

Sustainable, Simple, Cost-Saving: Wasteless Lamination



A traditional overlamine roll with lamination patches, carrier film and take-up core.

Organizations that laminate secure identities and cards in high volumes are constantly seeking ways to cut lamination consumables costs without compromising card security and durability. Simultaneously, they are also seeking new sustainable product offerings that help them meet government standards for environmental responsibility. Wasteless lamination technology meets both of these demands and offers consumers a cost-effective and eco-friendly alternative to traditional lamination methods. This white paper explores the benefits and criteria to consider when evaluating wasteless lamination solutions.

Wasteless Lamination Defined

Before we define wasteless lamination, let's first examine traditional lamination methods. With traditional lamination, printed cards are passed from the main printer into a lamination chamber, or module, where a lamination patch is then applied to the card—either to one or both sides at the user's discretion. In this scenario, a typical lamination consumable consists of lamination patches adhered to a strip of clear film known as "carrier film" that connects two rolls or cores. The carrier film only serves as a "carrier" of the overlamine patches until they can be applied to cards during the lamination process.

The first "supply" roll consists of new laminate patches adhered to carrier film that is wrapped around a supply core. The second roll consists only of an empty "take-up" core. When the laminate from the first roll has been adhered to the card, the take-up core then "takes up" the leftover carrier film. After the supply roll has been depleted of laminate patches and the take-up core has been filled with subsequent leftover carrier film, the operator then removes both cores along with the used carrier film. Ultimately, this traditional lamination process produces excessive waste byproducts: two cores and a full roll of used carrier film—neither of which are easily recycled.

In contrast, wasteless lamination technology aims to reduce this level of needless waste by eliminating the need for carrier film and consequent take-up core. With wasteless lamination, overlamine patches are attached to one another in a continuous stream of material on a single roll, without an underlying carrier. As each patch is detached from its supply roll and adhered to a card, the lamination cycle is completed. Once the supply roll has been depleted, all that's left is the single empty core that once contained the overlamine material. Because no carrier film exists, no used carrier film waste is produced.

Cost-Effectiveness of Wasteless Lamination

As noted previously, traditional lamination consumables use two cores and an underlying carrier film to support and "carry" overlaminates through a lamination cycle, where they are applied to cards. Not only does traditional lamination produce waste—an additional core and carrier film—there are costs associated with the building, assembling, packaging and shipping of those materials. Of these materials, the manufacturing of carrier film is the greatest expense. As a result, traditional lamination supplies are higher-priced to defray its cost.



A wasteless lamination roll with no carrier film or take-up core required.

Without the need for carrier film, wasteless lamination technology substantially reduces the cost to produce durable lamination consumables. As a result, suppliers are able to pass these savings onto consumers and offer more attractive pricing for wasteless overlaminates than is possible for traditional lamination supplies. In fact, wasteless lamination can reduce lamination consumables costs by as much as 40 percent for organizations that laminate cards and IDs in high volumes.

Environmental Sustainability of Wasteless Lamination

Traditional lamination methods using the additional core and carrier film produce a considerable amount of waste that ultimately ends up in a landfill. In addition, most lamination solutions consume significant energy to achieve and maintain optimal operating temperature. However, lamination solutions with technologies like “instant on” and intelligent temperature control heat more rapidly and maintain optimal operating temperature while simultaneously conserving energy. They’re also GreenCircle® certified.

As society becomes more eco-aware, governments have begun to mandate that organizations comply with ever-increasing green initiatives. For companies, universities and government agencies that produce high volumes of laminated cards and IDs, energy-conserving wasteless lamination is an excellent way to demonstrate their environmental responsibility. For those pursuing environmental management certifications such as ISO 14001, wasteless lamination alternatives bring them one step closer to such achievements.

Eco-friendly technology innovations such as wasteless lamination and “instant-on” with intelligent temperature control are cost-effective and hassle-free ways to minimize environmental impact and should be considered for those organizations seeking to employ sustainable business solutions and reduce their overall carbon footprint.

Selecting a Wasteless Lamination Solution

The following recommendations will ensure selection of the most appropriate wasteless lamination solution for your card issuance needs:

Laminate Patch Coverage

As you compare solution features, consider how a printer’s lamination process may impact the durability of your finished cards.

Laminate patches that provide the largest overall surface coverage for your finished cards will inherently provide the best durability. Any solution you consider should also provide consistent patch placement on the card. This will ensure that whether you need simple photo IDs or more secure government credentials, your finished cards will look as professional as they are durable.

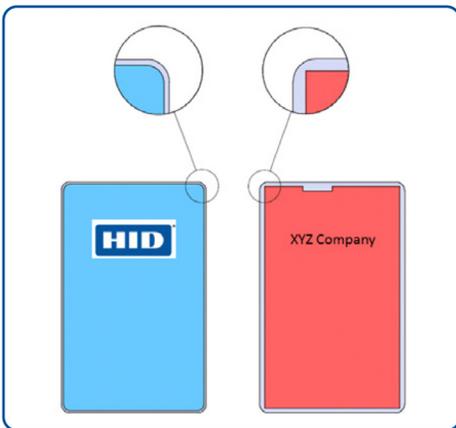
Short of actually measuring the size of individual patches, the best way to ensure you obtain the largest patch coverage possible is to look for solutions that offer laminate patches with rounded corners as opposed to squared corners. Rounded corners allow for an expanded patch size, whereas squared corners limit a patch’s overall size and, by extension, its total card coverage. **See Figure 1.**

If the coverage of a square-cornered patch were to equal the surface coverage of a round-cornered patch, the squared corners would exceed the overall surface area and thus, hang over the edge of the card. As such, squared patches must be smaller to fit the surface area of the card. Unfortunately, the smaller the patch, the less coverage you have—which impacts overall card durability.

