

Inkjet vs. Thermal:

What to Consider When Buying a Label Printer

Businesses across various industries require labels and information on their products, whether it's to meet standards and regulations or for marketing and brand recognition. With ever-changing regulatory requirements, supply chain globalization, product customization, and other trends, businesses want the flexibility to **reliably print the labels they need when and how they want**. To do this, they also require a label printer that works efficiently and effectively and is easy to use.

With label printing being a current and continued need across more and more industries, **it's important to take a future-forward approach when purchasing a new label printer so your business isn't stuck with outdated technology**. Whether it's a first purchase or an upgrade, the technology must be able to sustain modern needs and evolve with the business.

How to decide on the right label printer

In the label printer market, two main types of printers exist — inkjet and thermal. As a forward-thinking business, there are several criteria to consider in your search for your next label printer.

High-quality standards:

In many industries, a label that isn't readable isn't just an inconvenience — it can result in compliance issues, health concerns, and even fines. Additionally, having **a label with an unscannable barcode is costly and impacts productivity**. Business leaders want the reassurance that their printer produces consistent, high-resolution image quality from the first label to the last.

Forward-focused technology:

Business leaders don't want to get stuck with old technology, so they need a solution that meets their needs now and in the future. As regulations change and brand guidelines are updated, **businesses must have a constant optimization mindset**. Their solutions must have the flexibility to integrate and adjust as requirements evolve.

Reliability:

When a printer is down, productivity decreases, and companies lose money. **Businesses want to rely on solutions with a history of dependability**.

Ability to improve processes through efficiency and ease of use:

When employees print labels, they don't want a bogged down process that requires manual steps or complicated maintenance, such as dealing with messy ribbons. **Businesses need easy-to-use technology that supports their workflows**.

Putting inkjet and thermal label printers to the test

Determining the criteria for a label printer is the first step. The second is determining how the inkjet and thermal printer options compare.

To do that, a recent study assessed the Epson ColorWorks CW-C6000 inkjet label printer versus a top-selling thermal transfer label printer. With each printing 1,000,000 labels, the study examined how the solutions fared in meeting the criteria businesses focus on.

1 High-quality output:

The ColorWorks CW-C6000 inkjet printer delivered consistent, high-quality output from the first label to the millionth label.¹

The study found:

- The Epson ColorWorks **consistently printed** 500,000 labels in a lab environment and 500,000 labels in a less controlled warehouse environment.
- Regardless of location, the Epson labels were printed with **no degradation** and consistently produced scannable barcodes and readable texts.



These features were critical to Epson's Distribution Center, located in Plainfield, Indiana. The warehousing and distribution facility had challenges when using thermal transfer printing for labels. "With thermal label transfer labels, on one too many occasions, a label on a pallet that has been stored will not scan because the barcode or QR code has faded, or because the image quality of the print was sub-par," said Mauricio Villaveces, director of distribution operations for Epson America.

To be compliant, **labels must be readable** and scannable for 24 months. Villaveces said non-compliant labels could result in shipping delays, penalties, and fines. "There's no such thing as a trivial mistake when it comes to labels," he said, adding that entire pallets or truckloads could be rejected for seemingly minor discrepancies.

Changing to **ColorWorks** was a logical move since the printer was **designed to be effective and reliable** in a distribution center environment where moisture and temperature variations are common.

"With ColorWorks, Epson is able to compete and lead in this type of logistics environment, printing labels with much higher resolution and image quality than the previous thermal labels," Villaveces said.

[Read full case study here ►](#)

2 Fewer interventions:

Employees can get more done when their equipment is easy to operate, streamlines the process, and doesn't require constant monitoring and interventions.

For example, the Epson ColorWorks printer features a **permanent printhead** that is designed to last the life of the printer, so users don't have to contend with frequent interruptions to troubleshoot.

