

Roofing and Insulation Company Saves Space, Time and Costs with Storeroom Re-Design From Rockwell Automation

Storeroom Cleanup Project Identifies Over \$1.3 Million of Excess and Obsolete Inventory

Challenge

- Re-design and organize storeroom, limiting disturbance to the maintenance department

Solutions

Storeroom Inventory Analytics

- Analyzed lead time, usage levels and theoretical optimum inventory to determine ideal on-hand inventory

Storeroom Cleanup Services

- Developed single-level layout
- Split storeroom into general storeroom and limited-access room
- Assessed parts and removed excess from storeroom
- Reorganized parts by commodity type

Results

Savings of Time and Money

- Reduced time searching for storeroom parts and duplicate purchase orders
- Removed 3,000 obsolete and excess SKUs and \$1.3 million in inventory

Smaller Footprint

- Storeroom design reduced part-storage footprint by 40 percent, and created large receiving and staging area

Continued Support

- Embedded asset-management professional assists in discarding parts, developing and training employees on new processes, and implementing a program to manage repair parts



Before and after photo of the storeroom at the Johns Manville Etowah, Tenn. plant.

Background

Celebrating its 155th birthday in 2013, Johns Manville (JM) is older than Charles Darwin's theory of natural selection. Like Darwin's theory suggests, JM has survived by consistently evolving to meet the conditions of the roofing, insulation and other specialty industries.

During the course of its long history, the Denver-based company has become a leading provider of roofing, insulation and engineered products to businesses and consumers around the world. JM serves its customers from the ground up as industries – from flooring to aerospace and almost everything in between – call upon JM for personalized solutions that create great products.

Serving so many industries requires JM to have many types of equipment that operate within 45 manufacturing facilities across North America, Europe and China. This equipment needs hundreds, and sometimes thousands of parts, which need to be efficiently stored in accessible locations.

When David McGeachy took on the role of plant maintenance manager at JM's Etowah, Tenn. facility in the fall of 2011, he did not realize the enormity of that task.

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Challenge

"When I started at JM, it wasn't very long before I realized one of my first challenges was to organize and create a more user-friendly storeroom, which would give us the ability to better understand what we had on the shelves and make it easier to find what we were looking for," McGeachy said. The storeroom had worked well in earlier days, but was past due for a change that would bring its functionality in line with the storerooms of today.

Only 17 percent of the storage keeping units (SKUs) were moved in the year and a half before he took over. "We really didn't know what we didn't know," McGeachy said. "We only had a rough idea of what was actually in the storeroom, and we suffered a lot of setbacks in our productivity because of it."

When machines shut down for maintenance or emergent repairs, it was often difficult to search the storeroom of open bins to find the correct parts. The team would spend several hours searching for the needed parts, which led to longer downtime while trying to locate those parts.

"Eventually we would order the parts we needed," McGeachy said. "And, on some occasions, a few weeks later we would come across that part we had been looking for on the previous job. We had it all along."

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Instead of spending time and resources performing actual maintenance tasks, McGeachy and his crew spent their time searching the storeroom. That time should have been spent repairing machines and limiting downtime instead of prolonging it.

After months of frustration and little progress organizing the storeroom, McGeachy realized he did not have the time, resources or manpower to complete the project in-house. So, he turned to Rockwell Automation.

Solution

In the spring of 2012, the Rockwell Automation reliability and storeroom services team approached McGeachy with a proposal that would completely overhaul the plant's storeroom – a stark contrast from the approaches of other firms.

"Other resources seemed to offer a Band-Aid solution. I was looking for a solution that would drive us to continual improvement," McGeachy said. "Rockwell Automation was the only team that actually wanted to solve our problem – to touch every part while partnering with us to completely revamp the storeroom."

Before that could happen, the Rockwell Automation team needed to analyze the storeroom and the parts it housed. Through lead-time analysis, usage analysis, ABC analysis and a theoretical optimum-inventory analysis, the team determined the ideal amount of on-hand inventory, order frequency and quantity. This information allowed them to better assess the requirements of the new storeroom and to design the layout according to those requirements before making any physical changes to the storeroom.

