

'Greening up' your finishing department

Reclaiming has environmental, economic advantages



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WHAT OPTIONS ARE AVAILABLE TO MANUFACTURERS LOOKING TO "GREEN UP" THEIR FINISHING DEPARTMENT? CAN THESE OPTIONS BE INTEGRATED INTO AN EXISTING FINISHING SETUP?

Many options are available in today's market to green up the finishing department. These options include the more obvious choices such as moving from air spray to HVLP, airless to air-assist airless, using low or zero VOC materials, or switching to a UV cure material. A secondary option often overlooked is using heaters to lower the viscosity of the coating being applied instead of reducing it with solvents. Assuming you are being supplied with a controlled viscosity coating, this not only eliminates the solvent but gives you consistent day-to-day viscosity. In automatic lineal or flat-lines, it is important to have systems that give you finite gun control. Finite gun control allows us to furnish automatic fan spray adjustment, remote fluid pressure adjustment, and remote atomizing regulation to assure maximum transfer

efficiency based on the part profiles you are running.

In many cases these options may be easily implemented into existing systems. However, the more sophisticated gun adjusting systems for existing flat-lines, etc. may not be easily updated in the field.

WHAT ARE THE BENEFITS OF RECLAIMING MATERIALS? ARE THERE REASONS/ARGUMENTS AGAINST USING RECLAIMED MATERIALS?

The most obvious benefit is that you are able to use 90 percent-plus of the material sprayed depending on the capture system employed and the reclaim system implemented. In addition to the dollars saved from using what would be wasted material, you realize the savings of reduced disposal cost of that wasted overspray material. Additional savings are realized in reductions in replacement paint filters, the labor cost associated with the filter replacement, and the disposal of the dirty filters.

The biggest argument against using a reclaimed finish is the properties of the reclaimed product are typically never equal to the virgin finish. Most coatings include many different solvent blends that are hard to replace in exact amounts in the field. This causes varied flow-out, drying profiles, adhesion and other undesired coating characteristics in some cases. The best advice is to work closely with your coating supplier and to mix small volumes of reclaim to virgin material to keep these problems to a minimum. This highlights the importance of good first pass transfer efficiency to keep the reclaim volume as low as possible.

DOES ONE TYPE OF CURING OVEN/METHOD HAVE BETTER ENVIRONMENTAL BENEFITS OVER OTHER OPTIONS? WHY OR WHY NOT?

When it comes to wood finishing, Deimco Finishing Equipment has done exhaustive research and testing on a very wide variety of wood substrates and wood finishes. A combination IR and convection oven has proven without a doubt to be the superior choice for lineal and flat-line systems that apply non-UV coatings. Major benefits include a considerably smaller footprint and the ability to stack, wrap and ship finished product directly off the line resulting in substantial inventory, footprint, labor, energy and time savings.

From an environmental aspect, the combination IR and convection oven has several advantages. First, an infrared heat source is most energy-efficient since it does not waste Btu to heat the entire substrate or the surrounding air. Secondly, in typical wood finishing systems you can control electric infrared emitters in the combination oven much more precisely than gas-fired infrared emitters. The combination electric infrared and convection ovens require no utility except electricity, and they have no byproducts of combustion (no NOx or SOx). Finite controls that Deimco builds into a combination IR/convection oven allows the fastest cure times while closely controlling substrate temperatures to avoid pitch bleeding and coating failure. Finally, the combination electric IR and convection oven can handle the varying cure requirements of a multitude of coatings ranging from water-based material, polyurethane, pre-cat varnish, lacquers, to the more obscure coatings that include tung oil, linseed oil and others. Each coating will have different combinations of energy and air distribution to meet the optimum cure profile. The combination electric IR and convection oven is manufactured to flexibly address these differing requirements.