

Optimizing Costs While Improving the Durability and Security of Identity Credentials

What is Secure Card Issuance?

Secure Card Issuance is the creation and distribution of secure, counterfeit-resistant identity credentials to known and vetted individuals. For example:

- *Photo identification badges, cards or fobs for physical access*
- *Multi-functional smart cards that allow access to networks or protected data, track an individual's time and attendance or enable financial transactions*
- *Highly secure credentials with multiple functions and the capability to print cards either at a single central location or at multiple sites.*

High Definition Printing with High Durable HDP Film Produces Extended-Life and Tamper-Evident Cards

Producing identification cards with a High Definition Printing™ (HDP®) printer that uses high durability retransfer film is a more cost-effective approach for organizations issuing secure, long-lasting credentials.

High Durable HDP Film provides up to three times the abrasion resistance of standard retransfer film. In fact, many organizations may find that High Durable HDP Film provides enough card protection to now eliminate the usual, incremental investment needed for separate lamination hardware and protective card overlaminates. Collectively, these advantages can reduce card personalization equipment costs by up to 45% and materials costs by 25% or more.

When requirements mandate that a printed card be used over long periods of time, in harsh environments, or where there is a potential risk of tampering, High Durable HDP Film is a cost-effective alternative to traditional card lamination.

Background

Retransfer printing, the technology utilized by FARGO® HDP card printer/encoders, diffuses ink into the underside of a dye-receptive retransfer film. The printed film is then fused securely to the surface of the card substrate, creating a tamper-evident and protective barrier from daily wear and tear.

With High Durable HDP Film, attempts to manipulate data on the card will damage the film in such a way that it cannot be repaired or re-used because the tampering will be immediately evident. By contrast, it is possible for a patch overlaminate to be removed and reapplied over an altered card, without enough visible evidence to raise suspicion.

