

RESULTS: LEAN MANUFACTURING

TEAM BASED APPROACH HELPS TEKOR APEX INC. REDUCE DOWNTIME

COMPANY PROFILE

Technical innovation and quality products have always been at the core of Teknor Apex Company, an international custom compounder of advanced polymer materials. The Pawtucket, RI-based company started as a tire sales and recapping business in the early 1920s and has since transitioned its business several times to reflect economic changes and market demand. Today Teknor Apex has seven business units producing advanced polymer materials focused on vinyl, thermoplastic elastomers, engineered thermoplastics, bioplastics and colorants in nine facilities in the U.S. and other international locations,

SITUATION

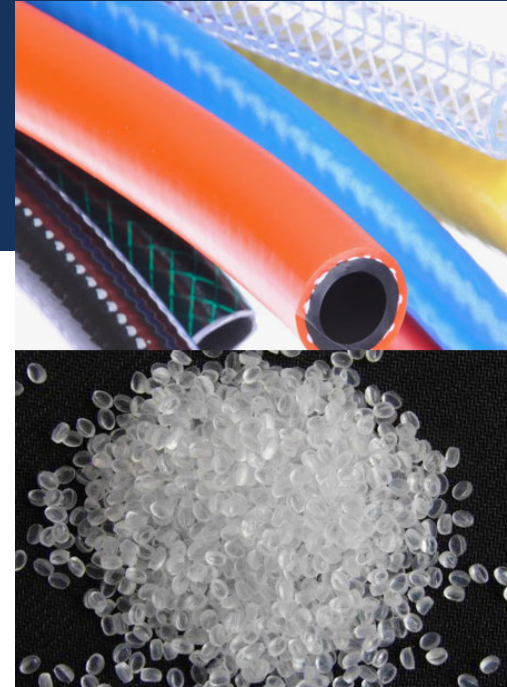
Things have shifted for Teknor Apex since the two key drivers behind the company's business are the housing and automotive industries. "The common comment in the plant was if GM sells a car, we will make something," said Teknor Apex's Rhode Island Plant Manager, Chris ReCasino. When auto markets were crashing, Teknor recognized it had to take a hard look at its business. Teknor's senior management team realized years ago that productivity gains were falling below expectations and began seeking proven methods of continuous improvement. Executives recognized one of the major problems was machine downtime. Downtime for manufacturers occurs when employees need to changeover the machine to manufacture a different product or to provide maintenance to the machine. The goal was to increase productivity through reduced downtime and overall, reduce conversion costs. It was not, however, going to be an easy challenge.

SOLUTION

Polaris MEP leveraged grant funding from their partner, Rhode Island Economic Development Corporation. We recommended Lean Manufacturing, a system which helps a company produce more with existing resources by eliminating non-value added activities. One piece of Lean Manufacturing is 5S, a basic systematic approach to improve workplace organization, standardization and safety. Polaris MEP consultant Don Nester and the Steering Team at Teknor put together four teams in just over a year in hopes of empowering employees to help get rid of non-value added waste and to create positive change. "(Polaris MEP) was one of the facilitators at the team meetings and they helped us assess our early stages of success or failure during steering committee meetings," ReCasino said. "They helped us create the hands-off management idea and let the machine operators and hourly employees make suggestions."

One of the biggest changes after implementing Polaris MEP's system was in Teknor's Maintenance Department. Before Polaris MEP came in Teknor's Maintenance Department was located nearly 500 feet away from its manufacturing operation facility. It took 15 minutes of walking time to get to the site that required maintenance. Getting to the parts required an additional 15-minute walk back to the shop for parts and tools. "We were a fairly large operation at one time and it made sense at the time," ReCasino said. "But maintenance should be in the heart of manufacturing." After assessing its location and using a "spaghetti diagram" to study work patterns, the Maintenance Team recommended to management a relocation of some of the key maintenance operations.

Teknor moved the maintenance shop and put it in the middle of the factory floor. The average downtime in 2007 was 1332 hours. By 2008, it was 985 hours and this year the company's downtime for maintenance is down to 788 hours. Product line changeover processes were also modified. The process, on average, takes between 16 and 20 hours, with a changeover occurring six or seven times per month, according to ReCasino. "If the average process was 18 hours, we brought it down to 14," he said. "And with teamwork we had it down to 12 hours."



IMPACTS



Approximately **\$39,000**
in cost savings due to decreased
downtime



changeover time decreased
from four hours to
2.5 hours on average.



Physical Testing lab experienced
a **10%** increase in productivity
and a **5%** reduction in
sample turnaround time

Read the full Success Story at

<https://bit.ly/3kfy5Le>



“They are all very professional people at Polaris MEP, Don Nester is the most familiar with our business because he came from a chemical business so there was an immediate buy in. He has been the essential piece in making sure we are using the same tools and being consistent.”

Chris ReCasino

Rhode Island Plant Manager



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