

2022

Mechanical Contractor's Guide to Overcoming Supply Chain Challenges



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A global pandemic and fractured supply chain across the world, combined with a trillion-dollar US infrastructure bill has significantly increased demand for construction work while simultaneously drying up the supply of materials. As an Mechanical contractor, you foot the bill for material-related issues and as a result, you've been hit the hardest with an endless stream of backorders, unpredictable lead times, and all-time high materials prices. Now more than ever, your margins are at risk.

Many material issues are out of your control. You can't stop the price of EMT from going up or increase the global inventory of junction boxes. What you can control is your business's processes and how you manage your materials, which if done poorly, can impact your business's bottom line as much as any supply chain issue.

In this guide, we will provide you with an update on the current state of the construction materials supply chain and how it's impacting other trade contractors' businesses. We will then share with you insights on how other Mechanical and trade contractors are optimizing their materials management processes to remain profitable and competitive in today's construction climate.

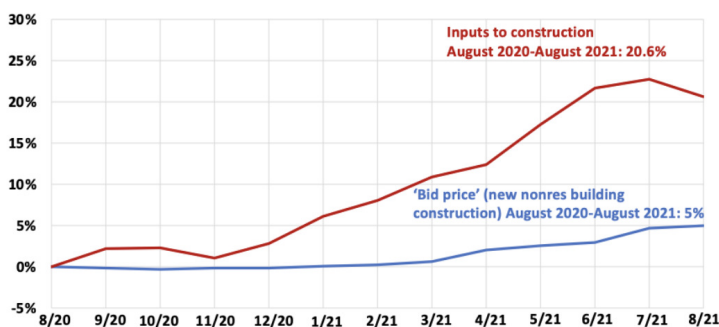
The State of Construction Materials

At the start of 2020 (before COVID-19 hit the US in earnest), all signs pointed to a strong year ahead for the construction industry. In Q1 of 2020 alone, the construction industry employed 7.4 million people and added \$900 billion to the U.S. economy - both all-time highs since prior to the 2008 recession. That quickly changed when COVID-19 hit the US in Q2 and shut down the economy. By Q3, two years' worth of construction's contribution to GDP growth were wiped out (\$60.9 Billion in losses) and four years' worth of job gains disappeared.¹

At that time, few foresaw how large of a ripple effect COVID-19 would have for years to come on the construction materials supply chain. For mechanical and trade contractors, that means a supply chain that's been completely fractured. Finding materials for jobs remains a daily challenge, prices continue to hit all-time highs, and project overruns continue to be a major concern.

The Associated General Contractors of America's (AGC) February 2022 Inflation Alert showed that the difference between non-residential construction 'bid prices' and the cumulative input costs for construction has continued to widen.

Construction input and 'bid price' producer price indexes (PPIs)
cumulative change in PPIs, August 2020 - August 2021 (not seasonally adjusted)



1 | Source: Bureau of Labor Statistics, producer price indexes, www.bls.gov/ppi/

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“Most contracts in construction tend to be lump sum contracts. Because of that, you’ve got fixed pricing and you’ve got the variable costs going up. It now puts more pressure on everyone. All the participants from the developer, to the architect, to the general contractors, to the trade contractors.”



Al Fiore

CEO, PowerWorks

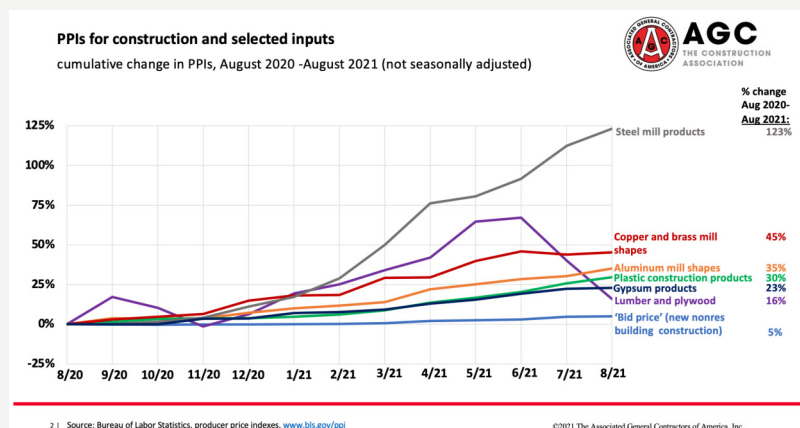
The State of Construction Materials

“It took three weeks and multiple vendors to get a typically easy order filled, which means the install is significantly delayed. We’re in a tight window so then it forces us to work weekends and overtime. There are additional costs that are overlooked coming from these supply chain issues.”



