

Reuse and Recycling of Finishing Materials

There are many opportunities for the recycling of finishing materials. Recycling reduces the amount of waste to be treated and disposed of, and the associated disposal and compliance costs. It also reduces the amount of new materials needed.

Some ideas for recycling include:

- ! extend solvent life by settling, filtration of solids, and using for jobs not requiring virgin solvent (e.g., rough cleaning)
- ! distill solvents, either on-site or off-site
- ! collect and reuse staining operations overspray
- ! capture overspray in the spray booth wash water and returning both the coating material and the wash water back to the process (coating material that is immiscible in water can be separated from the booth water wall by settling and ultrafiltration)
- ! reuse clean-up solvents or solvent sludge for coating secondary surfaces, where appearance is not a factor
- ! exchange wastes with other companies

Thomson Crown Wood Products Case Study

Mocksville, North Carolina

Thomson Crown previously disposed of its wet spray booth wastewater as hazardous waste. The company started a system to separate paint solid from the wash water and recycle the water back to the spray booth. The change reduced hazardous waste disposal costs by \$92,500.

Ethan Allen Furniture Case Study

Old Fort, North Carolina

A solvent unit was installed to recover solvents and reduce hazardous waste generation. A seven gallon batch still, which is run twice daily, recovers 5 gallons of reusable solvent for every 7 gallons of cleanup waste.

Cost: \$4500, Waste Reduction: 1900 lbs. per year, Savings: \$3200 per year

Medallion Kitchens Case Study Waconia, Minnesota

Medallion Kitchens manufactures kitchen cabinets and bathroom vanities. The company's desire was to reduce raw material costs, reduce VOC emissions, minimize hazardous waste disposal costs and associated liabilities, and decrease labor costs. Overspray from sealer and topcoat applications was a problem. About 75 gallons of sealer was used per day and 50 gallons of hazardous waste sludge was generated per day.

The company invested in a reclamation system for sealer. The system consists of two holding reservoirs and some minor plumbing. The system is designed to catch most of the overspray before it falls into the wash water tank. A cooling water system is applied to the collection trays to minimize solvent evaporation, collected material is agitated to prevent "skinning", the reclamation trays are removed and replaced easily, and a non-stick coating is applied to the collection trays. After about 5 gallons of overspray is collected, the overspray is removed and solvent and catalyst is added to the material to obtain the desired coating properties. It is then added back to the spray system to be reused.

The system cost about \$2500 per installed booth. Savings include \$23,000 annually from reduced material usage. Waste sludge has been reduced from 50 to 25 gallons per day, saving the company \$30,000.