

ENVIRONMENTALLY SUSTAINABLE CURING

From a sustainability point of view, traditional mercury UV lamps cannot compete with the benefits that UV LED curing technology offers to today's print companies, writes Rachel Karambelas



Rachel Karambelas is a Marketing Communications Specialist

LEDs contain no mercury, produce no greenhouse gases or ozone, and have significantly reduced energy usage compared to mercury UV and high-energy IR dryers.

Manufacturer of UV LED units and solutions Phoseon has pioneered the use of LED technology for UV light curing in industrial applications, offering equipment

manufacturers a high-performance curing technology that also saves significant energy while eliminating greenhouse gases and dangerous mercury and ozone from the UV curing process. These UV LED products offer significant environmental improvements to current mercury-based products.

ENERGY SAVINGS

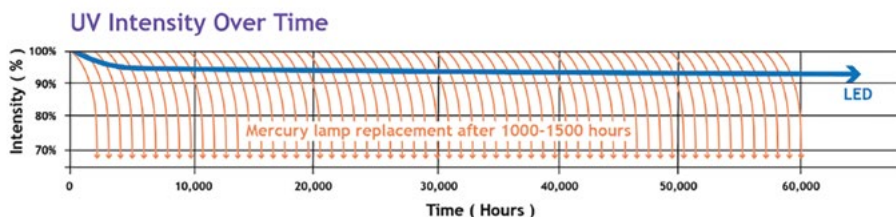
With traditional UV curing processes, the tremendous heat associated with mercury UV lamps required a significant amount of electricity to operate. By replacing the mercury UV LED lamps with UV LED curing systems, Phoseon customers have reportedly experienced energy savings of up to 85%.

POLLUTION PREVENTION

UV LED lamps offer better than 50% lower CO₂ emissions. The lamps generate no ozone and can eliminate toxic mercury in an entire category of industrial processes. With UV LED lamps, there is no need for

"UV LED lamps offer better than 50% lower carbon dioxide emissions"

fume extraction units to remove the harmful gases and ozone generated by mercury-vapor UV lamps. Converters can diversify their product lines and enter new markets without having to expand their floor space

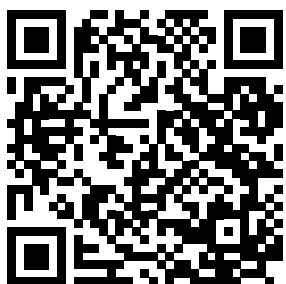


The lifetime of LED curing lamps can extend beyond 60,000 hours

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SCAN ME

or expose employees to volatile organic compounds (VOCs) and harmful UV-C ozone.

By removing its mercury stations and upgrading to 13 Phoseon FireJet LED lamps (FJ200), Italian printing company InDeco Serigrafia has been able to reduce its CO₂ output by over 67 tons annually.

"Today brands are requiring their suppliers to deliver more sustainable printing practices"

There is now no need for the firm to extract and re-integrate into the building the 23.5 million cubic metres of air previously required to remove ozone and the heat produced by the mercury lamps each year.

WASTE REDUCTION

Conventional mercury lamps have a very short lifetime and need to be replaced every 1,000–1,500 hours. LED curing lamps extend beyond 60,000 hours if properly maintained. Upgrading to UV LED technology eliminates these replacement costs, offering significant environmental benefits with the elimination of mercury.

According to the business, Phoseon is

the only company in the industry that can say that its products have "a proven lifetime of more than 60,000 hours" (we only count the 'on' time as turning UV LED lamps on and off is instant).

Before switching to Phoseon UV LED curing technology, flexographic label printing firm Central Valley Label was spending close to \$40,000 to \$50,000 per year on spare parts for its old UV mercury presses. When the company switched to the Phoseon UV LED solution, that expense was eliminated. Central Valley Label reported that the presses with LED systems were so productive it was able to eliminate its night shift.

MERCURY VS LED COSTS

Although the initial costs may be lower than LED, the long-term costs for mercury – which continue to mount over the life of the system – are much higher. The long-term costs for

"Long-term costs for mercury continue to mount over the life of the system"

LED on the other hand are zero. Consumables (bulbs, reflectors, lenses, shutters, dichroic filters, etc.) are a significant revenue stream for mercury UV manufacturers. Lost production, lost substrate and reoccurring

consumable expenses can erode the profitability of the converter, whereas UV LED has little maintenance, no consumables and predictable performance. Phoseon UV LED allows the converter to focus on their work and to increase profitability.

THE SUSTAINABLE CHOICE

Today, major brands are requiring their suppliers to deliver more sustainable printing practices. The environmental benefits of UV LED curing in the printing process are numerous and significant. Phoseon Technology is fully committed to the wellbeing of the environment. Continuously working to reduce the environmental impact of the products that it manufactures, Phoseon LED solutions offer consistent and reliable power output, eliminate greenhouse gases, and remove mercury from an entire category of industrial processes. ■

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