A work in progress

International Paper's new label plant in Bowling Green, KY, targets the food industry, with an eye on being world's largest.

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In the 1960s, Andy Warhol recognized the familiar red-and-white Campbell's soup label as an American icon. It embodied tradition, familiarity, wholesomeness.

What the 1990s have brought is a recognition that labels can also determine profitability. Consumers may tune out a familiar motif and be drawn to a creatively designed package.

Labels must also carry information. In the case of food, that includes what's inside the package, the ingredients, nutritional information, instructions on preparation, a barcode, and sometimes even a recipe.

It's a lot to ask of a small sheet of paper.

IP's Bowling Green, KY, label plant

To help companies make the most of those little pieces of paper, International Paper (IP) has built what's claimed to be the world's largest label plant in Bowling Green, KY. The facility covers 236,000 ft^2 on a 30-acre site. Construction of the facility began in May of 1992 and was completed a year later, though the plant is planned to continue growing in phases through 1995.

At full capacity, the plant will employ 400 people and be equipped with seven lithographic presses and four flexographic presses. Initial operations began with three 40-in., eight-color plus coating, sheet-fed, offset Heidelberg lithographic presses. A 51-in., seven-color plus coating MAN Roland litho press was added last fall. Additional litho and flexo presses are planned as well, according to Joe Eudy, production manager.

Campbell Soup, Pillsbury, Ocean Spray, Ragú, Quaker, Dole, and Alpo are among the primary customers for labels produced at the plant. Production ranges from 1-in. x 2-in. bottleneck labels to 36-in. x 78-in. posters on paper, foil, metallized, polycoated, and nonwoven stocks. The plant is designed to produce 50 million labels daily by 1995.

The primary paper for labels is 60-lb, coated one side from IP's paper mill in Moss Point, MS. Additional roll stocks come from the IP mills in Corinth, NY, and Lock Haven, PA, as well as from other companies. The paper is trucked in or delivered by rail, sheeted at the plant, then fed through the presses. A humidity control system throughout the plant eliminates curl problems.

The first three litho presses are all equipped with coaters; two have extended delivery for added drying space. The presses are fully digital. Print speeds are 11,000–13,000 sheets per hour. Ink thickness is checked every few thousand sheets using a scanning densitometer, Eudy said.

The litho presses use soy-based inks. "Soy inks have vapor pressures so low that many states, including Kentucky, do not consider them VOC (volatile organic compound) emission sources," the company reports. By also replacing fountain solutions with low solvent formulations, the plant has kept lithographic press emissions to less than 25% of what they might have been two years earlier.

A critical factor in how well the plant succeeds is its ability to match inks to application and customer specifications. Some colors, such as the red of the Campbell's Soup labels or the greens of the "Jolly Green Giant," must be matched exactly using a spectrophotometer computer. Colors are also tested to see how they look under different lighting conditions. IP provided on-site facilities for its ink supplier, INX, to produce and color-match

A sample of the labels made at Bowling Green

Training on new electronic prepress work station

Printing area at Bowling Green

The Heidelberg Speedmaster litho press

Checking print quality at Bowling Green

Marty Beltowski, INX in-plant manager, checking an ink sample

inks. Grind, tack, fade, color match, and scuff resistance are a few of the variables considered.

Because label design, redesign, and quick turnaround have become so important, the plant includes a first-class prepress business. Equipment includes six Barco work stations and several Macintoshes, plus an IRIS inkjet printer for color proofing, and a Barco film plotter. Plates are exposed on two Krause step-and-repeat machines. The technology—and skilled staff—allows the plant to cut label design and production to a two-week turnaround.

IP hired nearly all of the current 180 employees from the local area. Many have college degrees and most have industrial experience. The company has accepted over 4000 applications to date. The employees were hired in three groups during the first half of 1993. Hiring in groups facilitates team-building and training, Eudy noted.

Potential employees underwent multiple interviews and testing. The selection process included two 4-hour pre-employment training (PET) sessions. Plant managers used the PET sessions to explain the company's vision, goals, and objectives. It also allowed a practical evaluation of how well prospective team members interacted and communicated with each other as they participated in various workshops.

Those applicants who do get hired undergo extensive training in both generic and technical skills. Employees also visit customer plants to become familiar with how their products are used. "We want people to see the business and learn the business," Eudy said.

The plant operates four shifts, seven days a week. IP is implementing a nontraditional work system in which team members are empowered to make decisions. For example, each shift begins with a 25-minute team meeting to discuss projects, schedules, and issues. TJ

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