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## Newsday realizes overall cost savings using Spectra High-Strength inks from US Ink

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High-strength inks for newspapers have been available for many years, but the difference in the price between standard and high-strength inks seemed cost prohibitive for some printers.

A recent study by Newsday in Long Island, N.Y., disputes this widely held misconception and provides greater insight into the overall cost reductions that can be realized by switching to higher-pigmented inks. Improving print quality while achieving significant reductions in newsprint waste is no small task, but that is exactly what Newsday (daily, 577,354; Saturday, 424,318; Sunday, 675,619) accomplished when it switched to US Ink's Spectra High-Strength color inks in January 2000.

The capability of printing with a thinner ink film and using less fountain solution are well-known benefits of using stronger inks, but Newsday discovered cost-saving benefits that are not so well known by employing a comprehensive analytical approach to introducing the high-strength inks into its printing operation.

For example, overall newsprint waste was reduced by 21 percent, and press spoils were reduced by 16 percent (see Fig. 1).

"The most important part of using high-strength inks is that you waste less newsprint and run more efficiently, and you're able to achieve greater levels of

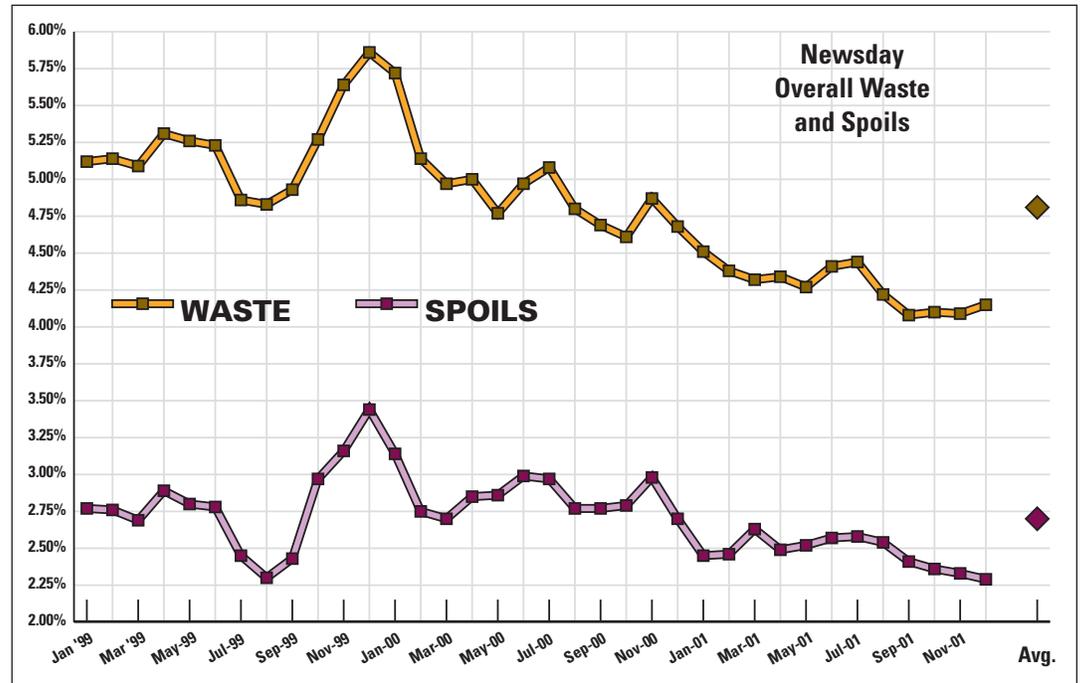


Fig. 1

quality," said Steven Rossignol, manager of production engineering at Newsday.

"Significant reduction of moisture on the running web has a very beneficial effect on overall web quality and condition," Rossignol said. "Less linting increases product quality, less stretch improves imaging and register issues and results in lower web tension requirements that greatly improves web strength."

In fact, Newsday's number of newsprint rolls per break average improved by more than 100 percent following the introduction of the Spectra High-Strength inks (see Fig. 2).

