



Impresos Gráficos Gains Operational Efficiency and Entry to New Markets after Phoseon UV LED Retrofit

Higher Quality Printing, Brighter Colors and the Ability to Print on More Substrates Increase Printer's Competiveness in Crowded Marketplace

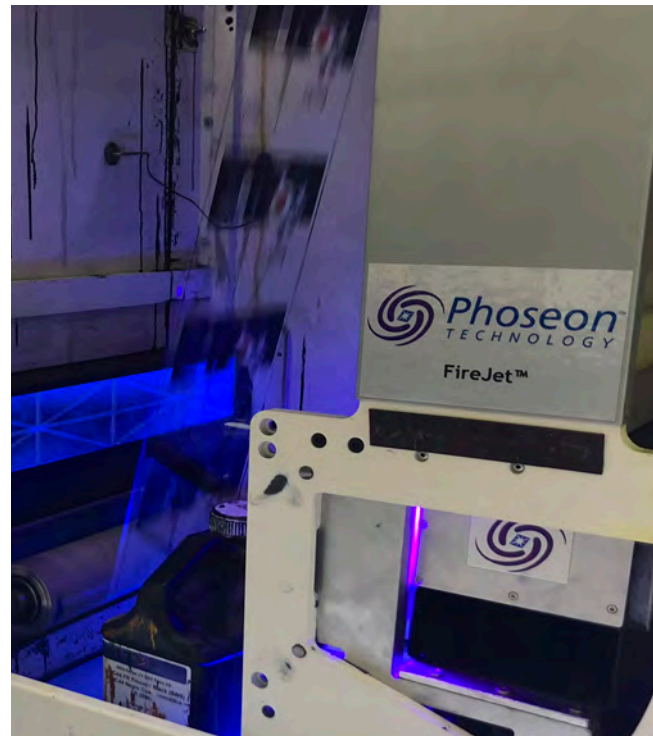
Challenge

Impresos Gráficos de Chihuahua is a 26-year-old printing company in northern Mexico that manufactures and prints adhesive labels, PVC films for heat-shrunked sleeves, thermal tags, and other commercial printed products. The company prints approximately 300,000 labels a day.

Impresos Gráficos originally printed its labels and film substrates with flexographic presses and used water-based technology with hot air dryers and high-temperature mercury-vapor UV lamps to cure UV inks. However, these processes led to multiple inefficiencies and hidden expenses.

According to Javier Sequeiros, Technical Director at Impresos Gráficos, traditional UV lamps require a lot of time to both warm up to ink curing temperatures (between 1550 to 1750 degrees Fahrenheit), and to cool down. “UV technology requires a long warm-up period in order to heat the lamps before printing,” said Sequeiros, “and if you need to stop printing suddenly, you then need to go through a cool-down period to allow the lamps to cool before starting up again. Therefore, these problems all reduce productivity.”

Water-based inks associated with hot air dryers introduced more inefficiency into the printing process. Different kinds of paper and substrates required different types of inks, and completely flushing and cleaning the ink containers and print stations, and then refilling with a different type of ink between press runs, was a major source of unproductive downtime for Impresos Gráficos. According to company Director Sergio Porras, “It cost a lot of money each time you had to change the inks.”



For the traditional UV curing process, the tremendous heat associated with mercury UV lamps required a lot of electricity to operate, and as part of the curing process, the mercury lamps produce ozone, which is dangerous to breathe, especially in a constricted space like a print shop. To mitigate the risk of breathing ozone, Impresos Gráficos had to invest in an auxiliary air exhaust system to extract the toxic fumes from the presses.



Depending on high-heat mercury lamps for curing also limited the types of materials that Impresos Gráficos could print on – restricting the kinds of projects they could successfully undertake for customers. Curing on plastic film and other delicate substrates with water-based inks and hot air dryers, or with traditional UV inks with high-heat mercury UV lamps, can result in a brittle or dimpled end product that could not undergo subsequent packaging processes, leading to rejects and scrap, all of which costs money. “We struggled to produce high-quality printing using water-based inks,” said Sequeiros. “We were unable to capture value-added projects.”