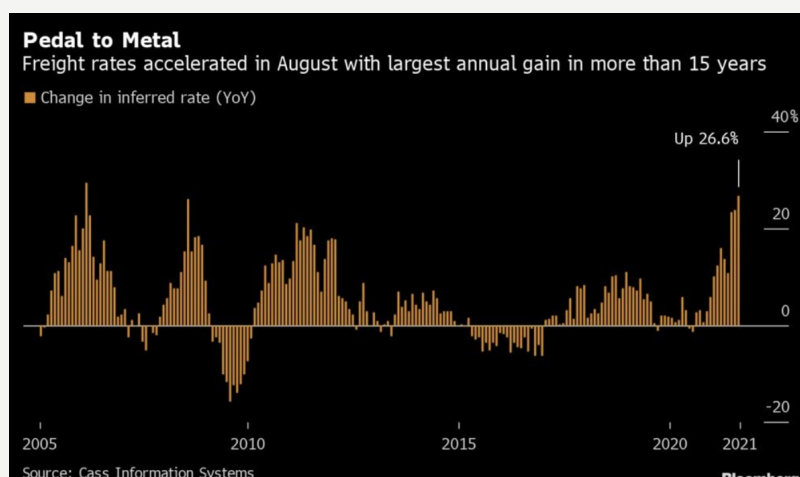
Greg Long
President, Long
Electric Co.

Steel mill products, copper and brass mill shapes, aluminum mill shapes, and plastic construction products have continued to rise month-over-month for the last 12-months, widening the input vs. ‘bid prices’ gap.



A large impact on materials prices derives from the cost of shipping and transportation. According to Cass Information Systems, freight rates jumped 26.6% in 2021, the sharpest increase since February 2006.

A Pensacola, Florida courthouse had to issue a contract change order that pushed back its completion date and increased costs by \$244,000 due to delayed shipping orders. “Just in the last month, we’ve had many materials that were previously delayed in some shipping containers and elsewhere in the U.S. that have made it,” said Amber Kirk, a project manager with the Mott MacDonald consulting firm attached to the project.²



Contractors Feeling the Pain



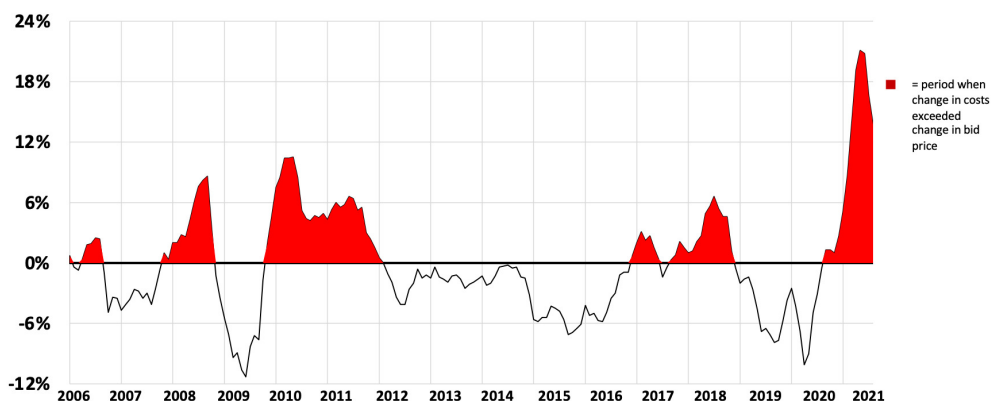
The widening gap between construction input costs vs. 'bid prices' is putting trade contractor's businesses at risk. The AGC's Cost Squeeze Chart, which calculates the year-over-year change in materials costs vs. 'bid prices,' shows that the cost squeeze for contractors is the most it's ever been since AGC began tracking the metric in 2004.

If a contractor submitted a fixed-price bid in late 2019 based on the estimated cost of materials at that time, the entire job is now at risk of being unprofitable.

Ben Worley, VP of Business Operations at Capstone Mechanical, a mechanical contractor based in Waco, Texas, has been dealing with this himself. "We just received a letter from the CEO of one of our preferred vendors that they'll be putting a 9.5% increase across the board on all their materials going forward. So, whatever didn't buy out at the start of the job, we now are immediately going to see a 9.5% increase on," said Worley. "We bid this work on a flat price and we can't pass these increases onto our customers."

