

Operation And Maintenance:

Train Equipment Operators

Formal operator training is essential to successful waste reduction and should include:

- ! communication of safety and health, quality, productivity, waste reduction and energy conservation goals and expectations, and how this will help the company and the operators
- ! use of equipment in accordance with the manufacturer's specifications such as utilizing proper spray gun air or fluid pressures, coating concentrations and flow rates, care and maintenance
- ! proper spray technique fundamentals such as:
 - 50 percent overlap of the spray pattern
 - spray gun held six to eight inches away from the workpiece
 - holding the spray gun perpendicular to the workpiece surface
 - triggering the gun at the beginning and ending of each pass
 - maintaining a consistent gun speed (general rule approximately 250 fpm)
- ! safety and health hazards associated with the equipment and materials and how to protect themselves, prevent accidents and environmental incidents

Some companies periodically videotape their operators so that the operators can critique themselves and point out where improvements are necessary (see the Case Study below).

Benefits

When finishing operators are properly trained, they can:

- ! reduce material costs
- ! achieve a higher quality finish
- ! reduce wastes and VOC emissions
- ! improve productivity
- ! improve work place safety
- ! reduce incidence of injury (e.g., carpal tunnel syndrome) through ergonomic improvements

Cautions

- ! informal training by other operators can continue bad habits
- ! infrequent or inappropriate training for the equipment or the coating type will not help

Prepare Coatings Properly

Proper coating material preparation can impact the amounts of material used and wasted. For example, too much thinning or reduction can cause running and sagging, while too little reduction can cause defects such as orange

Ethan Allen Furniture Case Study
Old Fort, North Carolina

Ethan Allen has a training program for spray operators that utilizes video taping as a operator training tool. The training consists of three stages:

1-Operators are video taped while performing their job (it is important to communicate the purpose of the taping to the operators before video taping starts so that there are no misunderstandings).

2-The operators in groups of three along with their supervisors and technical personnel, review the tapes in one hour sessions in order to identify ways to improve. Instruction on spray techniques is provided during the session and follow-up is provided during production on the manufacturing floor.

3-The operators are taped again and given a chance to compare the tapes and observe the improvements.

The training is conducted twice a year and equipment and coating suppliers provide technical assistance. The company projects saving \$50,000 to \$70,000 annually as a result of 8 - 10 percent savings in material usage. Wastes and VOC emissions are also reduced.

Source: Case Study: Ethan Allen, Inc., North Carolina Waste Reduction Resource Center, December 1993.