

CASE STUDY

Solutions in practice

Challenging the status quo to respond to supply chain disruptions

By Josh Rewa

With so many unexpected changes and disruptions in our world over the past few years, construction managers have taken advantage of market disruptions by seeking new levels of innovation. Material shortages, price fluctuations and unforeseen disruptions are nothing new to our industry, but these new realities have allowed us to embrace new and alternative approaches.

As challenging as this occasionally has been for both contractor and client, the construction industry has shown its resilience and ability to adapt by become more creative, exploring alternative materials, implementing new designs, increasing local sourcing and much more.

These solutions were far from traditional, but ultimately helped us meet our design criteria, find overall cost-savings, kept us on schedule and gave us room to challenge our status quo.

A case for innovation

Recently, my team at Rockford Construction worked through these challenges firsthand as we tackled a series of supply chain situations using an unconventional strategy. We faced the cascading effects of material shortages and high rush production premiums on a 100,000-square-foot warehouse and racking expansion for a major HVAC/refrigeration distributor in our area.

The biggest challenge was sourcing traditional roofing materials, specifically thermoplastic polyolefin and polyiso insulation, which were backlogged by as much as 60 weeks. We went back to the drawing board and found a solution to source alternative materials locally on a shorter time frame while also avoiding premium rush production fees. We pivoted to using insulated metal panels (IMP); while this roofing system is nontraditional, it helped us keep the project on track and allowed the flooring system to be installed on time.

While our attention was on the roof, we noticed another opportunity to revise our roofing design solution. Originally, we planned for a traditional joist and deck construction, which were also in short supply with long production delays. Using IMP let us select a more readily available beam and girder system. Normally, these materials are more expensive, but by avoiding premium rush fees, this second option gave us a new, financially sensible opportunity. An additional benefit was that the beam and girder approach saved

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the owner \$500,000 in fire suppression costs, as code requirements could be met with a simpler control mode sprinkler head system, requiring only 600 heads versus 1,500 for joist and deck.

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Supply chain solutions across the nation

While this exact strategy was unique to our position in Michigan – we benefited from local suppliers and a wellconnected construction team – it's not an isolated example of how teams like ours across the nation have navigated difficult project delivery. By looking at ways to source alternatively, embrace new tech and develop contingency plans, firms have found ways to alleviate their clients' worries while also strengthening their trust.

In the case of this warehouse project, it's also important to observe that as design-build firms become more common, especially in the industrial space, opportunities to take a step back and look at new design concepts have become increasingly more effective in recent years.

Supply chain issues are not new to us, and while we're taking steps to alleviate disruptions, they'll never disappear completely. Regardless, projects will still be completed, and often by industry innovators like our team who go beyond



Rockford Construction teams seen at work on a project. The Michigan-based company has developed strategies to overcome recent supply chain challenges, which included a shortage of roofing materials.

the standard to make it happen in the face of challenging supply constraints. \clubsuit

Josh Rewa is a project executive at Rockford Construction, an integrated design, build and management firm based in West Michigan. He has more than 15 years of experience leading a multitude of industrial projects, including those deploying design-build delivery, Lean manufacturing principles, sound manufacturing practices and Building Information Modeling and more. He is an IISE member.

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