Cost squeeze on contractors can last two years or more

Difference between year-over-year change in materials costs vs. bid prices, Jan 2006-August 2021



Source: Bureau of Labor Statistics, www.bls.gov/ppi, producer price indexes for goods inputs to nonresidential construction (material costs) and new warehouse construction (bid prices)

Contractors Feeling the Pain



A 2021 construction workforce survey conducted by Autodesk and AGC found:

- 93%** Contractors who say rising materials costs have affected their projects.
- 88%** Contractors who are experiencing project delays.
- 75%** Contractors that attribute materials shortages for their project delays.
- 51%** Contractors that report project cancelations, postpones, or scale backs due to increasing materials costs.
- 37%** Contractors who have tried to pass on some or all additional costs without success.
- 29%** Contractors who have had to change suppliers.

<https://www.agc.org/sites/default/files/2021%20Workforce%20Survey%20Analysis.pdf>

Optimizing what you can control

Skyrocketing materials prices and limited inventory are the results of complex global supply chain issues that are out of your hands, but how you manage your materials is squarely within your circle of control. The most resilient trade contractors have looked inward to assess their material management processes to identify areas of inefficiencies and improve on them.

01 Streamline Communication Between the Field, Office, Warehouse, and Suppliers.

It's easy to overlook how much time (and dollars) are lost due to poor communication throughout the lifespan of a project. Diane Adams, CFO of PowerWorks Electric, an electrical contractor based in North Carolina, explains, "Dollars wasted can add up quickly when you have hourly employees and each one is spending 15-minutes per day on unnecessary phone calls or tasks that could be eliminated. Cutting those wasted phone calls out or automating some of the steps of tracking materials through technology can be a half-million dollars in savings for the year."

To eliminate unnecessary distractions, bring together your team and map out the steps required for your company to purchase and track materials from order to delivery. Break the steps down by employee and estimate the time it takes for them to complete each step. From there, optimize the protocols for how your team communicates with one another or implement a technology that automates and streamlines the passing of information from one person to another. Your goal should be to eliminate hurdles and empower each person to complete their responsibilities productively and without bottlenecks.

Diane Adams says, "When you take it down to that level, you can think more efficiently and find 15-minutes here and there throughout your operation. You'll find real savings."



Did you know?

The average foreman spends **8 hours per week** managing materials.



02

Simplify Your Quoting and Inventory Sourcing Processes

In the past, quoting was a means for finding the best prices, but in today's world quoting is just as much about finding who has the materials you need and when you need them.

"In the past, we'd have a list of materials that could have gone to one vendor and you'd be confident they were going to get filled. You wouldn't need to go out and get multiple quotes from people. But at this point, I don't think there's any order that we have 100% confidence will get filled," said Tom Long, Director of Operations at Long Electric, an electrical contractor based in Northern California. "We're now having to go to two or three distributors to fill a common order."

Creating a simpler process for your team to request, track, and respond to quotes can increase the likelihood that you'll find the materials you need when you need them. Forward-thinking mechanical contractors have adopted technology that takes a list of materials needed for the job, instantly sends the list out to multiple vendors for quotes, and allows the contractor to receive quotes back from each vendor in real-time, including who has inventory and at what price, so they can quickly compare the bids and issue purchase orders.

Simplifying the quoting process and increasing the speed at which you can receive and track quotes will enable you to find materials faster, place orders faster, and get your jobs completed faster.



Did you know?

The average cost to process one PO for trade contractors is **\$68**.



03

Keep better track of your materials on hand

With materials so expensive and hard to come by, you can't always afford to wait until the last minute to make a purchase. But bulk ordering materials in advance comes with its own risk of overbuying, especially if you're working with a fuzzy estimate. That's why many contractors are looking for ways to track inventory, such as bulk orders or leftover materials. Ben Worley, VP of Business Operations at Capstone Mechanical explains, "If we're unable to keep an accurate inventory of our materials, easily see what's already been delivered, know what we currently have on hand, and know what has yet to be purchased, then we'll end up being the guys on the job holding everyone up."

Like Worley at Capstone Mechanical, the best-in-class contractors keep a detailed log of materials data which includes:

What materials you've estimated to buy before the job began

What materials you bought upfront at the start of the job

What materials you bought throughout the duration of the job

What materials you still need to purchase

What materials have been delivered

What materials and how many of them are being stored at the supply house

What materials and how many of them are being stored in their shop

Tracking your materials information and making it readily available to everyone on your team will enable your company to make smarter purchasing decisions, save time, reduce costs, and avoid waste.



Did you know?

