

## Certified Media and Supplies

- Plastic Cards
- Printing Ribbons
- Laminates
- Cleaning Supplies
- Ribbon Selection Guide
- Ribbon Shelf Life Information

All Eltron 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 Eltron 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 Eltron certified media and supplies. Your high quality Eltron card printer will operate at its optimum performance when only using Eltron Certified Supplies (plastic cards, ribbons and laminates). By using Eltron supplies you are guaranteed consistent performance and true compatibility with your Eltron printer. Eltron 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.



### Eltron Premier and Premier Plus Plastic Cards:

Three common card types can be used with Eltron card printers: ABS, PVC and Composite PVC. ABS cards should only be used with monochrome printers. PVC and Composite PVC cards can be used with color and monochrome printers. Eltron's Premier line of durable plastic cards enhance the print quality and image sharpness needed to produce vivid colors and detailed readable bar codes. Eltron guarantees its cards to be ISO-Compliant, dust-free, and have smooth edges. Eltron 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 are 0.76 mm thick, 10 mil cards are 0.25 mm thick). Both types of cards are available in packaged sets of 100 or 200 cards with an easy to read label with the Eltron part number in numeric and barcode form. All cards meet ISO-7810 ID-1 and CR-80 specifications (2.125" x 3.375") (53.98mm x 85.72mm).

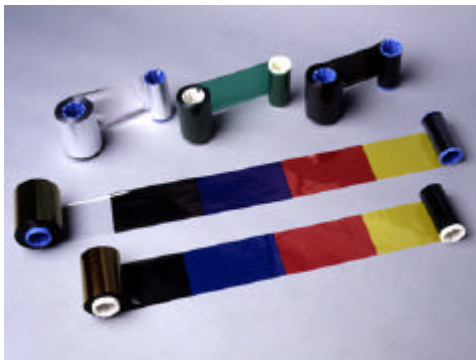
Eltron Premier (PVC) Cards provide high image quality, medium flexibility and temperature durability. They are recommended for all applications requiring edge-to-edge printing. They are available with or without a magnetic stripe (LowCo or HighCo). The estimated life for Premier cards is 24 months with 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.

Eltron 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 actual card 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 the P500 Card Printer when laminating both sides of the card or when producing true ISO flat cards is necessary. The P500 patch will also help to extend the life of the card.

The chart below summarizes Eltron Certified 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 waisting 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 Eltron supplies are tested and certified for use will all Eltron card printers	Reliable products that will assure high quality printed cards



#### Eltron TrueColor Printing Ribbons:

Eltron's TrueColor line of high quality printing ribbons is specially formulated with optimized chemical composition of dyes and varnish that create brilliantly clear and vivid images. Our ribbons offer enhanced print character durability and the 24-bit color and gray scale images show exceptional clarity to all images with a proven longer image life. Our ribbons are designed with a unique "back-coating," which allows the ribbon to pass smoothly over the printhead and helps to extend printhead life. Each roll of ribbon comes standard with a patent-pending take-up-core (this will eliminate from having to stock an additional

separate take-up-core). 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. They are placed in an convenient stacking, individually sealed box with an easy to read label noting the type of ribbon panel, where it can be used (printing station), along with Eltron's part number in numeric and barcode form and manufacturing lot number (scheduled for March, 2000).

Eltron TrueColor 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 Eltron printers. They are available in a variety of colors. Colors include black, red, green, blue, gold, silver, white, and scratch-off gray.

Eltron TrueColor Multi-Panel Ribbons are developed with the newest technology dyes available. Multi-panel ribbons utilizes dye sublimation, which means the color dye is vaporized into a gaseous state

and then diffused onto the cards at the printhead station. Many types of panels are available (a few have a clear protective overcoat (O) panel which helps to protect your card image).

- 6 Panel ribbon (YMCKOK) is ideal for printing a full color card on one side and monochrome on the back. For use with the P400, P420, P500, or P600.
- 5 Panel ribbon (YMCKO) is designed for full color printing on one or two sides. It can be used with all of the Eltron color printers.
- 5 Panel ribbon (YMCKK) is designed for use with the P500. It would print full color on the front and Kresin on the back; a P500 Overlaminating Patch can then protect the card if needed.
- 4 Panel ribbon (YMCK) is designed for use with the P500 printer/laminator and Overlaminating Patches. A clear protective overcoat (O) panel is not necessary because the P500 Overlaminating Patch provides sufficient protection.
- 3 Panel ribbon (YMC) is designed for printing full color on one station; clear protective overcoats or laminates can be applied at the second station (P500 or P600 models) if needed.
- 2 Panel black dye-sublimation ribbon (K dye + O) is one panel of black and one panel of clear protective overcoat. This ribbon is optimal for printing photo quality, black and white images.
- 2 Panel black resin ribbon (K resin + O) is one panel each of black and one panel of clear protective overcoat. This ribbon provides the least expensive way to print high quality, monochrome badges with bar codes.



