Supply Chain Market Conditions and Mitigation Strategies
Presenters

Kelly Monroe
Skanska

Will Senner
Skanska

Michael Shumsky
State Construction Office

Brad Lockwood
Moseley

Cameron Smith
NC State University
Agenda

- Supply Chain Impacts and Market Drivers
- Current Trends and Projections
- Fireside Chat – Project Level Strategies
- Q&A
COVID 19

SORRY
WE'RE
CLOSED
DUE TO
COVID-19
Manufacturing and Production Disruption – From Despair to Overdrive
Shipping Imbalance

Key:
- Inventory
- Raw Material Supplier
- Distribution
- Construction Site
- Material Flow Information Flow
- Component Manufacturer or OEM Manufacturer

Legend:
- Supply House
- Component Manufacturer
- OEM Manufacturer
Major Weather Events

HURRICANE IDA: OPERATIONAL STATUS

Propylene Production & Consumption Facilities

- Running
- Closed
- Reduced
- Closed (unrelated to storm)
- Reportedly Shut (not directly confirmed)
- Multiple Plants (running & closed)

Copyright 2021 by OPIS PetroChem Wire
Chip Shortages
Construction Demand Shifts
Stockpiling
Labor Shortages
Market Trends

https://www.usa.skanska.com/markettrends

### Lead Time and Price Snapshot

<table>
<thead>
<tr>
<th>Category</th>
<th>Current Status</th>
<th>6-12 Month Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roofing Products</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Structural Steel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Architectural Interiors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Wood-Based Building Materials</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Doors and Hardware</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Electrical Gear</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Appliances</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Elevators, Escalators, Moving Walks</strong></td>
<td>Up</td>
<td>Up</td>
</tr>
<tr>
<td><strong>Electrical Commodity Materials</strong></td>
<td>Up</td>
<td>Up</td>
</tr>
<tr>
<td><strong>Plumbing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lighting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HVAC Equipment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lab Casework and Fume Hoods</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Building Control Systems</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Logistics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Roofing Products**

- Lead Time: Up
- Price: Up

Roofing material lead times continue to extend. Roofing system deliveries can be as long as 10 months, depending on the materials specified. The toughest product to get is polyISO insulating panels. Lead times for polyISO are now greater than 10 months. In some cases, polystyrene insulation can be substituted for polyISO. However, many projects are taking advantage of this substitution and now polystyrene lead times can be as long as four to six months, depending on the source.

### Status Key

- **Trending Up Significantly**
- **Trending Up**
- **Stable/Consistent**
- **Fluctuating**
- **Trending Down**
Scheduling Lead Times

Lead Time Tracking

* This data should be used as reference, please confirm with specific manufacturers on your project before adding lead time in the schedule.

Lead Time indicates the time from the material/equipment is approved until it arrives to the project site.

Select material / equipment from the filter above to see its lead time trend.

Air Cooled Chillers - Small Scroll

 Lead Time Trend by Manufacturer

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Lead Time (in Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrier</td>
<td>14</td>
</tr>
<tr>
<td>Daikin</td>
<td>14</td>
</tr>
<tr>
<td>JCI</td>
<td>10</td>
</tr>
<tr>
<td>Trane</td>
<td>8</td>
</tr>
</tbody>
</table>

2022 State Construction Conference
### Material and Equipment Supply Chain Outlook for 2022

#### Most Troublesome Categories During 2021

<table>
<thead>
<tr>
<th>Category</th>
<th>Lead Time</th>
<th>Price</th>
<th>Expected Trend</th>
<th>Current Lead Time</th>
<th>Expected Change (6-12 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural Steel</td>
<td>32 weeks</td>
<td>+0-5%</td>
<td>Down</td>
<td>52 weeks</td>
<td>Stable +5-10%</td>
</tr>
<tr>
<td>Roofing</td>
<td>52 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC</td>
<td>30-40 weeks</td>
<td>+10-15%</td>
<td>Down 20%</td>
<td></td>
<td>Stable +8-15%</td>
</tr>
<tr>
<td>Electrical Gear</td>
<td>38-52 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td>10-13 days</td>
<td>+5-15%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*(time containers wait to be loaded to truck or rail)*
Project Level Strategies Fireside Chat
Q&A