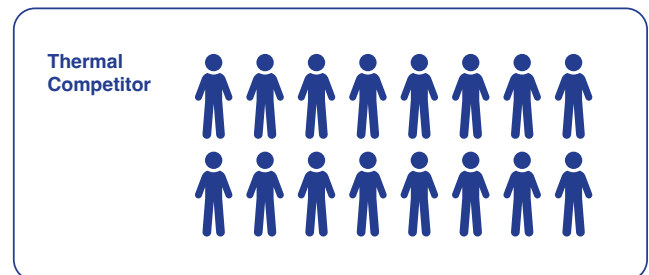
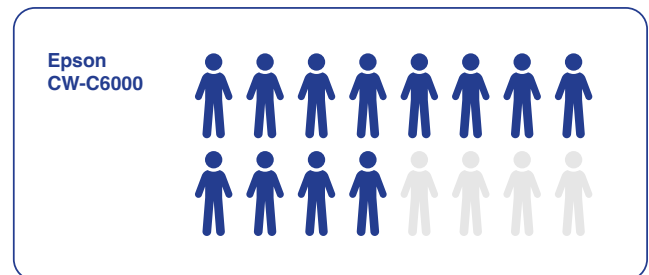
The Epson study also found that when compared to a leading thermal printer:

- Epson ColorWorks CW-C6000 required approximately **25% less** maintenance time.¹
- ColorWorks Inkjet printed **up to 50 percent more labels** before changing consumables using Epson ColorWorks CW-C6000 ink cartridges versus ribbons¹, enhancing efficiency and productivity.

Increased efficiency and productivity were just what Redbud Roots was looking for in a new printing solution. As a leading supplier of cannabis products in Michigan, Redbud Roots needed a solution that **consistently produced high-quality labels** that were compliant and efficient. Moreover, in the fast-paced cannabis industry, the business needed the flexibility to create new labels to adhere to changing regulations.

"Our previous labeling system was a huge hassle and a big bottleneck. The labels were never consistent, and the quality of the labels didn't match the quality of the product we produced. Plus, the system we had in place

Epson ColorWorks CW-C6000 required approximately **25% less maintenance time than a thermal competitor.**



was a barrier to making compliance efficient," explained Alex Gillett, chief production officer at Redbud Roots.

Gillett said the Epson ColorWorks printer increased Redbud Roots' compliance, productivity, and flexibility.

"Finally, we have the right equipment to get the job done — equipment that is made for the mission."

[Read full case study here ▶](#)

3 Supporting sustainability:

Businesses that produce small-batch goods need the flexibility to print short runs and limited-edition batches on demand. These attributes benefit businesses of all sizes by helping them reduce waste and use less energy. However, they are especially important for smaller organizations.

When comparing the Epson ColorWorks Inkjet to the thermal transfer printer, the study found that:

- The Epson ColorWorks Inkjet generated **82 percent less** consumable and packaging waste.²
- The Epson ColorWorks printer used **80 percent less energy consumption** while printing.³

These benefits are particularly welcome to businesses like Laird Superfood.™ As a startup, Laird Superfood coffee is processed in small batches. Beans are hand-picked, then slow-roasted and packaged in a proprietary system to ensure freshness. Initially, the company planned to use a two-step process for printing their labels which involved ordering pre-printed labels and then adding specific product data in-house.

Almost by accident, Laird Superfood owner Paul Hodge learned about the efficiencies of on-demand printing with ColorWorks.



“I knew our plan to rely on a two-step process would not be sustainable for us in the long run. The ability to print the exact number of labels we need, complete with custom batch numbers, when we need them was appealing.”

The flexibility and efficiency of on-demand printing allow Laird Superfood to adjust and scale designs as it expands its portfolio.

[Read full case study here ▶](#)

4 Enhanced security:

Increasingly, businesses are responsible for safeguarding confidential information used for items such as tradeshow badges and event IDs, pharmacy prescriptions, hospital ID bands, to name just a few.

When it comes to information security, the study noted that:

- The Epson ColorWorks printer **does not use ribbons**, which eliminates the need for special handling of ribbons to avoid compromising confidential or personal information.
- In contrast, thermal transfer technology, which uses ribbons, does require safe handling to avoid compromising information.

