Lou-Rich in reduces VOCs by implementing powder coating!

"This company values keeping and maintaining compliance and preservation of the environment."
-Laverne Schroeder, Lou-Rich Safety/Environmental Coordinator

Background:
Lou-Rich Machine Tool, Inc. was founded in 1972 by Louis Larson and Richard Ackland in Hayward Minnesota. Their headquarters moved to Albert Lea in 1989. The company does contract engineering and manufacturing and offers services in mechanical assembly, medical device manufacturing, lean manufacturing solutions, and custom aluminum extrusions. They "strive to deliver competitive advantages that help you unlock value and outperform your competition."

Process:
Lou-Rich uses a paint line to coat the parts they produce. Historically, their paint line has used only liquid paint in their paint booth which was built in 1941. In 2009, the company decided to upgrade their painting system, installing a line that can use both powder and liquid paint.

Motivation:
Lou-Rich was motivated to install a new paint line by the desire to replace old equipment, improve efficiency, increase capacity, and to reduce pollution. Powder coating lines are known to have high transfer efficiencies because the coatings are applied electrostatically, and excess powder can be reclaimed and reused. The powder coating process also produces very few emissions, due to the powder being solid, and having negligible VOC content. Additionally, the new paint system was able to be built beside the old one, allowing for nearly zero downtime during the transition between systems.

Results:
The new line can powder coat parts, but retains the ability to apply liquid coatings to meet specific customer requirements. The new system has a throughput potential of 48,000 pounds of product per hour, compared to the 21,000 pounds of product per hour capacity of the old line. Lou-Rich does not reclaim powder because they have small production runs and change colors often, but they have noticed other benefits to powder coating. They see fewer defects and less rework in their powder coated parts. They have also noticed less training time required to achieve proficiency in powder coating versus liquid painting. Additionally, powder coating is tough, resulting in fewer damaged surfaces during assembly operations when compared to parts with liquid coatings. The ability to powder coat parts, as well as the increased efficiency of the more advanced liquid paint booth has resulted in VOC reductions of 86% since 2008. Additionally, total toluene waste has decreased enough to make TRI (Toxic Release Inventory) reporting of toluene unnecessary at Lou-Rich in Albert Lea as a result of this powder coating system.

YEAR	VOC (LB)
2008	49,740
2011	7,172
% REDUCTION	85.6 %