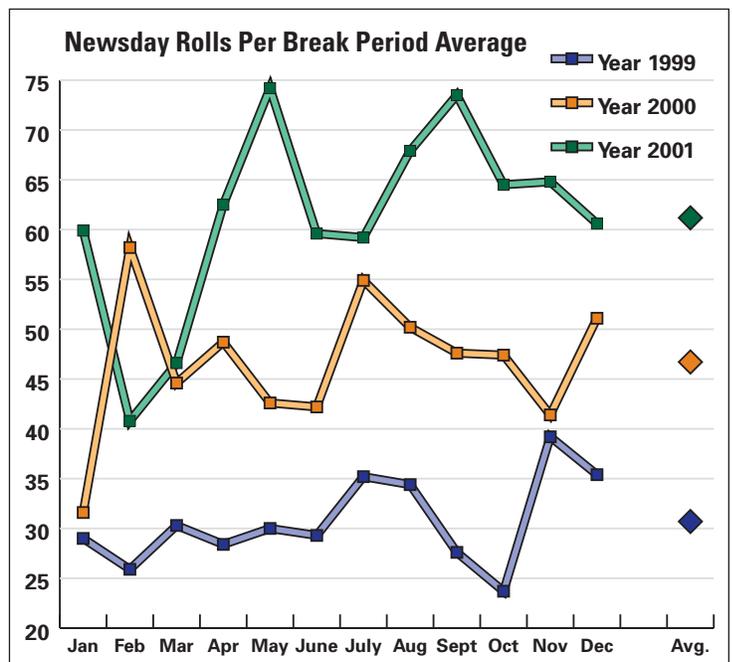


Fig. 2

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“With half as many web breaks, our ‘on-time’ efficiency was greatly improved,” Rossignol said.

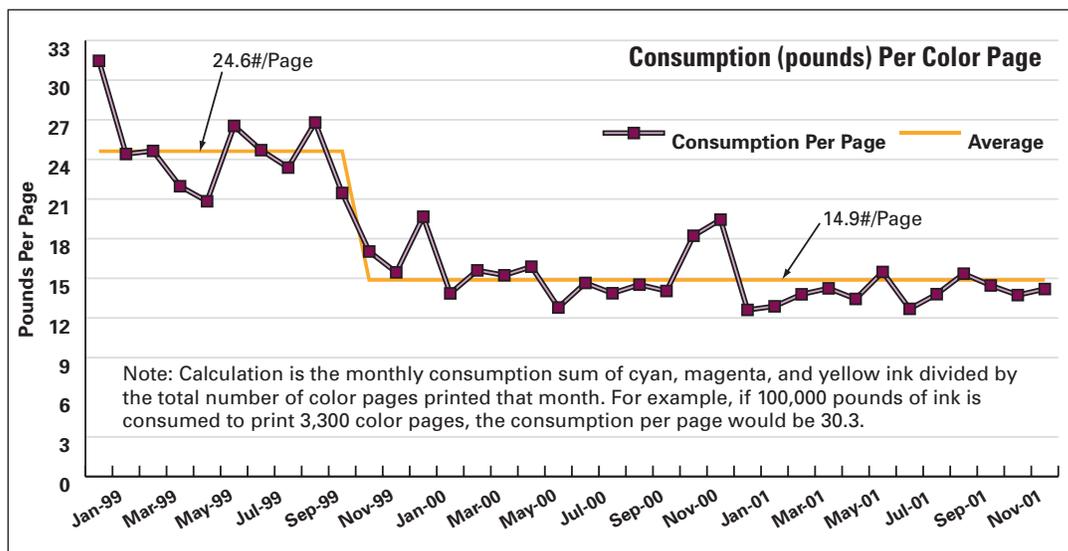
A real misconception about high-strength inks is that they are unaffordable because they cost more pound-for-pound compared to standard inks. Newsday’s study found however, that the extra cost of the ink was partially offset by the fact that you use much less of it, as it requires a much thinner film on the paper. Ink mileage improved substantially, as indicated by the reduction in ink consumption per color page (see Fig. 3).

Newspapers that are using or that are considering testing high-strength inks will be interested in the way Newsday maximized the benefits of using the Spectra High-Strength inks. How did Newsday achieve these results?

The switch at Newsday from regular to high-strength color inks was a process that took more than two years and resulted in a total retooling of many aspects of the pressroom’s approach to printing. The change was taken in two progressive steps — press maintenance and statistical operational control.

Maintenance and process control on the presses was critical to Newsday achieving the desired quality and financial results it desired from using the high-strength inks. Having the proper ink and water balance is crucial when using high-strength inks.

“Correct press settings, such as unit impressions, blanket heights, rubber roller stripes and overall



**Fig. 3**

cleanliness are of paramount importance. [Original equipment manufacturer] specifications must be strictly adhered to and understood by all. Uniformity is essential — from unit to unit and press to press,” Rossignol stated. “What impressed us was the level of balance and consistency that was achieved in the running products between presslines, despite having to run up to 40 process color leads twice daily and to print black densities from 1.00 to 1.05. This was a challenge for us with 10 presslines, but if we can do it, anyone can.”

