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White Paper

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The Top Five Reasons Why Newspapers Are Switching to Process Free Printing Plates

Throughout the world, process free printing plates are changing the way that newspaper printers make offset plates. Here are five of the primary reasons that newspapers are switching to process free.

1. Environmental benefits

Water Savings

Traditional, processed printing plates must run through a plate processor to set the image on the plate before the plate is put on press. Water is used to rinse the plate in the plate processor, dilute concentrated plate developer chemicals, and clean the plate processor. The most water is used during the plate rinsing step, averaging 3.7 U.S. gallons (14.7 liters) of water per square meter of plates.

A newspaper printer using 50,000 square meters of plates per year could use approximately 185,000 gallons (735,000 liters) of water annually to process plates.

The United Nations lists water scarcity as one of the top problems facing society in the 21st century, already affecting every continent. In areas of the world that are facing drought or water restrictions, newspaper printers are choosing process free plates to eliminate the use of water during plate processing. Forward-looking printers in other areas also recognize the importance of conserving water.

Chemical Savings

Running traditional processed plates through a plate processor requires about 0.0294 U.S. gallons (0.1 liters) of plate developer chemicals per square meter of plates, although this number varies significantly based on the type of plate. When a newspaper switches to process free plates, not only do they eliminate the use of plate processing chemicals, but the entire carbon footprint of those chemicals is removed, including the resources used to manufacture, package, ship, and, in particular, dispose of those chemicals.

Energy Savings

Plate processors use electricity both while actively processing plates and while in “standby mode.” Active processing uses the most electricity. In addition, preheat ovens require significant energy, both to directly run the heating elements and to control room temperature. Most newspaper plates, both thermal and violet, require preheat. The only processed newspaper plate that currently does not require preheat is the KODAK THERMALNEWS PT Digital Plate.

Because it wastes valuable time to restart a processor and allow the preheat to reach operating temperature after the processor has been completely shut down, many newspaper printers leave the processor on, even when not actively processing plates, resulting in a constant drain of electricity. Even “chemistry free” plates must run through a processor (clean out unit) with preheat, using electricity.

Process free plates allow newspaper printers to shut down their processors or remove them completely.

2. Cost savings

Any change should be backed by a solid return on investment, and a plate change is no different. Twenty years ago when CTP was first introduced, printers saw the economic benefits of removing the costs and variability associated with film-based plate making, despite the additional capital cost of the CTP device and higher plate price. Because the ROI was significant, CTP is now the dominant technology used for plate making by newspapers throughout the world.

Today, a positive ROI is driving a change to process free plates. The cost benefits are similar to the benefits of CTP, and because there is no additional equipment to buy, the returns can be even greater.

Below are some of the cost savings that newspapers are realizing with process free plates.

Elimination of Processing Chemistry Costs

Eliminating the direct cost of processing chemistry is the most obvious saving and the easiest to calculate. Newspaper printers only need to look at how much they pay for chemistry on a monthly basis to determine how much they would be saving. Processing chemistry includes:

- Developer and finisher used for tank changes
- Developer or replenisher used as replenisher chemistry
- Developer or replenisher used for anti-oxidation (dosed per hour)

The cost of the chemistry is a hard cost and easy to determine, but printers are also reducing related soft costs around buying and storing chemistry (maintaining storage space, tracking inventory, placing orders, handling containers, etc.).

Elimination of Processing Chemistry Disposal Costs / Cost of Compliance

Regulations that help keep water, air, soil, and people safe vary greatly from region to region, and they change over time, usually becoming more stringent and complex. Keeping track of the changing regulations and putting procedures in place to be compliant can be a time-consuming and complicated task. Printers who have adopted process free plates are relieved to be rid of not only the costs of compliance, but the headaches of keeping current with the regulations around disposing of chemistry. Savings include:

- Cost to dispose of chemistry
- Cost/time to neutralize chemistry if not neutral or not able to put down the drain
- Administrative expenses needed to be in compliance

Elimination of Processing Equipment Costs

Any piece of equipment in an operation is a big investment. Below are some of the costs that a newspaper must take into account with each piece of equipment in their operation. Note that “chemistry free” plates still require an extra piece of equipment (the clean out unit), even though there is no traditional plate processor.

- Plate processor maintenance costs
- The cost to buy the processor (if not loaned)
- Installation and training costs to set up equipment
- Additional infrastructure in electrical and plumbing needs
- Cost of water used in processing
- Cost of electricity needed to power the processor

Processing Variability Costs

The cost of variability as a result of processing can be considerable. The age of the chemistry, temperature variations, replenishment errors, maladjusted or contaminated rollers, etc. can all affect the finished plate, and variations or defects may not be evident until after the plate is put on press. Some of the costs of variability are noted below, but even they are insignificant compared with the cost of missing a deadline.

