team, the firm finds it quick to train new members on Vertex BD. With a couple of hours of instruction, designers know how to use most features.

Over the years, Excel has had the opportunity to provide input on the software functionality, which has expanded significantly with customer suggestions. With new cold-formed steel products coming out regularly, Excel appreciates the ability to create a custom library in Vertex BD that houses the many shapes and numbers. And with the newly added ability to split the modeling window into two monitors, designers can see the full design at once.

"We can have our plan on the left side and customizable shapes for that job on the right and just drag and drop," says Bill Wilde, Senior Technician.

Results

With design automation in Vertex BD, engineers complete designs 2-3 times faster, with more accuracy and double the amount of information for clients. "The output with Vertex BD is so much greater than what we could provide by hand," Scherzer says. "Clients have more information, which allows them to build without thinking about it."

With design automation in Vertex BD, engineers complete designs 2-3 times faster, with more accuracy and double the amount of information for clients.

More information and accuracy mean fewer hiccups in the field.
Construction typically progresses smoothly – reducing calls to Excel after delivery to clients.

Some of the firm's biggest projects of late have been designed with Vertex BD, including the 5-story DoubleTree Hotel in Evansville, IN, and The Wharf, a mile-long waterfront neighborhood in Washington, DC, that includes retail, residential, hospitality, offices, a public park and piers. For its work on the project, Excel earned the 2016 CFSEI (Cold-Formed Steel Engineers Institute) Project Design Award.

Most of the project consisted of load-bearing cold-formed steel framing. Using Vertex BD helped the Excel team design for challenging aspects on the condo complex, such as curved walls and posts with beam pockets, MEP (mechanical, electrical and plumbing services) sleeves, and shear wall posts – all on an aggressive construction schedule.

On such projects, the team at Excel firmly believes the software contributes to success and client satisfaction, fueling growth. "Without Vertex BD we would not land the size and scope of the projects we get," Scherzer says. "We're winning work because clients have faith in what we're producing. The software allows us to get the job done in a reasonable timeframe and put a lot of information in clients' hands that they may not get with other programs."

Along with the software, Excel values its relationship with the people at Argos, who listen to feedback and deliver responsive support whenever needed.

"The customer service at Argos is really good," Wilde says. "They're very quick to respond, which keeps us productive and on schedule."

ARGOS SYSTEMS

For more information contact:
Pekka Moilanen
pekka.moilanen@argos.com
781.271.9394

www.argos.com/coldformedsteel

Argos Systems I 19 Crosby Drive I Bedford, MA 01730