One of the bigger adjustments in layout came in the form of switching from an open-bin to a closed-bin system. Instead of all parts sitting disorganized on open shelves, smaller parts were placed neatly into 55 high-capacity Vidmar® cabinets while larger, easily-located parts were left on the shelves.

These cabinets would more adequately protect the parts from the harsh manufacturing environment, but their greater benefit was that they allowed the company to better utilize its new ERP system (SAP). Though SAP was implemented 18 months before the project began, the system had yet to be used successfully to locate and track parts.

"Even though we technically had access to SAP, we relied a lot on our memories and visually searching for what we needed with our open-bin layout," said McGeachy.

The switch to a closed-bin system changed all that. These new cabinets allowed them to better organize and categorize their parts, and made finding parts in the system much easier.

But to do this, the Rockwell Automation team needed to remove parts from their current shelf locations scattered throughout the storeroom and arrange them neatly in the high-capacity Vidmar cabinets organized by commodity type. To prevent their work from hindering the JM maintenance staff, two rows of parts were relocated and shelves were torn down to make room for a temporary staging area that did not interfere with the work of the JM team. The Rockwell Automation team then went through every part in the storeroom and placed it in the appropriate cabinet or shelf, making sure each location change was documented so any storeroom parts required by the maintenance team could be easily found during the project.

“It was like peeling back the layers of an onion,” McGeachy said. “The deeper they dove into the parts, the more parts they found.”

After about 17 weeks of work, the team had managed to locate, tag and organize all of the storeroom’s parts. Small parts were placed in cabinets and large parts on shelves, even larger ones were moved to racks in the back, and a new system to store belts by hanging them on the walls was created – all organized by commodity group.

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Upon completion, about 8,000 parts were moved to their new homes in two adjoining storerooms – one to house the high-use parts that employees throughout the plant could access, and the other for higher-value parts accessible only by maintenance personnel.

“We like to call the first of these the general store, and our employees know that all their basic needs can be met there,” McGeachy said. “This saves a lot of time as they no longer have to search through many things – and risk accidentally breaking something expensive – to find what they want.”

Both storerooms feature an open, single-level design that makes for a cleaner, more accessible and navigable storeroom, instead of the former, cluttered, multilevel one.

Results

The new storeroom design – especially its organization, use of cabinets, and the removal of parts no longer needed – cut its part-storage footprint by 40 percent and drastically simplified maintenance tasks throughout the facility. But more importantly, it significantly cut the time employees spent looking for parts, reduced the cost associated with duplicate purchase orders, and dramatically lessened the downtime associated with both.

In total, the design allowed for the removal of 3,000 excess and obsolete SKUs, and \$1.3 million in inventory from the storeroom for future disposition.



Before and after photo of the storeroom at the Johns Manville Etowah, Tenn. plant.

The savings caught the eye of the plant manager, the corporate maintenance, repair and operations (MRO) manager, and even the CEO. They toured the storeroom and were impressed enough by what they saw to consider implementing similar solutions in other JM plants across the country.

“So many people helped make this a successful project,” McGeachy said. “I would like to thank everyone on my team for their dedication and patience during the 17 weeks it took to reorganize the storeroom. They’re a great team, and I’m proud to work with them.”

McGeachy continued by saying it really was a smooth and successful project for JM. “Like any project, there were some challenges that we didn’t foresee – like the shelves full of parts that weren’t organized or tracked on our inventory list – but the Rockwell Automation team guided us every step of the way.”

And they still are. The team embedded an asset management professional (AMP) in the Etowah, Tenn. plant for the following year. The AMP assists Johns Manville in properly disposing of the excess and obsolete inventory. He is also creating a repair program, processing all MRO repairs, implementing an MRO warranty-tracking program and, perhaps most importantly, bringing employees up to speed on the new storeroom processes.

“Rockwell Automation delivered and continues to deliver everything they promised. They did it in a way that made working with them extremely easy. If I ever had another storeroom like this, I’d turn to them in a heartbeat,” McGeachy said.

The results mentioned above are specific to Johns Manville’s use of Rockwell Automation products and services in conjunction with other products. Specific results may vary for other customers.

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