Zebra Card Printer Media and Supplies

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All Zebra card printers feature the same basic printing operations through dye sublimation and thermal transfer printing that utilize different types of media: plastic cards, monochrome and color ribbons, and laminates. There are many third party after-market supply manufacturers now offering various types of media claiming to be compatible with Zebra card printers. Qualification tests performed by our engineers have confirmed that many of the third party after-market supplies do not produce the same print quality as Zebra approved media and supplies. Your high quality Zebra card printer will operate at its optimum performance when only using Zebra approved supplies (plastic cards, ribbons and laminates). By using Zebra supplies you are guaranteed consistent performance and true compatibility with your Zebra printer. Zebra also offers complete system level support for our printers, which include answering questions about ribbon functions and laminate solutions. Each of our Technical Support Representatives are trained on the entire operating functions of printers, which include media and supplies.

Plastic Cards

Zebra Premier and Premier Plus Plastic Cards:

PVC and Composite PVC plastic cards can be used with Zebra color and monochrome printers. Zebra's Premier line of durable plastic cards enhance the print quality and image sharpness needed to produce vivid colors and detailed readable bar codes. Zebra guarantees its cards to be ISO-Compliant, dust-free, and have smooth edges. Zebra offers Premier (PVC) cards, available in 10 and 30 mil thickness; as well as Premier Plus (Composite PVC) cards, available in 30 mil thickness. (30 mil cards = 0.76 mm, 10 mil cards = 0.25 mm)

Premier (PVC) Cards provide high image quality, medium flexibility and temperature durability. They are recommended for all applications requiring edge-to-edge printing. They are available with or without a magnetic stripe (LowCo or HighCo). The estimated life for Premier cards is 24 months with 3,000 duty cycles. Applications for PVC cards are cards with moderate usage and controlled environments, such as transit passes, visitor badges, identification cards, and loyalty cards.

Premier Plus (Composite PVC) Cards provide high image quality, high flexibility and temperature durability. They are available with or without a magnetic stripe (LowCo or HighCo). The estimated life for Premier Plus cards is 48 months (4 Years) to 84 months (7 Years), depending upon design and usage. Composite PVC cards are stronger because they are made up of a polyester core and sandwiched with PVC (60% PVC and 40% polyester core). These cards are used in application environments that are uncontrolled and require high usage such as time and attendance, access control, equipment check-out, and multi-application university ID cards. Premier Plus cards are recommended for use with any laminating printer (P500, P520, P720, S520i, S720i).

Note: All 10 mil cards and adhesive back cards are not recommended for full edge-to-edge color dye-sublimation printing. Adhesive backed cards (pn# 104523-010) can be laminated using single sided lamination on P520C or S520i printers.

The chart below summarizes Zebra approved Plastic Cards standard features, functions, and benefits:

Feature	Function	Benefit
High quality PVC material	Vivid color	Better print quality
	Consistent image (batch to batch/card to card)	Eliminates need to re-issue cards
	Longer card life	Saves money and eliminates need to re-issue cards
	Better UV resistance	Saves money and better print quality
Dust-Free	Reliable printing	Increased efficiency- more "up time"
	No image voids	Better print quality
	Optimized ribbon utilization	More economical
Smooth edges	No damage to print head	Saves money and guaranteed print quality
	No ribbon cutting	Saves money, better print quality, and more efficiency
	Allows quality edge-to-edge printing	Higher quality images
	Prevents scratch lines in printing	Prevents wasting cards, eliminates re-prints
ISO-Compliant Flatness/Dimension/Thickness	Conformance to standards set by the industry	Guaranteed performance
	Allows reliable feeding into printer	Saves times and money, better print quality
	Each card is exactly the same-allows for good image transfer	Consistency in all applications-allows you to win the business
Guaranteed Printer Compatibility	All Zebra supplies are optimized for use with all Zebra card printers	Reliable products that will assure high quality printed cards

Printing Ribbons

Zebra carries two lines of TrueColours® high quality print ribbons, Standard ribbons and *i* Series ribbons. Standard print ribbons are designed to work with older generation printers and current P-series printers. *i* Series print ribbons are designed to work with all *i* series printers.   Standard print ribbons are shipped in black TrueColours® boxes and *i* Series print ribbons are shipped in blue TrueColours® boxes.

