

peeling. These defects can result in rejects and waste. Proper coatings preparation includes:

- ! always adding reducer to the material versus material to the reducer
- ! add reducer to the material slowly and test often to determine when you have reached the desired mixture
- ! test for complete mixing by sampling the top and the bottom layers of the mixture and placing each on separate pieces of glass to observe and compare color and rate of flow
- ! mix materials thoroughly before use and during use to maintain the desired uniformity
- ! keep tanks covered to prevent evaporative losses and contamination of the contents
- ! for continuous coating systems, monitor the viscosity of the coating in the reservoir so that the amount of solvent added is not excessive

### Direct Delivery of Coating to Spray Gun

Direct delivery of the coating material to the spray gun or application device instead of indirect transfer (e.g., filling an interim container from a drum or tank, transporting the container to the work area, transferring the coating material from the interim container to the spray gun or application device reservoir) can provide benefits and savings.

There are three types of direct transfer systems:

1. Dead-end delivery supplies materials that do not have settling problems to the application, without a return line.
2. Simple flow delivery provides continuous circulation back to the storage tank through a return line which prevents settling in the storage tank.
3. Recirculating delivery circulates the material throughout the system, including in the hose of the spray gun, to prevent settling of materials with high settling rate. This is especially useful when using preheaters with high solid coatings in order to maintain viscosity level.

### Benefits

- ! volume cost discounts for bulk coating purchases
- ! less waste from: spills during transfer, container residues, and evaporative losses
- ! less employee exposure to hazardous chemicals
- ! better finish quality through uniform material consistency

### **Ethan Allen Furniture Case Study**

*Old Fort, North Carolina*

**1-Cardboard filters that were used for all coating operations were replaced with metal filters. The cardboard filters were disposed of as waste, while the metal filters are cleaned in a solvent tank. The waste solvent / coating mix is distilled and the overspray is drummed for disposal, while the solvent is reused. The metal filters used for capturing lacquer and sealer overspray are wiped by hand and the dust is sent off-site for recycling.**

**Cost: \$57,000, Waste Reduction: 10,000 lbs. per year, Savings: \$48,125.**

**2-A fabricated, sloped polyethylene trough replaced absorbent and wood shavings to catch coating. The overspray is squeegeed from the trough into a pan for disposal eliminating the absorbent as a waste material.**

**Cost: \$400, Waste Reduction: 6100 lbs. per year, Savings: \$38,430.**

**3-Polyethylene covers replaced cardboard covers for the pallets that transferred products through coating operations. The overspray is peeled off the pallet cover and drummed for disposal and the covers reused.**

**Cost: \$2050, Waste Reduction: 3700 lbs. per year, Savings: \$7450**

**4-Racks used to transport product are now cleaned of overspray periodically by the watchman during his free time. The racks can be reused instead of disposed of as hazardous waste.**

**Cost: \$200, Waste Reduction: 1900 lbs. per year, Savings: \$8250.**