



Deliberating the processed pulp is accomplished through a slurring procedure underground . . .



. . . and covered in watery sheets through 20 steam-drying barrels



. . . before the dry, pressed form is wound on rolls to be processed, trimmed and shipped

Making paper is like mixing cake batter

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Observer & Eccentric BUSINESS

6D(B,W,T) (F-1C,Ro-3C)

Thursday, September 16, 1976

HIGH-VOLUME paper industries most often use the rag or ground wood method. For many years the rag process utilized actual rag cloth in production, but now makes use of a cotton "linter" operation. When cotton is harvested, the seeds are saved for cotton oil. Oil is extracted through a mashing and pulverizing process, leaving a fibrous lint. Large amounts of the lint are graded, cooked and the remaining pulp is cotton cellulose. The ground-wood method, most familiar of paper-making operations, extracts pulp from trees.

Sheets or flash-dried bulk pulp of chemical content are the only types used in the Rochester plant. Manufactured fibers such as rayon are stocked, as well as the less accessible Algerian prairie grass pulp. Lab experiments test the qualities of each pulp and mixtures of several different kinds.

Paper-making, through any method, is a watery process. Kirkland said. He estimates a discharge of close to 120,000 gallons of water daily from his plant, with more than one million gallons actually used and recycled.

Dried pulp is placed in water tanks for 25-40 minutes, for defiberization. Fibers break down and combine with other pulp types before they are cleaned through refiners, where the proper consistency (solids to water content) is achieved.

The batter-like mixture is then pumped into the paper machine, a combination of holding tank, conveyor belt, drying drums and rolling device.

THE SLURRY, or batter, is at a consistency of two-tenths of one per cent solids to water when the process begins. Molded flat over a mono-filament sheet, the solid is pressed into sheet form, while the largest portion of water is forced out and recovered for further use.

"The paper is still very wet at this point," Kirkland said. "Although it appears to be actual paper, the process is just beginning."

The sheet moves along the filament through a presser, where its thickness is determined. From there it flows through 20 drying drums, each holding 100 pounds of steam pressure, which remove all but 24 per cent of the remaining water.

A beta-ray gauge, part of the firm's con-



. . . while dozens of types of bulk pulp wait, tagged and classified, for recycling in raw material storage rooms.

puterized monitoring system, takes continual readings of the product's thickness, density and fiber content.

The nearly dry paper sheet is then rolled into large containers and transported for testing before shipment.

"Because of the highly technical quality of the product, any product not meeting exact specifications during testing is not shipped," Kirkland said. Instead, the peccadillo is corrected, the batch reshuffled, and the process has begun again.

Standard testing conditions for filtration paper are at 72 degrees fahrenheit, with a relative humidity of 50 per cent, Kirkland said.

A CHEMIST and lab technician put paper samples through rigorous testing of airflow, tensility, strength, porosity, water flow, fire retardant properties and numerous other quality controls. If the sample passes testing, it is sent on to other operations in the plant.

Paper used in the manufacture of oil filters for the automotive industry is covered with a plastic-like resin, which does not alter the paper, but strengthens it. Punch presses and die-cutting machines stamp the filter paper to correct size, generating waste paper that is baled and recycled.

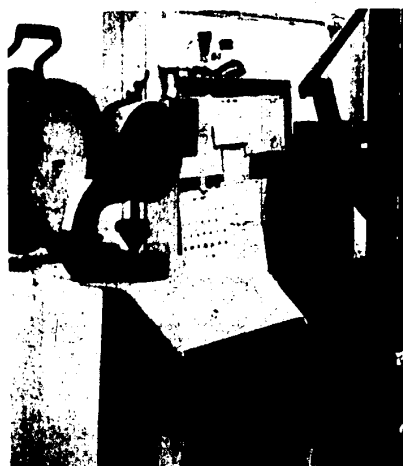
Oil filter paper, which is Rochester Paper Co.'s fastest-moving item, is tested against itself and competition filter papers in the firm's laboratory. The resin coating is constantly checked for its ability to withstand hot oil, its permanency, efficiency and projected life-span.

Originally the site of the Mack Flour Mill, built in 1824, the Mill Street location is accessibility to both Paint Creek and the Clinton River made it a desirable spot for papermaking industries through the years.

The mill continued in paper production from 1827-75, when the entire building was destroyed by fire. A new building was erected on the original stone foundation, constructed of brick and slate, and mill stands, although completely modernized.

The company was sold to King-Seelye Thomas Co. in 1927, after proving from a payroll of 25 in 1925 to nearly 180 in 1926.

At a pace of 200 feet per minute, the magic paper-making machine transforms a gooey tank of fibers into a neat roll of cut and dried products for mass consumption. The plant's single machine, like a culinary artist, precisely mixes the batter, adds the ingredients, molds the shape and forms even the thinnest of "sheetcakes" before cutting it to size with jets of fresh water.



The company's conditioned lab maintains a constant 72 degrees temperature and 50 per cent relative humidity.



Paper tensility, porosity, air flow and numerous other qualities are lab tested by Harvey Vincent of Avon Township.



William Kirkland, plant manager, keeps tabs on the seven-day-a-week, 24-hour-a-day operation.