Implementing a materials procurement platform helps trade contractors **reduce the time their field teams spend managing materials by up to 38%.**



04

Make It Easier for Your Field Teams to Order Materials

For many mechanical contractors, field teams lack the information they need to make smarter, more efficient materials requests and orders. They're often unaware of which materials have already been purchased, have limited visibility of what's being stored in the warehouse vs. the supply house, are uninformed on when certain materials should be ordered for specific phases of the job, and aren't privy to materials stipulations, such as what can and cannot be used for specific jobs (e.g. American-made materials only). They also rely heavily on email, phone calls, text messages, and even paper documents for receiving information, which makes it hard for them to keep track of everything while they're trying to build.

If your field is forced to operate this way, then you're losing money. The wrong materials will get purchased or double-purchased, orders will be made at the last minute and lead to project delays, and your field teams will end up spending valuable time on the phone or stuck in emails coordinating materials.

Making materials information readily available to your field team enables them to plan further in advance and make clearer requests. Greg Long, President of Long Electric explains, "Making it easy for the field to identify the correct materials they need to order will prevent having an order punched in with the wrong nomenclature and reduce the chances of the wrong piece of material showing up on the job site and creating another delay. These types of costs aren't coded for management to see. You know there was a delay but you don't know you're actually dealing with the wrong materials being purchased."

To help eliminate these inefficiencies, Long Electric has adopted a materials ordering system that provides their field teams a list of materials available to order for a specific job or job phase. It also streamlines their materials requests directly to the office or vendor, which increases the likelihood that the right materials are getting ordered at the right time. "Software can help eliminate some of those mistakes and help the guys keep working," says Long.

How Kojo's Helping Mechanical Contractors Overcome Supply Chain Challenges

Kojo, a materials procurement platform built specifically for mechanical and trade contractors, improves the process of purchasing, managing, and tracking materials from takeoff to completion for hundreds of trade contractors across the country. Leveraging Kojo's platform, contractors can:

Get materials to the site faster.

When requests and updates are being shared clearly and efficiently across the field, office, and vendors, orders get placed (and fulfilled) faster.

Find the best prices and availability.

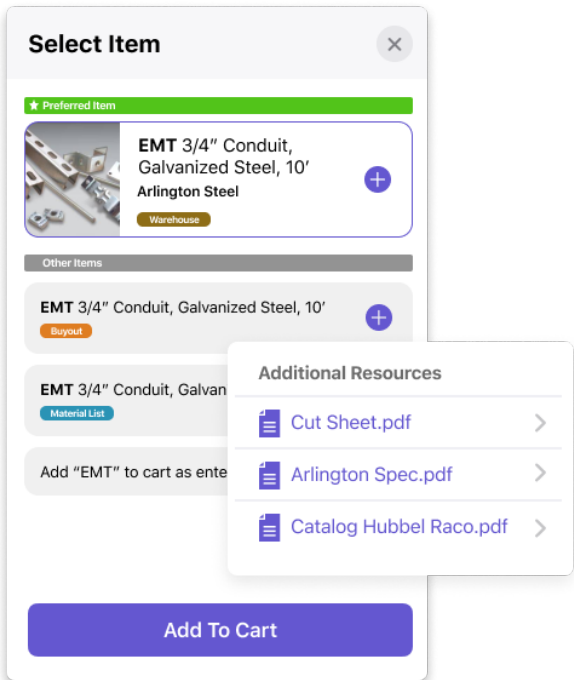
Kojo makes it simple to send out RFQs to multiple vendors, compare responses, and issue POs to the suppliers who have the right stock at the right price.

Do bigger buyouts, and ensure it all gets used.

With Kojo's inventory tracking features, you can order more materials in bulk (or even restock leftover materials), and give the field direct access to request materials from your stock.

Keep the field focused on building, not buying.

When the field can submit a complete, clear material request as easily as they order pizza online (and can see their order status by simply logging in), they gain back time previously wasted on back-and-forth phone calls and emails.



“Using Kojo, I was able to save \$30,000 on a large order. Kojo makes it fast and easy to source quotes from multiple vendors, so I was able to find the best deal with little time wasted.”

Ronnie Zimmerman, Edge Electric

Reduce Overhead Costs. Increase Labor Productivity.



Modernize your materials management.

Kojo brings your field, office, suppliers, and warehouse onto one collaborative platform, streamlining the PO, RFQ, accounting, and delivery process for mechanical contractors.

With Kojo, mechanical contractors:

- **Reduce the time their field teams spend managing materials by up to 38%**
- **Shortens the PO process by up to 75%**
- **Saves an average of 4% on materials costs**

To learn more about Kojo, visit usekojo.com



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¹ <https://www2.deloitte.com/us/en/pages/energy-and-resources/articles/engineering-and-construction-industry-trends.html>

² <https://www.pnj.com/story/news/local/santa-rosa/2022/01/11/santa-rosa-county-courthouse-set-completed-february/9155592002/>

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