Wasteless Lamination – Your Solution for Low Cost-Per-Card Durability

HID

Summary

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 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

In order to properly define wasteless lamination, let us 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 overlaminate 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 left over carrier film. After the supply roll has been depleted of laminate patches and the take-up core has been filled of subsequent leftover carrier film, the operator then removes both cores along with the used carrier film. Ultimately, this traditional lamination process produces the following waste byproducts: two cores and a full roll of used carrier film - none of which are easily recycled.

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

A wasteless lamination roll wherein no carrier film and subsequent take-up core is required.

Incontrast, wasteless lamination technology aims to reduce this level of needless waste by eliminating the need for carrier film and thus, a subsequent take-up core. With wasteless lamination, overlaminate patches are attached to one another in a continuous stream of material, on a single roll and 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 overlaminate material. Because no carrier film exists, no used carrier film waste is produced.

Cost-effectiveness of Wasteless Lamination

As noted previously, traditional lamination consumables utilize 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 - additional core and carrier film - there are costs associated with the building, assembling, packaging and shipping of those materials. Of these materials, it is the manufacturing of the carrier film that incurs the greatest expense. As a result, traditional lamination supplies are priced accordingly to defray the cost of manufacturing.

Without the need for carrier film, wasteless lamination technology substantially reduces the cost to produce durable lamination consumables. As such, suppliers are able to pass these savings onto consumers and offer more attractive pricing for wasteless overlaminates as opposed to traditional lamination supplies.

For those organizations that laminate cards and IDs in high volumes, wasteless lamination has proven to be more cost-effective as it reduces lamination consumables costs by as much as 50 percent. This subsequently results in a significantly lower cost-per-card. This makes wasteless lamination an ideal alternative for cost-conscious companies, universities, government agencies or any organization that requires the durability and added security of laminated cards but has strict budget constraints.

Environmental Sustainability of Wasteless Lamination

Using traditional lamination methods that utilize the additional core and carrier film produce a considerable amount of waste - especially for those organizations that laminate cards in high volumes. Collectively and over time, this can have a measurable environmental impact in terms of landfill contribution.

Another environmental consideration associated with some traditional lamination solutions is energy consumption. Most lamination solutions consume significant energy in order to heat up and maintain optimal operating temperature. Implementing lamination solutions that leverage technologies such as "instant on" and intelligent temperature control will heat more rapidly and maintain optimal operating temperature while simultaneously conserving energy. Such solutions will also be 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 that can reduce overall carbon footprint.

Recommended Criteria for Selecting a Wasteless Lamination Solution

The following recommendations will ensure you get the most out of the wasteless lamination solution you ultimately select to meet your card issuance needs.
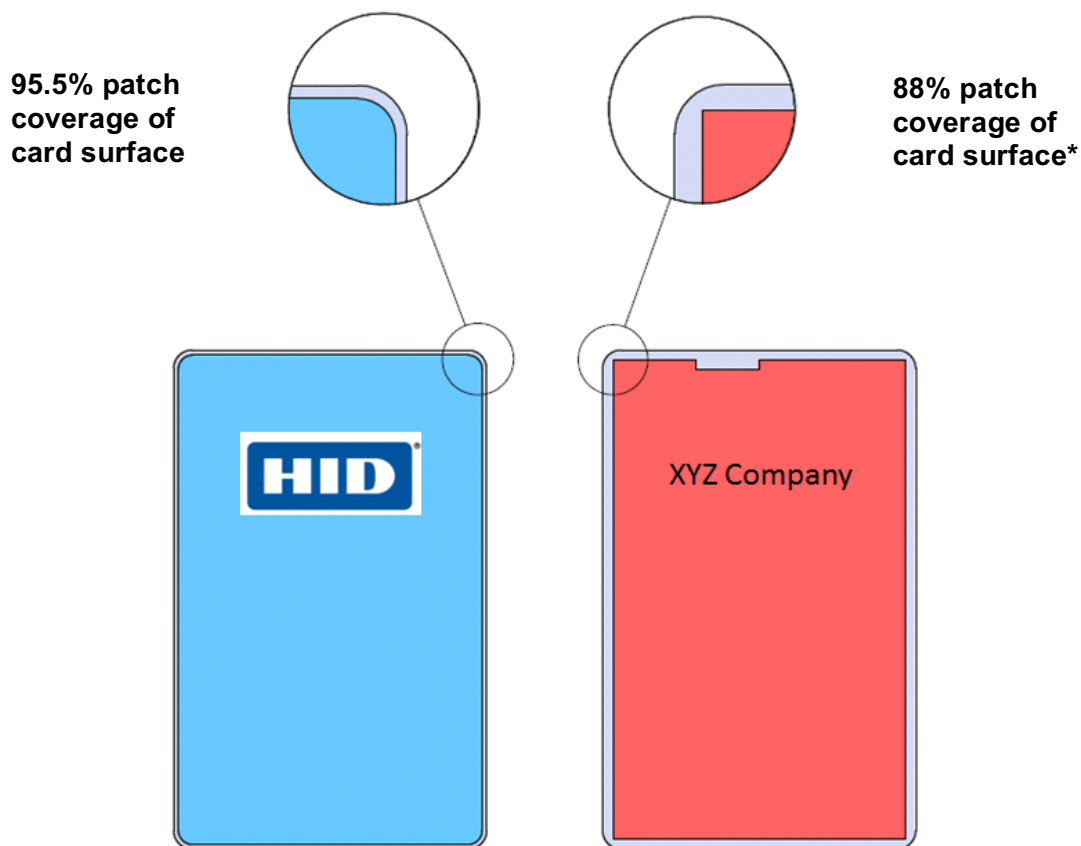
Laminate Patch Coverage