“We are delighted with our Phoseon UV LED system because we are now producing higher quality printing, in less time, and with lower overhead.” - Javier Sequeiros, Technical Director, Impresos Gráficos

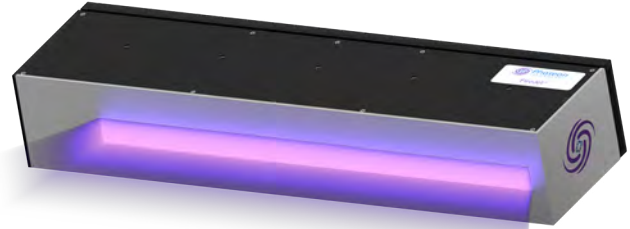
It was clear that Impresos Gráficos needed to move away from water-based technology and mercury-vapor UV lamps, so they purchased a UV LED system from another company. Sequeiros said that the system worked well at first, “but because their product was poorly designed, the lamps gradually deteriorated and started to lose power.” Though Impresos Gráficos installed a potentiometer behind the printing press to increase power to the lamps, there were still problems. “After installing the potentiometer, we were supposed to be operating at 100 percent but we could only run the machines at 100 feet per minute because the inks weren’t curing properly, resulting in rejects and extra costs,” said Sequeiros.



Solution

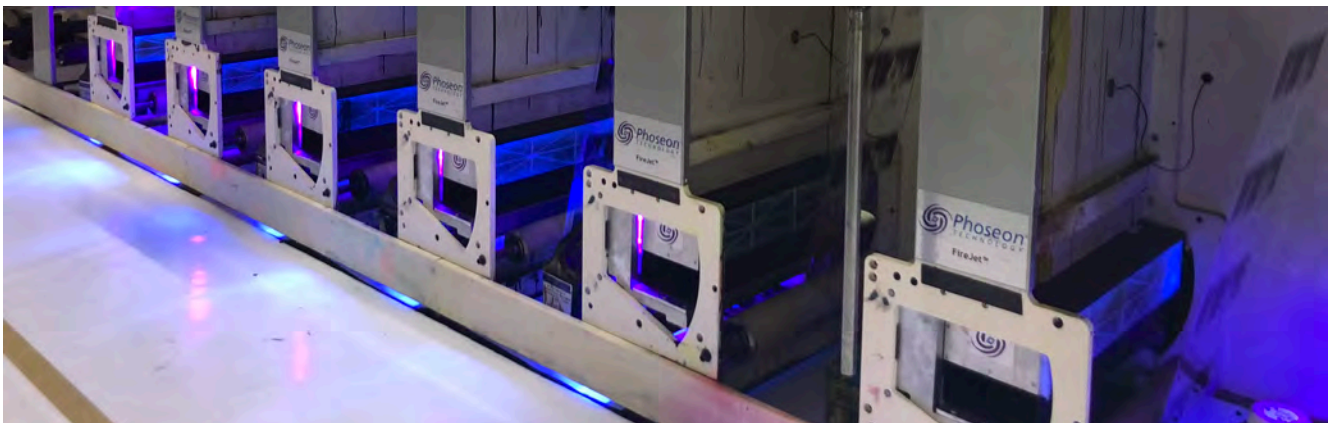
Impresos Gráficos decided to replace its failing curing system with UV LED curing solutions from Phoseon, the world leader in UV LED-based solutions for printing, coating, and adhesive applications. UV LED curing technology is the new standard for flexographic printing, providing faster printing throughput for higher yields and decreased operating costs, leading to increased profitability.

Phoseon's retrofit installation process was "first class," said Sequeiros. "The first stage involved the design and engineering: The Phoseon design staff came to our facility and inspected the machines, taking measurements, dimensions and so on. For the second stage, they returned with everything required for the installation, which was executed over two days without any complications." The first day was spent installing the lamps, and the second day was devoted to training. "They taught our staff everything they needed to know about the touchscreen, how to set up a program, and save tasks and functions. They also addressed maintenance, which is very straightforward, and everything went according to the schedule."