Standard Ribbons

i Series Ribbons

All TrueColours® ribbons create brilliantly clear and vivid images that are smudge and scratch resistant. TrueColours® ribbons offer enhanced print character durability, and the 24-bit color and gray scale images show exceptional clarity in all images.   The ribbons are designed with a unique silicone based "back-coating" which allows the ribbon to pass smoothly over the printhead and helps to extend printhead life. Each roll incorporates an easy load, patented design, grooved ribbon supply core and take-up core. This patented grooved ribbon core design helps eliminate any slippage at the ribbon take-up spindle, and a new core installs in only one direction for proper ribbon orientation

i Series print ribbons incorporate a new high color ribbon formulation and RFID technology. This new ribbon formulation provides fuller, richer, more vibrant colors. The ribbon is also wider for better edge-to-edge quality printing. It is designed for increased operating and density range that helps reduce potential ribbon wrinkle. The addition of RFID technology allows the printer to communicate with the ribbon to automatically configure driver settings and provide real time messaging (ribbon type, ribbon count, etc.). Most of the *i* Series print multi-panel ribbons include an adhesive cleaning roller with each roll of ribbon. Cleaning roller replacements are to be used in the printer's cleaning cartridge. Frequent replacement of

the cleaning roller eliminates unwanted card debris from causing print voids on printed cards and extends the life of the printhead.

P200 series dye sublimation color only ribbons also incorporate the new high color formulation and RFID technology.

P200 series ribbon cartridges

Each ribbon roll is shipped in a protective package for extended shelf life. Rolls are packaged in a sealed pouch to prevent dust particles from attaching to the ribbons, then placed in an individually sealed box. Value packs (bulk packaging) are also available.

Zebra TrueColours® Monochrome Resin Ribbons utilize "thermal transfer printing technology," a process by which a heated printhead is used to transfer a digitized image from the ribbon to the surface of the card. Monochrome ribbons can be used on all Zebra printers. They are available in a variety of colors, including black, red, green, blue, gold, silver, white, and scratch-off gray.

Zebra TrueColours® Multi-Panel Ribbons are developed with the newest technology in dyes available. Multi-panel ribbons utilize dye-sublimation, which means the color dye is vaporized into a gaseous state and then diffused onto the cards at the printhead station.

Overlay Varnish and Laminates

Zebra TrueSecure Overlay Varnish and Laminates

All printed plastic cards containing any useful information are subject to counterfeiting, alteration, duplication, and forgery. TrueSecure media includes protective materials such as varnish overlays and laminates that are designed to help eliminate these threats. Card applications subject to these types of card threats should use laminate or varnish overlay to protect the card image.
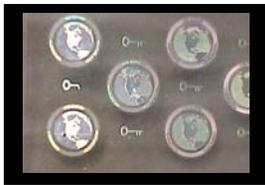
Protection of a card with varnish overlays and lamination will prolong the life of the card by shielding the printed image from UV light (fading of image), preventing dye-migration, reducing normal wear from handling, and reducing wear to the card image caused by frequent swiping of card through magnetic stripe readers.

This type of media consists of clear and holographic varnish overlays and laminate patches that are specially formulated for exceptional quality in card protection for a projected card life span of 2 to 7 years. Varnish overlays can be used on all Zebra card printers (except P200 series). Laminate ribbons can only be used with models P500, P520, S520, P720, and S720.

Varnish Overlay ribbons use the same concept as thermal transfer monochrome ribbon. Varnish overlay ribbons consist of polyester foil (carrier), special backcoat, and ink. The ink transfer can be done by a printhead or by a hot roller. It applies a 4-micron thick protective layer to the top of the card after printing the image and text. All Zebra printers, except P200, series can apply the holographic varnish overlay. For extra protection, you can apply the holographic varnish overlay with O-panel applications. Varnish overlay ribbons are available in clear or with a standard or custom hologram. Holograms are created using a two-dimensional photograph and recorded to a holographic layer at a +90 degree incline (also known as a contact method). Varnish overlays are applied with a thermal transfer technology. Contact your Zebra Sales Representative for a quote on a custom hologram or refer to the Custom Media Guide.