Device Readiness and Intelligent Temperature Control

Most users of lamination products today experience several minutes of waiting time when processing their first card due to the traditional heat-up times of lamination equipment. These lamination products also tend to waste energy in order to remain in this ready state—all in an effort to minimize the waiting time for subsequent lamination jobs. For reference, most print and lamination solutions (both wasteless and non-wasteless) can take anywhere from two to five minutes to heat up. Solutions that heat up more quickly will eliminate critical downtime, which is especially beneficial for large volume but intermittent issuance scenarios. High-volume, intermittent issuance is common for organizations that instant issue hundreds of IDs per day but are assisting

Figure 1



95.5% patch coverage of card surface

88% patch coverage of card surface*

*Approximate

customers one at a time. Good examples of this are the Department of Motor Vehicles (DMV) or a university campus at the beginning of its academic year.

In these and similar instances, individuals are generally assisted by a clerk or administrator who creates printed cards or IDs one at a time. Once a cardholder has completed their transaction, they must generally provide paperwork and/or answer a series of required questions to receive their newly printed identification card. This is where “instant-on” lamination technology provides its greatest benefit: ensuring the lamination unit is always ready, and that energy isn’t being wasted—even during idle times when it needs to stay at elevated lamination temperatures.

It is also recommended that your chosen solution include built-in intelligent temperature control. This will ensure that the unit consistently stays at an optimal operating temperature—even when printing large volumes. The control also helps to eliminate risks generally associated with overheating such as warped cards, as well as the inconvenience of a forced cool-down cycle during peak operation.

A solution that readies itself for production quickly and can intelligently self-regulate temperature is ideal for higher volume instant issuance, where downtime translates to operator inconvenience, long lines and unhappy cardholders. As noted earlier, solutions such as these will also be GreenCircle[®] certified for their energy-conservation attributes.

Standard Dual Lamination

To reduce the overall cost of your solution, consider options that provide dual-side lamination as a standard feature included in the base price of either the printer or a separately purchased lamination unit, as opposed to products that offer dual-side lamination only as an add-on feature that incurs an additional cost.

Printer and/or lamination units that offer dual-side lamination as a standard feature typically provide one- and two-material options for the unit in lieu of single- or dual-side hardware options. This can prove especially cost-effective if the desire is for dual-side lamination, but only a single material is required to laminate both the front and back of your cards. When only a single lamination material is used, this feature allows for convenient dual-side lamination without the upfront investment in additional hardware.

Support for Large Capacity Consumables

Organizations that intend to print and laminate in high volumes should only consider solutions that support high-capacity consumables. The more laminate patches a system can contain, the less time will be spent replenishing supplies. This significantly lessens the downtime required to change out supplies and subsequent productivity loss. A standard 200-card-minimum input hopper will also keep production up for larger volume jobs.

Ease of Operation

Ease of operation may seem like a very basic criterion, but it is nonetheless worthy of consideration. A non-intuitive card printer may not only cause operator error and frustration, it will also most definitely impact productivity. Seek wasteless lamination solutions that offer simple, cartridge-less lamination loading as well as user-friendly, graphical displays and intuitive controls. Preferred units will also include built-in sensors to ensure that overlaminates are automatically advanced within the unit and aligned properly for optimal results. Audible warnings for overlamine misalignment will prove particularly helpful for operators. Finally, solutions that offer optional Andon lights are especially effective, as they can alert users when materials are low or cleaning is required.

Quality and Warranty

As with all operational investments, quality and dependability are paramount. Solutions worth serious consideration will be those manufactured in ISO 9001-2008 certified facilities. An ISO 9001-2008 registration certifies that the provider’s quality system governing the design, manufacture, sales and distribution of their products has been verified by credible third-party audits.

Another aspect of quality is product warranty. Solution providers who truly stand behind the quality of their products will offer longer-term warranties for both printers and printheads.



The Low-Cost, High-Quality Choice

Organizations that laminate secure identities and cards in high volumes are constantly seeking ways to cut lamination consumables costs without compromising card security and durability. Simultaneously, organizations are also seeking new sustainable product offerings that help them meet government or corporate standards for environmentally preferable purchasing. Wasteless lamination technology meets both of these demands and offers consumers a cost-effective and eco-friendly alternative to traditional lamination methods that ultimately results in a lower cost per card.

Learn more about **HID's range of FARGO® Card & ID Badge Printers** [here](#).

To speak with someone from HID Global about your institution's printing needs, [contact us](#).

About HID Global

For more than 20 years, enterprise corporations, government agencies, healthcare facilities, financial institutions, transit authorities, small-to-medium businesses, K-12 schools, colleges and universities have all relied on HID Global to deliver the world's broadest feature-rich portfolio of card printers/encoders for custom card personalization—creating high-quality color photo IDs and encoding smart cards. With the industry's first fully modular, scalable and future-proof Direct-to-Card (DTC®) and High Definition Printing™ (HDP®) printer portfolio, along with its complete line of visual security products and accessories, HID Global's secure card issuance solutions meet the customization needs of organizations worldwide and are leading the way in secure card issuance innovation.



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