Best Practices to Achieve Maximum Quality and Efficiency Improvements with KODAK SONORA Process Free Plates

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Who Benefits from Process Free Plates?

- Business owners
- Prepress operators
- Press operators
- Print buyers

The environmental and economic benefits of switching from traditional wet processed plates to process free plates seem pretty easy to understand. Going process-free eliminates the plate processor and all associated water, energy, chemistry, and waste which is good for both the printer's business and the environment, and usually these benefits are more than enough to justify a switch to process free plates.

However, in order to make the switch, the operators and managers who work with the plates daily and the press room must see improvements as well to accelerate moving to process-free. If process free plates are to be fully embraced by the print industry, every decision-maker involved in the plate-making process must understand how process free technology not only simplifies the prepress department but simultaneously makes the pressroom more efficient and cost effective.

Through over 12 years of experience working with printers using our process free plates, Kodak has gathered evidence from prepress and press operators in the field showing that process free plates can deliver significant operational improvements in addition to economic and environmental benefits.

- **Maximized Savings & Improved Efficiency in Prepress** – Prepress operators value process free plates because there is no more plate processing equipment to monitor and maintain, and there is no more plate chemistry to manage. The task of making plates is more streamlined and efficient with the elimination of the processing step.
- **Reduced Press Downtime & Waste from Plate Remakes** – Press operators appreciate process free plates because the quality of plates coming out of prepress is consistent now that the variability of processing is gone. The plate is no longer a variable that they must think about when running the press.
- **Maximized Performance in Press Room** – Because of the increased stability of process free plates compared to processed plates, printers report more consistent and accurate colors in the final print output.

This document will outline some of the quality and efficiency benefits that printers can experience when they move to KODAK SONORA XTRA Process Free Plates, and it will describe best practices in prepress and in the pressroom enabling printers to maximize those benefits.

Variability

To understand the extent of the benefits of process free plates, it is important to start by exploring variability in plate processing.

There have been many technological advances around plate processing and plate chemistry in the last 10 years that have made plate processing easier and more sustainable. For instance, new advances in plate developers enable very long bath lives and low replenishment rates, so chemistry doesn't need to be changed as often – reducing waste, environmental impact, and labor costs. The bath life of KODAK 400 xLo Plate Developer for KODAK ELECTRA XD Thermal Plates is up to 12 weeks or 8,000 m² for high-volume users.

Also, Kodak's plate processors are designed with intelligent controls that automatically monitor most variables, such as developer temperature and activity, adjusting and alerting operators as needed. Prepress operators can now simply enter a range of tolerances for different processing variables, and the processing equipment helps keep variation to a minimum.

However, even with tight controls, more stable developers, and automated processing equipment, unexpected results due to processing are still possible. Variables such as preheat temperature, developer activity, developer temperature, processor settings, and processor speed can all affect plate quality. Also, even if errors are caught before the plates are sent to the pressroom, having to remake a plate reduces efficiency and increases waste.

Some Plate Processing Variables

- Preheat temperature
- Developer activity
- Developer temperature
- Roller settings
- Throughput speed
- Replenishment rates and antiox settings

When the variability of processing and the processing step itself are eliminated, the printer will start to see an improvement in both operational efficiency and quality. Lowered paper and ink use from factors such as failed make ready, and overall waste reductions combined can add up to total annual savings of up to $315,000 for a large-sized printer. Printers can use the time and savings to focus on identifying and improving controls across other areas to maximize print quality.

When Processing is Eliminated

Improved Efficiency

When a printer switches from processed plates to process free plates, one of the first benefits apparent in the prepress department is a dramatic improvement in efficiency. No more time or manpower is spent on running plates through the processor, changing developer, or maintaining the processor.

In addition, there is no longer a need to measure plates, which saves time. More importantly, removing the variability of wet processing ensures that the image on the plate remains consistent job after job, day after day, week after week.

Eliminating these tasks can be especially important in smaller shops, where prepress operators not only manage plates but also handle file and image preparation. Interrupting this work with tasks related to plate processing can lead to mistakes.

For printers that have high volumes or tight deadlines, having to remake a processed plate can cause significant delays. However, a process free plate can be imaged and then put immediately on press, with minimal interruptions to the production schedule.

PLATE MAKING TASKS THAT USE TIME AND/OR MANPOWER	
TRADITIONAL PROCESSED PLATES	**PROCESS FREE PLATES**
Imaging Plates	Imaging Plates
Processing Plates	
Changing Developer / Cleaning Processor	
Maintaining Processor (service, replacing parts, etc.)	
Managing Plate Chemistry Inventory	
Managing Waste from Processor	
Measuring Plates	

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PRESS

Improved Quality

Because the variability of processing has been removed, pressroom operators can now easily trust the quality of the plates being sent from the prepress department. After the initial setup calibration is complete (required whenever a printer changes to a different type of plate), operators no longer have to make adjustments on press due to variability of the plate.