Laminate Patch ribbon is available in a 1 mil (25 microns) or .6 mil (15 microns) thick polyester laminate. The laminate patches provide added protection against abrasion, dye migration and fading for printed PVC and composite PVC cards. Laminating printers apply the laminate using heat rollers and a cooling station. The laminated cards meet ISO flatness specifications when using composite PVC cards. Options for various types of laminates include cutouts for magnetic stripes and smart cards, and varying degrees of holographic protection. Patches should not be applied in applications where overlay varnishes are used. Zebra stocks clear laminate and two standard holograms: World Globe image and Genuine Secure Text. Custom hologram designs are also available. For custom holographic laminate information, contact your Zebra Sales Representative for a quote or refer to the Custom Media Guide.

Standard Holograms

World Globe Image

Genuine Secure Text Image

The chart below summarizes Zebra printing and laminating ribbons standard features, function, and competitive benefits:

Feature	Function	Competitive Benefit
Optimized chemical composition of dyes and varnish	Good UV protection	Proven longer image life
Guaranteed printer compatibility	No ribbon wrinkling, no dust, no static	Better color and image quality, no color streaks, longer printhead life, no card slippage,
Increased printer performance	Zebra supplies maintain "System Performance Integrity" and also provide complete technical support (via phone, tech notes, web site) for entire system.	Zebra TrueColours® supplies to optimize your card printer performance
Optimized color with guaranteed quality	Ribbon has been tested for compatibility printer/firmware/software- 100% tested and matched	High "automatic" color quality (no settings need adjustment)
Overlay varnish	Protects image from abrasion	Longer card life
System level support	Trained by Zebra - on entire operating functions of printer	Allows end user to ask questions about ribbon functions and about printer functions with one phone call.
Instant availability	Ribbon orders are available within 48 hrs	Money back guarantee back by Zebra

Cleaning Supplies

Zebra offers a variety cleaning supplies that will assist in maintaining proper printer performance. The Premier Cleaning Kit consists of 50 pre-saturated cleaning cards and 25 cleaning swabs. Regular use of the cleaning cards will keep your card printer clean and maintain important parts of the printer (printhead, transport rollers, and magnetic encoder station). The cleaning swabs can be used when print anomalies appear on cards to remove visible deposits from the print head. It is important to never use a sharp object to scrape deposits from the printhead, as it may permanently damage the printhead. Cleaning cartridges are directly installed in

some printers. The cleaning cartridge incorporates an adhesive roller that clean cards as they pass over the roller to ensure the highest quality print on each card. Periodic replacement of the adhesive roller and general cleaning will help to maintain optimal performance of your card printer. Zebra recommends cleaning the card printer every 1,000 cards and replacing the cleaning roller of the cleaning cartridge every 1,000 cards if used daily. If printer is used periodically, replace cleaning roller at least every four months. For further cleaning instructions and recommendations refer to printer User' Manual.