For standard vs. high-strength inks, the required level of ink film accuracy and control is different. With standard inks, a much greater latitude exists for both the amount of ink and fountain solution that are utilized to obtain proper density and the balance between the two. The control of printing is forgiving should

process control not be in close tolerance. But with high-strength inks, the ink and water balance and the accuracy of the presets are crucial and allow for only a narrow but obtainable window for control. Addressing press maintenance and process control issues was therefore an unavoidable step.

Newsday first reviewed press maintenance in June 1998. The newspaper purchased a computerized maintenance management system to aid with the effort. Then, a complete review was conducted of all press, electrical, and machine shop standard operating procedures, stressing completeness of detail (steps, tools, safety, etc.) and the accuracy of the maintenance schedule. Whenever applicable, a preventive approach to maintenance was taken.

Because Newsday’s plant has 10 presses — four TKS M72s and six Goss Metros — monthly and quarterly preventive maintenance checks

were rescheduled as five- and 10-week checks. Primary and secondary “target” presses were scheduled, with maintenance shops following in succession. Press personnel went first, cleaning the press, inspecting rollers, blankets, etc., and the electrical and machine shops followed in respective weeks, eliminating manpower wasted over uncoordinated scheduling conflicts. By July of 1999, the maintenance was substantially improved and the presses were operating at factory specifications.

With the maintenance on track, Newsday turned its attention to consumables. What made the Spectra High-Strength ink so appealing was the possibility of running a thinner film of ink and water with no degradation in the printed result. For all newspapers — and tabloids, especially — a dryer sheet will result in better productivity with fewer web breaks and jams.

The first step was canister testing of the cyan, magenta, and yellow inks on press. This was a lengthy process involving the study of press control presets, determination of print quality, and assessment of ink performance on press and with other consumables. The testing was conducted on all 10 of Newsday’s presses. Statistical measuring was used to quantify results.

Ink	Average TKS ink preset reduction	Average TKS water preset reduction	Average GOSS ink preset reduction	Average GOSS water preset reduction
Cyan	-52 %	-39 %	-36 %	-12 %
Magenta	-52 %	-39 %	-47 %	-12 %
Yellow	-63 %	-39 %	-59 %	-12 %

**TABLE 1**

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Control of ink film thickness is crucial to the successful employment of high-strength inks, and several components must be in place and managed properly. The presses should have press control systems with digital page packs for accurate and consistent supply of ink at any press speed. Ink and fountain solution settings sent to the press should be digital and input via a film scanner or directly from a raster image processor. Other consumables like etch need to be adapted to match the high-strength ink as required on the press.

Running the High-Strength ink required a new way of looking at the printing operation. For press personnel, judging the amount of water on the plate by eye was no longer possible because the plate now looked extremely dry. Most operators and foremen were uncomfortable with the changes and had to be convinced otherwise. Table 1 (below) shows the percent reduction in the ink and water preset values from the standard inks to the High-Strength inks.

Retraining was also required to learn the adjustments to ink and fountain solution. Before the reduction in ink and fountain solution, the process had significantly more flexibility and forgiveness. As the process control improved and stabilized, maintenance problems surfaced. For example, spraybar and fountain solution equipment had to be adjusted to the new operating conditions.

US Ink committed the resources to this project, and the development of a partnership with the ink vendor proved to be significant. Before, during and after the transition period, frequent meetings between Newsday and US Ink personnel were conducted to discuss the current conditions and what steps would be taken in the short and long terms. With constant communication between the two companies, problems were quickly identified and targeted for study

and/or correction.

The successful switch to the Spectra High-Strength ink required two major steps at Newsday: fine tuning the maintenance program and applying the concepts of statistical process control. If both are not accomplished, the chance of successfully running high-strength inks is unlikely. The full benefit of high-strength inks can only be realized when the machinery is set to OEM specifications, the correct marriage of consumables is determined and used, and the philosophy for continu-

ous process improvement is embraced throughout the pressroom and with each vendor.

If all these steps are taken, high-strength inks can both improve print quality and reduce overall costs for newspapers, just as they did at Newsday.

"What is extremely rewarding to us is that we have found something that allows us to more fully realize the capacity of our 'smart' ink and water systems," said John J. Gotch, production director at Newsday. "Press enhancements, such as the

addition of digital ink packs and spray dampening systems must increase and enhance press performance and printed quality in order to cost-justify themselves. By adding high-strength inks and seeing the results of running a dryer sheet in today's 'jump-off-the-page' color market, we can justify our investment in the inks and we feel that our customers can justify their investment in us."▲

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