Phoseon solutions have allowed Impresos Gráficos to operate more efficiently. The central system coordinates the automatic power control with readings from the printing press so the operator can increase or decrease the speed of the press, with the system automatically increasing or reducing the power as required, and the intensity of the Phoseon lamps adjusting to the speed of the press. "The operator no longer has to move over to the potentiometer, turn it up, move back to inspect the print, and so on. It is now just a question of increasing and decreasing the press's speed with everything else following in sync. Therefore, the operation is much simpler and more accurate," said Sequeiros.

In addition, Phoseon UV LED systems provide instantaneous start-ups. "You can start up, stop, start up, stop as often as you need without the need for lamp warm-up and cool-down periods," said Sequeiros. "Furthermore, there is no need for washing ink containers between runs, so shifts can start up immediately because the ink is left in the containers - you don't have to wash and refill them each time."





These streamlined processes and efficiencies have helped Impresos Gráficos improve productivity. According to Porras, “Our productivity has increased between 25 and 30 percent. So it allows me to print more jobs in the same amount of time with the same press.” They also allow the printer operators to run the machines much faster. “With our old technology we typically operated at a speed of around 150-200 feet per minute; however, because Phoseon UV LEDs are more powerful, we are now working at between 350-400 feet per minute,” said Sequeiros.

Also, Phoseon UV LED technologies provide energy savings of between 75 and 85 percent compared to their prior drying systems. And with Phoseon lamps, there is no need for fume extraction units to remove the gasses generated by mercury-vapor UV lamps.

“I recommend the Phoseon system because it allows your company to be more competitive. This new technology will help grow your business and increase the kinds of new jobs that you are able to take on and the type of customers you are able to attract.”

-Sergio Porras, Director, Impresos Gráficos

Because the curing process with Phoseon UV LED lamps is much cooler than with mercury-lamp systems, Impresos Gráficos can now offer print services on a wider range of papers and substrates. “The Phoseon system uses a fan to cool the lamp, which means that the materials we are printing don’t heat up, they do not suffer any deformation when they are printed on or when they pass through the conveyor rollers,” says Sequeiros. “Therefore, we can introduce materials that you cannot normally use with traditional mercury UV technology due to the heat generated by the lamp.”

In addition, UV LED lamps have a working life of over 20,000 hours, considerably longer than conventional mercury UV lamps.

Impact

“The acquisition of Phoseon technology was a very important step forward for our company,” says Sequeiros, “because it gave us access to new markets. It broadened our vision of what we can print.” The operators no longer have to struggle so much with the issue of high-quality printing using water-based inks. In fact, the company’s top selling points are now its printing speed, high-definition fonts and brilliant colors.



50 - 200 ft. per minute to

350 - 400 ft.
per minute



According to Porras, “Phoseon has helped us attract new projects and new clients, especially clients with high quality requirements. We now have some projects for aluminum, films like polyesters and other special materials, so these new capabilities give us an advantage against our competitors.”

This flexibility allows Impresos Gráficos to differentiate itself from other printers in its market. “With the Phoseon LED system, we are now at the cutting edge of printers in our region. We are one step ahead and this attracts the attention of new clients because we can offer them a greater range of products,” said Sequeiros.

“I strongly recommend the Phoseon UV LED system,” said Sequeiros. “It opened our horizons to new substrates, new projects and new ways of doing business. Believe me, operating our old system involved quite a lot of stress because the printing press operators had to keep an eye on whether or not the ink was curing correctly; they had to decide whether or not to stop the press. They now work with less stress, they are more relaxed, and only have to concentrate on printing rather than resolving problems. This was very important for our company, because we can now devote our efforts to our forte - printing - without having to waste time on operating problems.”

Start Your Retrofit Today

Learn more about Phoseon UV LED retrofits, our financing options and how to contact us at retrofit.phoseon.com.

Since 2002, Phoseon Technology pioneered the use of LED technology for Life Sciences and Industrial Curing. Through our relentless innovation, we deliver high performance, reliable and patented LED based solutions. Our strong focus on customer collaboration has resulted in world-wide market leadership position and presence. Phoseon is an ISO9001 certified company manufacturing award winning products. We uniquely focus 100% on LED technology therefore ensuring superior reliability, business economics, and environmental benefits.



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