**TrueSecure and MaxSecure Laminating Ribbons:** Eltron offers two brands of extremely durable protective laminating ribbons, TrueSecure and MaxSecure media with varying degrees of durability and security from 2 years to 10 years. TrueSecure media includes protective materials such as varnish overlays and overlaminates that are designed to eliminate the potential of tampering or alterations to cards. This media consists of clear and holographic varnish overlays and overlaminating patches that are specially formulated for exceptional quality in card protection for projected card life span of 2 to 5 years. Varnish overlays can be used on all Eltron card printers. Overlaminates can only be used with model P500.

Holographic Varnish Overlay is the most popular security protection (copy protection) method used on printed PVC or composite PVC cards. Eltron's 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). The holograms are applied with a thermal transfer technology, producing a top protective layer approximately 4 microns thick. All Eltron printers can apply the holographic varnish overlay. For extra protection, you can apply the holographic varnish overlay with O-panel applications. Clear varnish overlay ribbons are also available. Eltron also offers custom design for holographic ribbons, contact your Eltron Business Partner for a quote.



The Pcard  
Holographic ICON

Overlaminating Patches consist of 1 mil (25 micron) or .6 mil (15 micron) thick polyester laminate, providing protection against abrasion, dye migration and fading for printed PVC and composite PVC cards. The P500 applies the laminate using heat rollers and a cooling station. The laminated cards meet ISO flatness specifications with composite PVC cards. Options for overlaminates 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.

MaxSecure\_media is specifically designed for use with Eltron's Max Series line of card printers. The MaxSecure media incorporates the 3M™ Secure Cardmaterials, which produce a card with a projected life span of 10 years. 3M™ Secure Cardmaterials are available with 3-part media (receptor film/security

substrate/receptor film) or 2-part media (receptor film/security substrate). The 3-part media consists three pieces of material, a clear receptor film (top) and a white plastic card (middle), and a clear receptor film (bottom). The 2-part media consists two pieces of material, a clear receptor film (top) and a white plastic card (bottom). In this process, the printed information is reverse-printed on the back side of the clear receptor film and then fused to the white secure card sealing the information on the inside between the two materials. The materials are thermally fused together using heat and pressure. The fused material is virtually impossible to separate without destroying the card and information printed on it. MaxSecure media is packaged individually.

Each roll of TrueSecure ribbon comes standard with a take-up-core (this will eliminate from having to stock an additional item/part number for a separate take-up-core). Each 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. They are placed in a convenient stacking, individually sealed box with an easy to read label noting the type of laminate, where it can be used (laminating station), the Eltron part number in numeric and barcode form, and manufacturing lot number (scheduled for March, 2000).

The chart below summarizes Eltron 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	Eltron supplies maintain "System Performance Integrity" and also provides complete technical support (via phone, tech notes, web site) for entire system.	"Eltron Certified Supplies" tested 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 Eltron - 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 hours	Money back guarantee back by Eltron



### Cleaning Supplies

Eltron 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.

