

Planning

Performance

Partnerships

KOCH/ASHDEE Curtain Coater Fits Kimball's Need for Quality, Throughput, Uptime Performance

- Fully automated
- Virtually 100% transfer efficiency
- 10,000 parts per shift
- 40% estimated savings on coating material

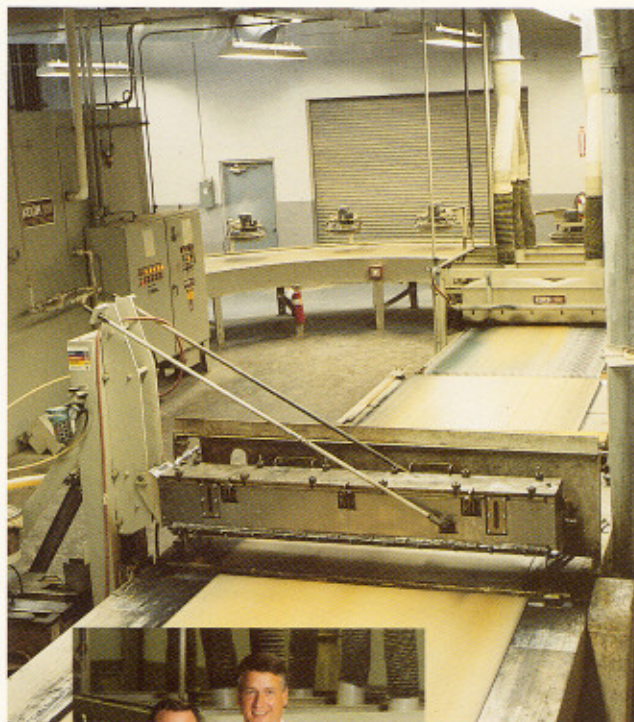
Salem, IN. Kimball Office Furniture is a world leader in case goods manufacturing. Its 335,000 sq. ft. Salem facility, one of the company's largest, manufactures office furniture for distribution worldwide.

Plant Manager Bob Strange, a 35-year Kimball veteran, was involved in every facet of the plant's construction, from layout to material handling to the selection of finishing equipment.

"The selection of finishing systems," says Strange, "was made early—before the building was complete."

The reasons were twofold. "We wanted time to carefully consider all of our options in terms of how the system would be configured and how it would integrate with other equipment.

"Also, our products are judged by the finish on the wood. By allowing a comfortable lead time, we believed we could achieve the highest quality in the industry, while planning for developments that would impact us in the future."



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Planning for Tomorrow

What Strange forecast, long before it became reality, was a significant tightening of regulations regarding solids, VOCs, wastewater, particulate and more. "We believed that regulations still in the proposal stages could significantly affect our costs, our competitive position, and perhaps even reduce our production volume."

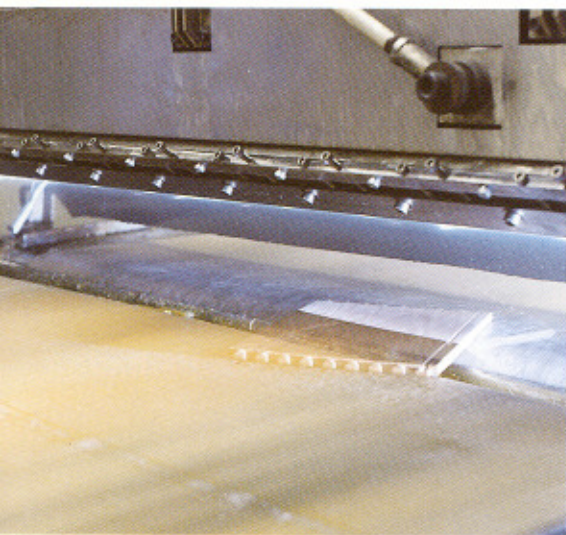
Strange wanted nothing to do with factors that could limit output. "We committed to begin production within 30 days of occupancy—and to move full speed ahead from that time on. Anything that would hinder us couldn't be part of the plan."

Equipment Selection

For the application of catalyzed lacquers, Kimball selected three finishing systems engineered and manufactured by George Koch Sons: one single cycle, in-floor system and two double cycle, in-floor systems. The fourth requirement was for a flat line system to coat drawer parts for all furniture manufactured at Salem, as well as Kimball plants in Borden and Jasper, Indiana.

The flatline production specification was for 8,000 parts per shift, with gradual acceleration to 10,000 per shift. At the time, neither Strange nor his management team had direct experience with Curtain Coater technology. "We recognized the advantages of upright transfer, however," says Strange, "and we were doing horizontal roller coating at Jasper. Thus, the operating principles were familiar to all of us."

After detailed discussions regarding competitive systems, Kimball selected a KOCH/ASHDEE Curtain Coater, Model 160.



As originally engineered, the system applied a "no-wipe" stain via 16 rotary spray guns engineered by George Koch Sons. A modified catalyzed sealer and topcoat were applied via curtain-coating.

Within a year, marketing data showed a shift in consumers' attitudes. Explains Strange, "Customers no longer perceived a benefit from the different colors those no-wipe stains provided, so Kimball eliminated this step. This also allowed us to reduce VOCs."

Maintenance

The Curtain Coater has run production—now at 10,000 parts per shift—since 1987 without unscheduled downtime. Routine, operational maintenance, ("What I'd call first-echelon maintenance," says Strange,) is performed continuously to assure highest application repeatability. Preventive maintenance ("sharpening the doctor knife and doing electrical checks") is scheduled weekly.

Reservoirs and knives are cleaned daily when the coating material is removed and refrigerated in order to maximize its pot life.

Cost Savings

The KOCH/ASHDEE Curtain Coater saves Kimball approximately 40% on material cost. According to Strange, the most efficient spray application would have provided a transfer efficiency of 45%; Kimball consistently achieves 90% or better given the same mil thickness.

The KOCH/ASHDEE system has other benefits as well. It is fully automated and requires no operator involvement. And, it is flexible enough to precisely coat the 600 different components Kimball required without changes in system set points. While Kimball has since streamlined that requirement to 350 components, the Curtain Coater's versatility is regarded as a valuable asset as the furniture giant plans future production.

"We team-engineered this system to fit Kimball's needs, **not** the other way around," says Strange.

"We see flat line finishing—and curtain coating—as an important part of our corporate future."



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