Ultimately, organizations evaluating lamination solutions are doing so with card durability in mind. As such, it is highly recommended that as you compare solution features, you consider how a printer's lamination process may impact the durability of your finished cards. For instance, total laminate patch coverage plays a critical role in this process.

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, one way to ensure you obtain the largest patch coverage possible is to look for solutions that offer laminate patches that have 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 inherently be smaller in size to fit the surface area of the card. Unfortunately, the smaller the patch, the less coverage you have - which impacts overall card durability as a result.

Figure 1

95.5% patch coverage of card surface

88% patch coverage of card surface*

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XYZ Company

Approximate

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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 "heated up" state and maintain readiness – 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 customers only one at a time. Good examples of such organizations include 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 and receive printed cards or IDs one at a time. Once a card holder has completed their transaction and the next in line steps up to conduct his or her business, 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 - since it ensures 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 a built-in intelligent temperature control. This will ensure that the unit consistently stays at an optimal operating temperature even when printing large volumes and also helps to eliminate risks generally associated with overheating - such as warped cards or the inconvenience of a forced cool-down cycle during peak operation.

For higher volume instant issuance where downtime translates to operator inconvenience, long lines and unhappy card holders, seeking a solution that readies itself for production quickly and that can intelligently self-regulate temperature is highly recommended. As noted earlier, solutions such as these will be GreenCircle® certified for their energy-conservation attributes so it is recommended that you seek solutions that have earned this certification.

Standard Dual Lamination

If you are considering cost-effective wasteless lamination solutions, you are undoubtedly taking into consideration the overall cost of your solution options. As such, you may want to consider options that provide dual-side lamination as a standard feature included in the base price - as opposed to products that offer dual-side lamination only as an add-on feature that incurs an additional cost.

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 lucrative 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

For organizations that intend to print and laminate in high volumes, it is recommended that they evaluate only those solutions that support high-capacity consumables. The more laminate patches a system can contain; the less time that will be spent replenishing supplies. This significantly lessens the downtime required to change

out supplies and subsequent productivity loss. A standard minimum 200-card input hopper will also keep production time up for larger volume jobs.

Ease of Operation

Ease of operation may seem like a very basic criterion but nonetheless, it is still worthy of consideration. A non-intuitive card printer may not only cause operator error and frustration, it will most definitely impact productivity. As such, it is recommended that you 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 overlaminates are automatically advanced within the unit and aligned properly for optimal results. Audible warnings for overlaminate misalignment, for example, will also prove especially 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, further simplifying operation.

Quality and Warranty

As with all of your operational investments, solution quality and dependability is paramount. Solutions worth serious consideration will be those that were 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 that truly stand behind the quality of their products will offer longer-term warranties. Warranties for wasteless lamination card printers and printheads should be a minimum of three years for your best return on investment.

Conclusion

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.

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 and High Definition Printing printer portfolio, along with its complete line of visual security products and accessories, HID Global's Secure Issuance solutions meet the customization needs of organizations worldwide and lead the way in Secure Issuance innovation.
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