Thermal ribbon needs
secure disposal



No ribbon =
No consumables
data risk



Learn how Epson ColorWorks also simplifies the challenges of medical device printing with single-step color labels. Watch video ►

In addition to helping maintain security, badges for tradeshows and events do so much more than provide an attendee's name. Dave Wuethrich, chief operating officer of Convention Data Services, said that badges may include a QR code or barcode granting the attendee access to events. Ensuring these badges are correct and can be updated on the fly on the event site is a critical element in creating a secure and smooth event.

“We don't have an option for a printer not to work. We won't be in business if our printers do not work onsite, when they are needed, without issue. Reliability is critical.”

— Dave Wuethrich, chief operating officer of Convention Data Services

Read full case study here ►

5 Engineered for reliability:

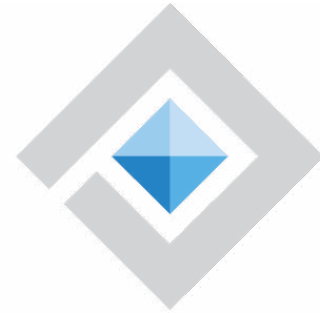
Regardless of industry, one of the most critical requirements businesses have for a printer is reliability. The ColorWorks inkjet printer was designed for that purpose.

The study found:

- The ColorWorks printer **consistently produced scannable barcodes** and readable texts in 1,000,000 labels.¹
- The results were consistent even though the labels were printed in different environments and temperatures.
- The **CW-C6000** offers faster and more user-friendly setup and maintenance with no ribbon issues.¹
- The Epson printer **required 25% less operator time**, helping to increase productivity.¹

Those are the benefits leaders at Huntsman Corporation, a global chemical company, were looking for. Debra Washington, global quality manager at Huntsman Performance Products, explained they needed a solution that could handle a high volume of printing and that could support locations worldwide.

“In evaluating based on our biggest concerns, reliability, print quality and global availability — the feedback was positive from all three regions.”



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Washington said the ColorWorks printer requires fewer interventions, so she can work with fewer disruptions. Catina Closson, shipping coordinator at Huntsman, agreed, saying, “If we can’t print the labels, we cannot ship the materials. The ColorWorks printers help us get our job done.”

[Read full case study here ▶](#)

Multiple industries use Epson ColorWorks Inkjet label printers for:

- Custom food labels
- GHS (HazCom) label printing
- Prescription labels and patient wristbands
- Curbside and pickup order labels
- Medical device labels
- Product and shelving labels
- Warehouse and shipping labels
- Small batch good labels
- Tradeshow badges and visitor management

Why ColorWorks CW-C6000

With the escalating need for printing high-quality, durable labels, businesses will look for solutions that address their short and long-term needs while supporting their goals for process improvement. The research demonstrates that when compared to thermal transfer label printing, the ColorWorks CW-C6000 inkjet label printer excelled in print quality, reliability, efficiency, sustainability, and ease of use.



[Learn more at Epson.com/ColorWorks](https://www.epson.com/ColorWorks)

1. Keypoint Intelligence June 2024 performance evaluation, commissioned by Epson, of the ColorWorks C6000 vs. a top selling thermal transfer label printer over the course of printing 500,000 labels in a controlled environment and 500,000 labels in a warehouse environment.
2. Keypoint Intelligence June 2024 performance evaluation, commissioned by Epson, of the ColorWorks C6000 vs. a top selling thermal transfer label printer over the course of printing 1,000,000 labels in a controlled environment. Waste percentage calculated by total weight of spent consumables and packaging for the C6000 vs competitor product. June 2024.
3. Keypoint Intelligence June 2024 performance evaluation, commission by Epson, of the ColorWorks C6000 vs. a top selling thermal transfer label printer over the course of printing 1,000,000 labels in a controlled environment. Energy savings calculated using Superior Electric POWERSTAT variable transformer and Yokagawa WT210 power meter printing 1,000 labels or one media role.

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