Card Printer Ribbon Selection Guide

Ribbon Type	Product Description	Recommended Printer Support	Technology
Monochrome	Monochrome ribbons available in 8 different colors. (Black only for P200 series printers)	P205, P210, P310C/F, P320, P400, P420, P500, P520, S520, P600, P720, S720	Thermal Transfer
6 Panel (YMCKOK)	Used to print full color with overlay on one side and black on the other side.	P400, P420, P500**, P520**, S520**, P600, P720**, S720**	Dye Sublimation Thermal Transfer
5 Panel (YMCKO)	Used for printing full color cards.	P210, P310C, P320, P400, P420, P500**, P520**, S520**, P600, P720**, S720**	Dye Sublimation Thermal Transfer
4 Panel (YMCK)	Used for full color printing before the laminate material is applied.	P500, P520, S520, P720, S720	Dye Sublimation Thermal Transfer
2 Panel (K dye O)	Used for printing photographs or images that require grayscale (shades of black).	P310C, P320, P400, P420, P500**, P520**, S520**, P600, P720**, S720**	Dye Sublimation
2 Panel (K resin O)	Used for bar code printing or any application requiring true black.	P310C, P320, P400, P420, P500**, P520**, S520**, P600, P720**, S720**	Thermal Transfer
5 Panel (YMCKK)	Used for printing full color on front & black resin on back before the lamination is applied.	P500, P520, S520, P720, S720	Dye Sublimation Thermal Transfer
3 Panel (YMC)	Used for printing full color with P500 Overlaminate or with P600 with KO on station 2	P500, P520, S520, P600, P720, S720	Dye Sublimation
Overlay Varnishes			
Clear	3-4 microns thick. Provides extra protection from UV damage and scratching.	P310C/F, P320, P400, P420, P600 (P500, P520, S520 Print Station Only)	Thermal Transfer
Genuine Secure Hologram	Hologram "Genuine" from one angle and "Secure" from another.	P310C/F, P320, P400, P420, P600 (P500, P520, S520 Print Station Only)	Thermal Transfer
P500, P520, S520 Carrier Based Laminate Patches			
Clear	1 mil & 0.6 mil laminates for highly durable cards.	P500, P520, S520	Hot Roll Laminator
Genuine Secure Hologram	Hologram image with text "Genuine" from one angle and "Secure" from another angle (1.0 mil laminate).	P500, P520, S520	Hot Roll Laminator
World Globe Hologram	Hologram image of word globes randomly placed, wallpaper image (1.0 mil laminate)	P500, P520, S520	Hot Roll Laminator
P720, S720 Linerless Laminate Patches			
Clear	1.0 mil laminate for highly durable cards	P720, S720	Hot Roll Laminator
World Globe Hologram	Hologram image of world globes randomly placed, wallpaper image (1.0 mil laminate)	P720, S720	Hot Roll Laminator
Genuine Secure Hologram	Hologram image with text "Genuine" from one angle and "Secure" from another angle with wavy lines. (1.0 mil laminate).	P720, S720	Hot Roll Laminator
Signature Panel Matte	1 mil laminate material that can be written on after lamination to card. Allows for ink signature on laminated card.	P720, S720	Hot Roll Laminator
*10 Mil cards are not recommended for full color card printing. Good for small pictures, logos, color text. 10 Mil Adhesive Backed Cards w/14 mil mylar backing can be used on P200 Series, P310, P320, P420, P520, S520 **O-panel is not used with the P500, P520, S520 or P720, S720 Laminates. 30 mil = 0.76 mm, 10 mil = 0.25 mm			

Ribbon & Laminate

Shelf Life Information

Storage . . . .

Avoid storing print ribbons, varnish overlays, and laminate ribbons in the following places:

- Direct exposure to sunlight
- Areas with high temperatures and high relative humidity
- Areas with nearby heat source
- Areas where chemicals and other solvents are stored

Usage . . . .

- Use print ribbons, varnish overlays, and laminate ribbons according to directions in card printer user's manuals
- Avoid touching the printing surface of ribbons as it may cause blotchy printing
- Avoid any contamination during the loading of ribbons, as contamination can cause print voids
- Improper storage can cause varnish overlays and laminates to pre-activate (laminates will become sticky)

Package Assurance . . . .

Ribbons stored following these guidelines will maintain their properties within allowance. Assurance for an extended period of time is valued by an accelerated examination. A ribbon stored at room temperature is regarded as reference.

