

# Automated Building Components (ABC) – Millwork found **ADVANTAGES** in Waterbourne **UV** cure coatings

With an increase in business came the need for change



**ABC Millwork is** one of the largest suppliers to professional contractors of pre-finished mouldings and doors in the Twin City area. They have been serving in the Minneapolis/St. Paul construction industry since 1980.

With over 25 years of providing creative millwork products and services, ABC Millwork is dedicated to providing professional builders with the right product at the right time. By design, the builders establish the standards of quality and service for the company. In turn, ABC's responsibility to them is to maintain flexibility and innovation in products and services. They pledge to their customers that products will arrive "100 per cent complete and on time."

ABC Millwork has historically stayed on the cutting edge of providing custom finished products to the industry. Many interior finishing operations in Minnesota use standard wood finishing methods and products, often harmful to the environment. In 1994, ABC Millwork switched to a more environmentally friendly process and was acknowledged by the Minnesota Pollution Control Agency (MPCA). The change resulted in a 94 per cent reduction in Volatile Organic Compound (VOC) emissions and virtual elimination of hazardous wastes. As a result, in 1997, ABC Millwork received the Governor's Award for "Excellence in Waste & Pollution Prevention."

With their recent increase in business, ABC realized that to continue to offer the "100 per cent complete and on time" pledge they would need to make a major change in their finishing line.

Randy Stresemann, ABC's Production Coordinator, realized the need to streamline product flow and implement some "lean manufacturing" principles. To accomplish this he knew he would need to rethink his entire finishing process, as well as the coatings he was using. He was also interested in simultaneously improving the quality of his product when these changes were initiated.

## FLATLINE FINISHING



Stresemann first began by investigating UV coatings with the help of his current material supplier, Ceramic Industrial Coating. He wanted to continue in his company's tradition for being environmentally friendly. Many of the UV coating selections did not appeal to him for various reasons of odor, cost and appearance.

The more he researched, the more he liked the advantages of the waterborne UV cured coatings, such as:

- Safer to handle,
- Excellent stacking qualities,
- Exceptionally durable surfaces, and
- Split second curing after water removal.

Waterborne UV cured coatings also had advantages in the production environment. Finishing and other line equipment could be cleaned with water that is then recycled back into the production process. The waterborne coatings also create a safer working environment because they minimize the risk of skin irritations and allergies.

Stresemann narrowed his search to a Becker- Acroma waterborne UV cure product. The selection made combines UV technology with the application flexibility of waterborne technology. The finish and surfaces possible with this coating are on a par with conventional finishing techniques. Becker Acroma is based in Brantford, ON, Canada.

As the final decision was being made on coating selection, ABC hired an Operations Manager with extensive finishing experience. Joe Schaefer's first responsibility was to establish the system specifications to provide the maximum output with the highest possible product quality, yet still keep the flexibility needed in a custom pre-finish operation.

After extensive evaluations of several equipment suppliers the decision was made to use Deimco Finishing Equipment, Tama, IA. Deimco showed the most versatility, was well versed in "lean manufacturing", and the equipment was made in the USA. Deimco equipment had been used at ABC since 1996 and had served them well.

The final equipment layout provided for:

- Pre-sand
- Stain Finishing Machine w/Auto Color Change

- Wipe
- In-line IR/Air Flash
- Sealer Finishing Machine
- 18 ft Side Transfer System
- Combination IR/Convection Oven
- Automatic Transfer Off
- Seal Coat Sand De-Nibber
- Water-based UV Finishing Machine
- 18 ft Side Transfer System
- Combination IR/Convection Oven
- Automatic Transfer Off
- UV Cure Oven
- 18 ft Side Transfer System With accumulation & Package Area

With the wide range of color options offered and high production output, it was essential that a fast automatic color change system as offered on the Deimco stain machine be incorporated into the system. As ABC completes all the trim profiles for one job, the quick color change enables them to begin finishing the next job in a matter of seconds. ABC can now offer to finish almost any interior wood or composite millwork product in-house.

The key to making the system work in a reasonable time was the Combination IR/Convection Oven with focused wavelength IR and precision designed air flow. These dual features allow the combination oven to expel water from the substrate without overheating the substrate itself or prematurely curing the surface. The same oven technology has been used by Deimco recently to reduce "Mill-treat" cure cycles from days to minutes at a prominent window manufacture.

The transfers utilized in the system have several features that allow very narrow mouldings to be transferred without the typical rolling of parts seen in pop-up style transfers. The smooth action and straight-up lift allows parts to be transferred side by side.

ABC Millwork offers quick delivery of windows, exterior and interior door systems, stair parts, specialty items, closet systems and builders' hardware, as well as a wide range of solid wood mouldings in oak, maple, cherry and pine. 

*Information for this case study was provided by Marv Cooley of Deimco.*