Integrating Pollution Prevention, Pollution Control & Energy Efficiency In Surface Finishing through Process Modeling & Engineering Analysis

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Surface finishing facilities are complex operations. Changes in a single process can significantly improve or disrupt integrated processes. Facility optimization requires a comprehensive analytical approach because the number of variables (process chemistries, water sources, rinsing, solution maintenance, wastewater treatment and recycling, drag-in and drag-out control, etc.) to be optimized in this kind of integrated facility are overwhelming. Opportunities for the optimization of surface finishing processes and facilities are numerous and synergistic, however, the lack of tools to facilitate complex modeling and analysis of alternatives has hindered integrated planning of pollution prevention, pollution control, energy efficiency and production improvements. Recent aerospace industry projects will highlight a new approach to surface finishing facility optimization planning, utilizing a combination of software modeling and engineering analysis.

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