- All ribbons should be stored in original packaging

Ribbon, Varnish Overlays, and Laminates
Environmental Requirements

TrueColours® Monochrome Resin Ribbons					
Part Number	**Description**	**Storage Time**	**Storage T°C**	**Humidity**	*Light*
800015-101	Black – 1000 images	1 year	+5 to +35°C	< 80 %	N/A
800015-102	Red – 1000 images	1 year	+5 to +35°C	< 80 %	N/A
800015-103	Green – 1000 images	1 year	+5 to +35°C	< 80 %	N/A
800015-104	Blue – 1000 images	1 year	+5 to +35°C	< 80 %	N/A
800015-106	Gold – 1000 images	2 years	+5 to +30°C	None	N/A
800015-107	Silver – 1000 images	2 years	+5 to +30°C	None	N/A
800015-109	White – 1000 images	1 year	+5 to +35°C	25 to 80%	N/A
800015-185	Scratch-Off Gray – 880 images	1 year	+0 to +40°C	35 to 65%	Dark Place
800015-201	Black – Cartridge 500 images	1 year	+5 to +35°C	< 80 %	N/A
800015-301	Black – 1500 images	1 year	+5 to +35°C	< 80 %	N/A

TrueColours® Printing Ribbons					
Part Number	*Description*	**Storage Time**	**Storage T°C**	**Humidity**	*Light*
800015-148 800015-448	6 Panel Color Ribbon YMCKOK	1 year	< +25°C	35 to 65%	Dark Place
800015-140 800015-240 800015-340 800015-440 800015-540 800015-640	5 Panel Color Ribbon YMCKO	1 year	< +25°C	35 to 65%	Dark Place
800015-180 800015-480	5 Panel Color Ribbon YMCKK	1 year	< +25°C	35 to 65%	Dark Place
800015-145 800015-445 800015-545	4 Panel Color Ribbon YMCK	1 year	< +25°C	35 to 65%	Dark Place
800015-170 800015-470	3 Panel Color Ribbon YMC	1 year	< +25°C	35 to 65%	Dark Place
800015-150 800015-450	2 Panel Black Ribbon Kdye + O	1 year	< +25°C	35 to 65%	Dark Place
800015-160 800015-460	2 Panel Resin Ribbon KResin + O	1 year	< +25°C	35 to 65%	Dark Place

TrueSecure Varnish Overlay

Part Number	Description	Storage Time	Storage T°C	Humidity	Light
800015-122	Clear 350 cards	2 years	+21° to+ 26°C	30 to 50%	N/A
800015-120	Genuine Secure Hologram 350 cards	2 years	+21° to +26°C	30 to 50%	N/A
800015-131	Clear for P500/P520/S520 350 cards	2 years	+21° to +26°C	30 to 50%	N/A

TrueSecure - P500, P520, S520 Laminate Patches

Part Number	Description	Storage Time	Storage T°C	Humidity	Light
800015-012	Clear with coverage for Mag Stripe Cards 100 cards	1 year	+20°C to +25°C	45%	N/A
800015-013	Clear with coverage for Smart Cards 100 cards	1 year	+20°C to +25°C	45%	N/A
800015-014	Clear with full coverage 100 cards	1 year	+20°C to +25°C	45%	N/A
800015-031	Clear Mixed (Full & Mag Stripe) 100 patches (50 dual sided cards)	1 year	+20°C to +25°C	45%	N/A
800015-032	Genuine Secure Hologram 100 cards	1 year	+20°C to +25°C	45%	N/A
800015-033	World Globe Hologram 100 cards	1 year	+20°C to +25°C	45%	N/A
800015-135	Clear with full coverage 175 cards	1 year	+20°C to +25°C	45%	N/A

TrueSecure - P720, S720 Laminate Patches

Part Number	Description	Storage Time	Storage T°C	Humidity	Light
800015-712	Clear for Mag Stripe Cards 800 cards	1 year	+20°C to +25°C	45%	N/A
800015-713	Clear with coverage for Smart cards 800 cards	1 year	+20°C to +25°C	45%	N/A
800015-714	Clear Full Size 800 cards	1 year	+20°C to +25°C	45%	N/A
800015-715	Hologram World Globe Image 800 cards	1 year	+20°C to +25°C	45%	N/A
800015-716	Hologram Genuine Secure 800 cards	1 year	+20°C to +25°C	45%	N/A
800015-717	Signature Panel Writable Matte Full Size 700 cards	1 year	+20°C to+ 25°C	45%	N/A
800015-718	Signature Panel Writable Matte Mag Stripe 700 cards	1 year	+20°C to +25°C	45%	N/A