### **Card Printer Ribbon Selection Guide**

	Product Description	Printer Support	Technology	Cards
<b>Ribbons</b>				
Monochrome	Monochrome ribbons available in 8 different colors.	P310C, P310F, P400, P420, P500, P600,	Thermal Transfer	10*Mil – 44 Mil 30 Mil w/P500 10*Mil - 60 Mil w/P310/P420
6 Panel (YMCKOK)	Used to print full color with overlay on one side and black on the other side.	P400, P420, P500**	Dye Sublimation Thermal Transfer	10*Mil – 44 Mil 30 Mil w/P500
5 Panel (YMCKO)	Used for printing full color cards	P310C, P400, P420, P500**, P600	Dye Sublimation Thermal Transfer	10*Mil – 44 Mil 10*Mil - 60 Mil w/P310/P420
4 Panel (YMCK)	Used for full color printing before the overlaminates is applied.	P500	Dye Sublimation Thermal Transfer	30 Mil
2 Panel (K dye O)	Used for printing photographs or images that require grayscale (shades of black).	P310C, P400, P420, P500**, P600	Dye Sublimation	10*Mil – 44 Mil 30 Mil w/P500 10*Mil - 60 Mil w/P310/P420
2 Panel (K resin O)	Used for bar code printing or any application requiring true black.	P310C, P400, P420, P500**, P600	Thermal Transfer	10*Mil – 44 Mil 30 Mil w/P500 10*Mil - 60 Mil w/P310/P420
5 Panel (YMCKK)	Used for printing full color on front & black resin on back before the lamination is applied.	P500	Dye Sublimation Thermal Transfer	30 Mil
3 Panel (YMC)	Used for printing full color with P500 Overlaminates or with P600 with KO on station 2.	P500	Dye Sublimation	10*Mil – 44 Mil 30 Mil w/P500
<b>Overlay Varnishes</b>				
Clear	3-4 microns thick. Provides extra protection from UV damage and scratching.	P310C, P310F, P400, P420, P600	Thermal Transfer	10*Mil – 44 Mil 10*Mil - 60 Mil w/P310/P420
Genuine Secure Hologram	Hologram « genuine » from one angle and « Secure » from another.	P310C, P310F, P400, P420, P600	Thermal Transfer	10*Mil – 44 Mil 10*Mil - 60 Mil w/P310/P420
Pcards Hologram	Hologram image is of plastic cards fanned into a circle.	P310C, P310F, P400, P420, P600	Thermal Transfer	10*Mil – 44 Mil 10*Mil - 60 Mil w/P310/P420
Pcards Hologram (laminating station)	Hologram image is of plastic cards fanned into a circle.	P500	Hot Roll Laminator	10*Mil – 44 Mil
<b>1 Mil Overlaminates Patches (for cards that need to last &gt;2 years)</b>				
Clear	1 mil patch for highly durable cards. Also available for Smart Cards and Mag Stripe Cards.	P500	Hot Roll Laminator	30 Mil
Pcards Hologram	1 mil patch material with a hologram image that is plastic cards fanned into a circle.	P500	Hot Roll Laminator	30 Mil
Pcards Advantage Seal	1 mil patch material with a trimodal hologram. The image will be of the fanned cards and will turn from orange to clear to green as the card is rotated.	P500	Hot Roll Laminator	30 Mil
<b>0.6 Mil Overlaminates Patches (for cards that need to last &gt;2 years)</b>				
Clear	0.6 mil patch for durable cards. Also available for Smart Cards and Mag Stripe Cards.	P500	Hot Roll Laminator	30 Mil

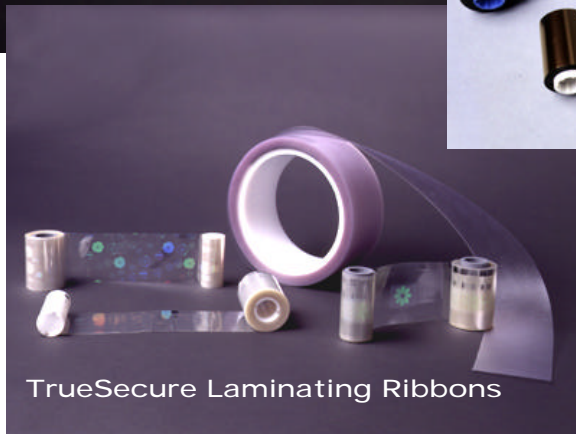
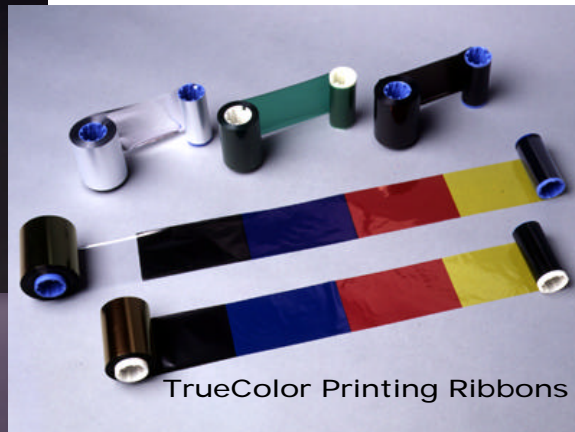
\*10 Mil cards are not recommended for full color card printing. Good for small pictures, logos, color text.