- Material costs to remake the plates - waste paper and ink, plate cost, labor, etc.
- The press downtime per remake (in hours) multiplied by the value of the press per hour

3. Streamlined plate making

In theory, if you remove steps from a process you gain operational efficiency and lower the risk of things going wrong on the line. The transition from analogue to digital offered a major step forward in achieving efficiency in plate making. Although there are simple plate making solutions, such as “chemistry free” plates, process free plates offer the most streamlined digital plate making operation on the market for newspapers.

Violet plates, because of their technology, must always be preheated, so thermal imaging technology is the best option for newspapers seeking to maximize simplicity in their plate making line.

As you can see in this simple diagram below, process free plates have just three steps (image, punch/bend and print). This simplification delivers savings in time and costs, offers increased process control by removing processing variables, and frees up floor space for growth.

Preheat Plates, such as KODAK THERMALNEWS GOLD Digital Plates, Agfa :N94-V Plates, Fuji LH-NN2 Plates



No Preheat Plates, such as KODAK THERMALNEWS PT Plates



Simple Process Plates, such as Agfa :N94-VCF Plates



Process Free Plates, such as KODAK SONORA NEWS Plates



4. No more processing equipment

The time and money needed to maintain a plate processor (or clean out unit) can add up to a considerable amount. However, even these costs are small compared to the cost to a newspaper printer if the processor breaks down and stops the presses. Eliminating the processing equipment not only removes the costs noted below, it removes one element of risk that could affect production if there are issues.

- Monthly service contracts
- Supplies required for maintaining the equipment including (cleaning fluids, cloths, brushes, etc.)
- Labor cost associated with performing the maintenance and upkeep of the equipment
- The cost of extraction and increased air conditioning because of the preheat section of the processor
- Cost of water to clean the processor

In addition, if a prepress room is tightly packed, the safety and convenience benefits of removing a large piece of equipment are clear. Also, fewer pieces of equipment means fewer factors to influence temperature and humidity, and there is more room to install equipment for more productivity or automation.

5. No more chemicals

Newspaper printers are pleased to be able to eliminate chemicals during plate production for a variety of reasons:

- Chemistry may be considered hazardous.
- Precautions may need to be taken to protect employees' health and safety, including respiratory, eye, skin and body protection.
- The work area may need to have additional ventilation.
- Chemistry may also have pH levels, toxicity levels, or specific chemicals and elements that exceed local disposal regulations, so would require treatment or professional disposal for used chemistry.
- Chemistry may contain high VOC's (Volatile Organic Compounds) which, although usually relatively small compared to VOC's in the pressroom, may be evident.

The newest process free plates are designed to fit most newspaper operations

Until recently, process free plates had limitations that prevented certain newspaper printers from taking advantage of their benefits. Limited run length capabilities, slow imaging speeds, and other features restricted the use of process free plates to smaller newspapers.

However, Kodak has succeeded in overcoming the technical hurdles that limited process free plates to certain markets, introducing the KODAK SONORA NEWS Process Free Plate, with features comparable to mainstream processed plates.

The first challenge in creating a technology that lets printers enjoy process free plate making with mainstream plate capabilities was to develop a coating that could be removed on press with no detrimental press contamination. Kodak overcame this hurdle with the development of the KODAK THERMAL DIRECT Non Process Plate for commercial printers and the KODAK PF-N Plate for newspapers. Essentially, Kodak was able to develop a coating on the plate that, using existing press conditions, successfully cleans out as part of the start up process and then performs on press like any other plate. A video demonstrating how the technology works can be found here: <http://youtu.be/oGTtUsyKZEw>

The second challenge was to modify this coating to address the needs of a wider variety of printers printing more applications. Kodak needed to develop a plate that could image at faster speeds, print longer runs under various conditions, and handle higher resolution print jobs. Kodak also wanted to improve the image contrast on the plate to make the plate more operator-friendly.

With the coating on the SONORA NEWS Plate, Kodak was able to overcome these hurdles as well. The plate offers fast imaging speeds, so printers can take advantage of the maximum throughput capability of their platesetter in most cases. The plate is capable of run lengths up to 200K impressions on coldset web presses, 50K to 75K impressions for direct litho and up to 10K impressions for UV-ink applications. The plates also offer high-quality 36-micron FM screening capability on platesetters with KODAK SQUARESPOT Technology and AM screening of 3-97% at 150 lpi.

In conclusion, because the hurdles of process free plate technology have now been overcome, more newspapers than ever are switching to process free plates because of the environmental benefits, cost savings, streamlined plate making, elimination of the processing equipment and elimination of chemistry. More information on SONORA Plates can be found at www.kodak.com/go/sonora.

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