

DCSOLUTIONS



By Amanda Loudin

Room to Grow

A new super-sized DC was just the ticket to keep one textile company growing.

At a time when many American manufacturers have moved their entire operations overseas, American Textile Company, located in Pittsburgh, remains a home-grown company steeped in tradition. With more than 75 years in business, the company is a leading maker of private-label mattress and pillow covers. But even with its long history, American Textile keeps its eyes squarely on the future.

This forward-looking approach is what led the company to overhaul its distribution centers over the past few years. While the project was major — it involved consolidating two antiquated facilities into one large new one — it has allowed the company to forge ahead and accommodate rapid growth.

Today, following more than two years of design, construction, and hard work, the new 106,000-square foot DC has enabled American Textile to achieve unprecedented volumes and improvements. With the new storage and throughput capacity alone, the company can accommodate a 200-percent increase in business volume without further expansion.

American Textile is a family-owned business known for its innovative

approach to textile manufacturing. The company was the first to develop polyester and cotton blend mattress and pillow protectors, and has earned a leading role in the manufacture and distribution of allergen barrier products.

The products developed by American Textile have such a loyal following that in the late 1990s, the company began to experience explosive growth. To manage this growth and move into the future, American Textile sought the assistance of Kom International, a supply chain consultancy based in Montreal, Quebec.

Decades Past Their Prime

When Charles Fallon, project manager at Kom, first surveyed the American Textile warehouses, he knew he had his work cut out for him. "American Textile was growing too large and too complex for its current facilities," he explains. "The warehouses were decades past their prime."

What Fallon found were two multi-level warehouses that had been around since American Textile's early years. There were virtually no dock doors and freight elevators were used between levels within the main DC, causing bottlenecks. Further bottlenecks arose when

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workers shuttled product between buildings as well. The flow of goods was less than ideal.

Compounding the problem was the fact that American Textile has some of the most demanding retail customers in the nation, including Wal-Mart, Target, and Sears. "American Textile was importing containers from foreign suppliers and shipping out to these big retailers," says Fallon. "It was handling products far too many times."

While it was clear that a new facility was in order, determining just how big it should be and where to locate it was another issue. "Trying to predict our requirements a couple years out was tricky," says Lance Ruttenberg, executive vice president of operations at American Textile. "We needed a system that would allow for growth and be flexible. This had to be factored into our design."

Kom began the project by going through American Textile's data files. "We had to quantify its operations," says Fallon, "so we could determine what kind of storage, labor, and other components were necessary."

Finding Flat Land

After consulting with American Textile and poring through its files, Kom recommended a 106,000-square-foot facility with a 26-foot clear stacking height, located on a site with the

potential to handle double the DC's footprint in the future, if necessary.

"Selecting the site took quite a while," recalls Ruttenberg. "Pittsburgh is hilly, so finding eight to 10 acres of flat land close to downtown was tough."

The companies found the right site, however, and launched a two-year construction project. They specified the new facility to include a 70-foot deep dock for outbound load staging and inbound inspection and staging.

Another challenge was that American Textile sold its old buildings and faced a time limit for when it had to move into the new DC. "We had to work within those constraints, but we had planned sufficiently, so it didn't turn out to be as difficult as we had anticipated," Ruttenberg says.

Work in Progress

When it came to designing the DC's layout, flexibility was always the main objective. "We asked a series of 'what-ifs' when we were designing," says Fallon. "For instance, what if American Textile had to split-case pick every case it received?" The result is a layout and equipment designed for modifications on short notice, if need be.

"Like many companies, 80 percent of our business goes to 40 or 50 customers," says Ruttenberg. "The other 20 percent is spread out among another 500." That means flexibility is essential.

When products arrive from overseas, they are immediately put away into double-deep racking systems. "American Textile keeps two-and-a-half months worth of supply on hand, with limited SKUs. That volume lends itself to high density storage," says Fallon.

Employees put products away in sites nearest to their picking locations. "If the pick locations fall below a minimum amount, we bring in more product to the racks," Ruttenberg explains.

Kom designed the facility so it has a mix of slot types based on product velocity. This creates an optimal balance between the shortest pick path possible and minimal replenishment activity.

Workers pick product to a conveyor belt from five pick modules. "We recommended five pick lines at ground level, but the facility could support five more lines on each of two mezzanine levels if necessary, for a total of 15 lines," says Fallon.

By using a pick-to-belt approach, the DC can also operate all functions simultaneously, something that couldn't be accomplished with conventional picking methods. In addition, pick-to-belt allows for advanced sortation operations if they are needed in the future.

After orders are picked, they are automatically sorted. "Our staff builds pallets for outbound, stages them, then

sends them out the same doors they came in," says Ruttenberg.

American Textile was able to bring some of its existing material handling equipment over from the old DCs to the new. It did, however, add several reach trucks to accommodate the new ceiling heights and subsequent higher racks.

Command central for American Textile is an ERP system that has been modified for the DC. "When we moved into the new DC, we had to make between six and eight adjustments to the ERP to accommodate our new operations," says Ruttenberg.

A new Warehouse Management System (WMS) will soon replace the ERP system. "We wanted to invest in capital equipment first," says Ruttenberg. "We'll be going with a new WMS in the near future."

Results Tell the Story

The new DC has accomplished American Textile and Kom's main objective — allowing the company's DC to keep up with explosive growth, while providing for future growth as well. The results speak for themselves:

- A 500-percent increase in dock staging capacity.
- Improved order turnaround.
- Order selection productivity increases of 100 percent.
- Putaway and replenishment pro-

**In the old buildings,
American Textile
processed 15,000
cartons weekly and
moved 16 cases per
hour. Now it processes
33,000 cartons
weekly and moves
50 cases per hour.**

ductivity increases of 50 percent.

- A 50-percent targeted cut in distribution costs.

A quick before-and-after shot also speaks volumes: In the old buildings, American Textile processed 15,000 cartons per week. Today that number is close to 33,000 per week. The old DCs allowed the company to move 16 cases per hour; today that number is 50 per hour.

In addition, the company was able to pull off its transition to the new facility without any interruption to customer service.

Even with these stellar results, the new DC didn't come without a few

speed bumps along the way. "This type of project is very complicated and involves everyone in the DC," says Fallon. "A culture shock comes with this type of move, but the company has handled it seamlessly.

"American Textile was experiencing rapid growth throughout the entire process, adding accounts and products," he adds. "Because we had a two-year lapse between design and move-in, we had to periodically revisit the design plans to see how ongoing changes would affect them."

If he had it to do again, Ruttenberg says he'd make the new distribution center even larger. "We used conservative estimates when we designed the building," he says. "We've actually exceeded our growth plans and we've been amazed at how quickly we've filled the space."

Even so, Ruttenberg considers the project an overwhelming success. "There are two ways to measure the project," he says. "One is, where would we be without it? We would have needed 35 more people, which would have cost us approximately one million dollars more.

"The other way to look at it is what we have achieved. We're already halfway to meeting the goals we set in primary transactions such as picking and receiving," he says. "We're very excited about what we're accomplishing." ■