Because there is less variability in the dot, there are also improvements in print quality. Many customers using SONORA XTRA Plates have reported more consistent and accurate colors on print jobs.

For every printer, good process control is essential for consistent, high-quality print. SONORA Plates remove all the variability and control measures needed for the processing step in prepress, so it is easier to identify and improve process control in other areas in order to maximize print quality.

Best Practices

To achieve the maximum efficiency and quality benefits for process free plates, printers need to incorporate best practices into both the prepress department and the pressroom. Most of these best practices apply to any thermal plate, but some are specific to process free plates.

Best Practices: Plate Handling

Although all plates are susceptible to scratching, SONORA XTRA plates offer robust handling capability, suitable for any fast-paced, high-volume printing environment. Many printers continue to follow best practices to prevent plate scratching and pay close attention around any manual handling of plates such as:

- Loading plates into the platesetters' cassettes.
- Sorting plates on the stacker, then moving to the pressroom.
- Mounting plates onto the press.

Printers should review the recommended lighting, temperature, and humidity specifications for any thermal plate to ensure that storage and operating environments enable optimal product performance.

Best Practices: Imaging

SONORA Plates are imaged the same as any other thermal plate, so all best practices for imaging are the same as with processed plates.

There is only one major change for the platesetter that a printer might need to make when switching to SONORA Plates from processed plates, and it is a very good change. It is now time to retire any debris removal system (UDRC) attached to the platesetter. SONORA Plates are non-ablative, so no UDRC is necessary. Eliminating the UDRC improves the working environment in prepress for employees, reducing the noise level of the CTP device by up to 75%. It also reduces the cost of maintenance and the cost of the expensive air filters and purifiers needed to prevent ablative material from damaging CTP electronics and lenses.

Note that removing the UDRC may not be possible with other process free plates. A UDRC is required on KODAK Platesetters with the AGFA AZURA TE Plate, which is a process free plate, and failure to use a UDRC with this plate could result in excessive buildup of coating in the platesetter.

Best Practices: Measuring the Plate

Measuring the plate before it goes to press is not necessary with SONORA Plates, so the best practice is to stop this practice completely, saving time and reducing plate handling. The printout contrast of SONORA Plates is strong enough to read type as small as 10 pts. and is sufficient for placement of the correct plate on press.

With traditional wet processed plates, typical control tonal elements are measured using a plate reader after the plate has been imaged and processed, prior to sending the plates to the pressroom. This step is necessary to monitor and correct the variability of the wet processing system. With SONORA Plates, this variability is eliminated, thus removing the need to measure the plates. Even Fogra, the international certifying institute for offset printing, agrees that measurement of the plate at this stage is not necessary to achieve the PSO standards.

Best Practices: On Press

To get the maximum benefits of process free plates in the pressroom, press operators should become familiar with how process free plates work on press. Once they understand how the technology works, best practices are the same as for other thermal plates:

- Follow manufacturer recommendations for daily checks and routine maintenance for the press fountain system, blankets, form rollers, and other press components.
- No special inks are needed. SONORA Plates are compatible with all standard sheetfed inks. For UV inks, SONORA Plates are approved for applications where run length is up to 100,000 impressions, depending on press conditions.
- No special fountain solutions are needed.
- To ensure optimal performance for run lengths, it is recommended that customers undergo a complete pressroom chemical audit to identify and remove any harmful items. Harsh alkaline pressroom chemistries can negatively affect the performance of digital plates.

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Conclusion

Offset printing has come a long way in the past 20 years. Removing film and film processing was a major step that improved both quality and efficiency for printers. Although some printers were reluctant to switch to CTP at first, it is now the dominant technology for offset plate making and its benefits are well understood.

Process free plates are the next logical step. Removing the plate processing step reduces both variability and time-consuming tasks, leading to improved efficiency and quality. Recently awarded the 2021 Pinnacle InterTech Award, SONORA XTRA Plates will revolutionize your print. With the benefits of process free plate making plus faster imaging speeds, better image contrast, and more robust handling capability, SONORA XTRA offer a decisive advantage in profitability and sustainability for even the most demanding printing operations.

More information on SONORA Plates can be found at **kodak.com/go/sonora.**

About Kodak

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Eastman Kodak Company 343 State Street Rochester, NY 14650 USA Produced using Kodak Technology.