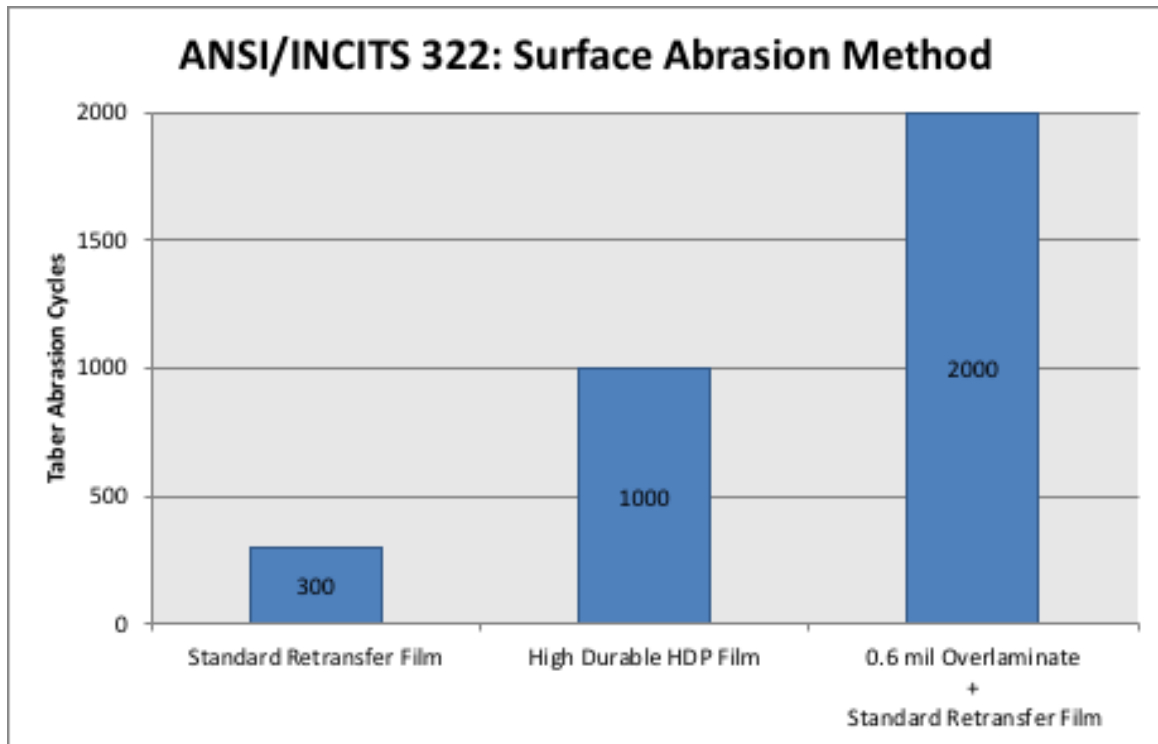
Durability: Abrasion Resistance Testing

Relative to standard retransfer film, High Durable HDP Film is thicker and made of more robust materials and adhesive chemistry, thus providing a more rigorous and resilient protective barrier. In recent durability tests, identification cards were printed using HDP retransfer dye-sublimation technology, using one of the following variations for each finished card:

- Standard retransfer film plus a 0.6 mil overlaminate
- High Durable HDP Film
- Standard retransfer film

Each card variation was then tested for durability, using the ANSI/INCITS 322 test method for surface abrasion. Cards were subjected to abrasive wear cycles on a Taber® abraser until the card's image was rendered unfit for visual authentication. The greater the number of Taber cycles, the greater the life expectancy for the finished card. Abrasion test results between the various card types are compared in Figure 1.

Figure 1: Taber Abrasion Cycles Withstood



Withstanding 1,000 Taber abrasion cycles, High Durable HDP Film provided superior abrasion resistance with over three times the durability of the tested, standard retransfer film. In practical terms, High Durable HDP Film can then be expected to extend card life by two to four years when compared to the industry's standard retransfer film.

Cost/Benefit Analysis

Customer requirements for durability will vary by application, as they are dependent upon the environmental conditions in which the cards will be used and the desired useful life of the finished credentials. Organizations must often balance requirements for card life, use environment and tamper resistance against the materials and production costs associated with card issuance. Questions to consider in the cost-benefit analysis include:

- How long is each cardholder expected to retain and use the credential?
- Where will the card be used and under what conditions?
- How often will the card be used? Is it identification for occasional travel or will it be presented multiple times daily for access privileges or making purchases?
- What is the potential for fraud or counterfeiting?

High Durable HDP Film has a higher cost per unit than standard retransfer film. However, in many cases, by using High Durable HDP Film, the issuing organization may eliminate the need for lamination equipment and overlamine consumables. Thus, High Durable HDP Film will often be more cost-effective, overall, in the production of highly resilient cards.

Specifically, by eliminating the need for a separate overlamine layer, the issuer can avoid the costs associated with:

- Initial fixed investment in lamination hardware or modules.
- Incremental cost of overlamine consumables and inventory management over the life of the card program.
- Required service, maintenance, training and repair risks associated with additional lamination equipment maintenance and repair.

A comparison of the two durable card production alternatives detailed previously reveals that by using High Durable HDP Film alone, instead of standard retransfer film with an overlaminate, card personalization equipment costs can be reduced by up to 45% and materials costs can be reduced by 25% or more, while yielding personalized cards with elevated durability.

Figure 2: Comparison of Durable Card Production Alternatives

		Overlamine + Standard Retransfer Film	High Durable	Compared to 0.6 mil overlamine + standard film, High Durable HDP Film:
Durability (Taber cycles)		HDP Film		Delivers 50% abrasion resistance
Hardware	HDP printer + maintenance	2000	1000	Reduces system investment by up to 45%
	Laminator + maintenance	Yes	Yes	
Consumables	Retransfer Film	Yes	No	Reduces recurring materials costs by up to 25% over life of program
	Overlamine	Standard	High Durable	

Conclusions

The High Durable HDP Film is the ideal choice for identity card issuance organizations seeking a high durability, tamper-evident card solution with low overall production costs. High Durable HDP Film provides a significantly-increased level of card resilience while eliminating the need for separate lamination equipment, maintenance and materials. Using High Durable HDP Film can also result in savings on hardware investments of up to 45% and savings on materials of up to 25% over the life of the card program.

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

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

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 lead the way in secure card issuance innovation.



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