\*\*O-panel is not used with the P500 Overlaminates Patch. 10 mil = 0.25 mm, 30 mil = 0.76 mm, 44 mil = 1.1mm, 60 mil = 1.5mm

## Why Use Eltron Certified Media

- Guaranteed Compatibility
- Optimized Performance
- Conformance With Specifications
- Best Manufacturing Quality
- Consistently High Print Quality
- Summary of Benefits

Our research and development staff extensively tests and certifies all media and supplies with Eltron card printers in order to ensure printer compatibility. Our products meet high quality standards so we can offer our customers exceptional printing performance solutions with all Eltron Card Printer Products.



Guaranteed Eltron Printer Compatibility

*For Best Results Use Only Eltron Certified Media and Supplies*

Rev A. (1/19/2000) JD

What is important with card printer media and supplies is their actual compatibility with a card printer. Matched media, consistent quality, optimum performance, and low risk are a few key characteristics to consider when choosing to purchase media and supplies for a card printer. All Eltron 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 Eltron 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 Eltron certified media and supplies. Your high quality Eltron card printer will operate at its optimum performance when only using Eltron Certified Supplies (plastic cards, ribbons and laminates). By using Eltron supplies you are guaranteed consistent performance and true compatibility with your Eltron printer. Eltron also offers complete system level support for our printers, which include answering questions about ribbon functions and laminate solutions and they work with each printer. Each of our Technical Support Representatives are trained on the entire operating functions of printers which include media and supplies.

### Optimize Printer Performance

Eltron offers guaranteed compatible media and supplies. The only company that can ensure performance to a card printer is the card printer designer/manufacturer. Card printers are systems, comprised of subsystems designed to optimize performance, reliability, and image quality. The major subsystems include card transport, control electronics, ribbon system, and print head. These subsystems are designed and set-up to operate at their optimum performance with only Eltron Certified Supplies (cards, ribbons, laminates). By using other sources for media and supplies it may represent significant risks to the overall performance of the card printer.

### Ensure Conformance With Specifications

The card printing market is growing rapidly, with this growth we are beginning to see many third party suppliers. The third party suppliers are claiming to offer comparable media and supplies. It is very important that our customers understand that third party media and supplies have not been tested for conformance to Eltron specifications. In most cases, the third party media and supplies will require the user to make adjustments to Eltron printer settings (software/hardware) in order for the printer to work properly due to the non-conformity to our recent printer designs. This action of changing printer settings may adversely affect the print quality and durability to your overall card design.

### Highest Manufacturing Quality

Eltron card printer ribbons and laminates are produced in a tightly controlled, high volume ribbon manufacturing facility. With Eltron supplies you are guaranteed to receive the same consistency and quality with each ribbon or laminate supply order. Many of the third party suppliers are regional value added distributors who have no control of the actual operating conditions of the ribbons and laminates they supply. For the card printers to operate with consistent print quality levels it is very important to use Eltron's matched media which has been tested with each printer and in turn will help to ensure long lasting performance with your printer. There are potential risks with third party media and supplies because the Eltron factory printer settings may not always be compatible, in a few cases we have seen excessive printhead wear or other damage to the printers.

### Consistent Print Quality

For the card printers to operate with consistency print quality levels it is very important to use Eltron's matched media which has been tested with each printer and in turn will help to ensure long lasting performance with your printer. There are potential risks with third party media and supplies because the Eltron factory printer settings may not always be compatible, in a few cases we have seen excessive printhead wear or other damage to the printers. The following charts summarize significant benefits by using Eltron certified media and supplies:

*For Best Results Use Only Eltron Certified Media and Supplies*

Rev A. (1/19/2000) JD

## Eltron Plastic Cards Summary

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 waisting 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 Eltron supplies are tested and certified for use with all Eltron card printers	Reliable products that will assure high quality printed cards

## Eltron Printing and Laminating Ribbons Summary

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	Eltron supplies maintain "System Performance Integrity" and also provides complete technical support (via phone, tech notes, web site) for entire system.	"Eltron Certified Supplies" tested 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 Eltron - 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 hours	Money back guarantee back by Eltron

*For Best Results Use Only Eltron Certified Media and Supplies*

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