



Printer Media Guide

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Overview:

Printing with barcodes

Barcode printing is fueling the evolution of printing in a digital era. Why? Barcodes transmit thousands of data in a single scan. If you print barcodes to track inventory, assets or other unique applications, it's important to understand what printer media choices affect the quality, utilization and life expectancy of your printed material. This step-by-step guide will help ensure you get the right print product by walking you through the choices involved in your printing needs assessment.



Visit Wasp's Barcode Education Library for more information about printing barcodes
http://www.waspbarcode.com/barcode_education/

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1 Printer Types

Which printer is best suited for your needs - desktop or industrial?

Most barcode image files are vector artwork, which means that the image is resolution independent and can be scaled without affecting quality. This is especially important when producing barcode! Resolution errors when outputting barcodes can result in poor quality printed barcodes, which makes them more difficult to read.



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2. Print Method

Printing Barcodes – what print method is best?

Lithographic or **Flexographic** traditional printing is common for retail use. Barcode artwork is made into plates which are used to mass print copies of the image.

Laser or **Inkjet** printing is best for in-house label printing. Use caution when printing with Inkjet! Be sure to monitor ink spread on paper such that quantity applied does not make the barcode unreadable.

Thermal transfer (TT) or **Direct Thermal (DT)** printing. This utilizes a special kind of printer which uses heat to produce an image on the label. One method is likely better than the other for your printing needs.

Thermal Transfer

In thermal transfer printing - a wax or resin ribbon is used to produce a permanent image on the label. Thermal transfer labels last much longer than direct thermal labels and offer higher levels of scratch, smudge, and heat resistance.

Thermal transfer printing is recommended for asset tagging, evidence tagging, outdoor barcoding, and certification labeling, as well as common labels that will be exposed to above normal temperatures.

Direct Thermal

In direct thermal printing - special heat sensitive labels are used, making the image susceptible to elements over time. Direct sunlight and high temperature environments accelerate deterioration.

Direct thermal printing is recommended for general-purpose labeling, warehouse pick ticketing, distribution, shipping, address labeling, packaging, and shelf and retail product labeling.

3. Print Material

Printing Barcodes – what print method is best?

Identify the size and type of label you need and select the material that best suits your application.

Paper

Direct Thermal (DT) paper labels are an excellent choice for light duty applications like retail, shipping/receiving, inventory, document tracking, shelf labeling, and customer management records.

Thermal Transfer (TT) paper labels provide excellent resistance to contaminants like water, blood, fat, PVCs, and oils. When used in combination with ribbon, TT paper labels offer much higher resistance against environmental factors. TT paper labels well suited for near-permanent label making – like asset tags, property/evidence management, shipping/receiving and more.

Polyester

Polyester labels provide much stronger resistance to temperature, tearing, abrasion, solvents and water. When combined with the appropriate ribbon, poly labels are best used for applications demanding an extremely durable label. These labels can also include a tamper-evident feature to protect against theft and asset loss.

Kimdura (Polypropylene)

Kimdura is a synthetic material - very strong and much more resistant to temperature, chemicals, and tearing than paper labels. However, they are considered less durable than polyester.

Wristbands

Wristbands are available in standard sizes for adults and infants. Wristbands are water-resistant with a durable top-coat water protection against soap and hand sanitizers, and fitted with a permanent adhesive closure and unique tamper cut design.

In a healthcare setting, hospital wristbands prevent data collection and entry errors by ensuring health services are delivered to the right patient, every time. Wristbands are magnetic resonance (MR) safe and latex free and meet patient ID guidelines for the Joint Commission, World Healthcare Organization (WHO), Health Insurance Portability and Accountability Act (HIPAA), and the American Hospital Association (AHA).

Event wristbands are optimal for tracking attendees at music festivals, sporting events and other restricted-access gatherings.

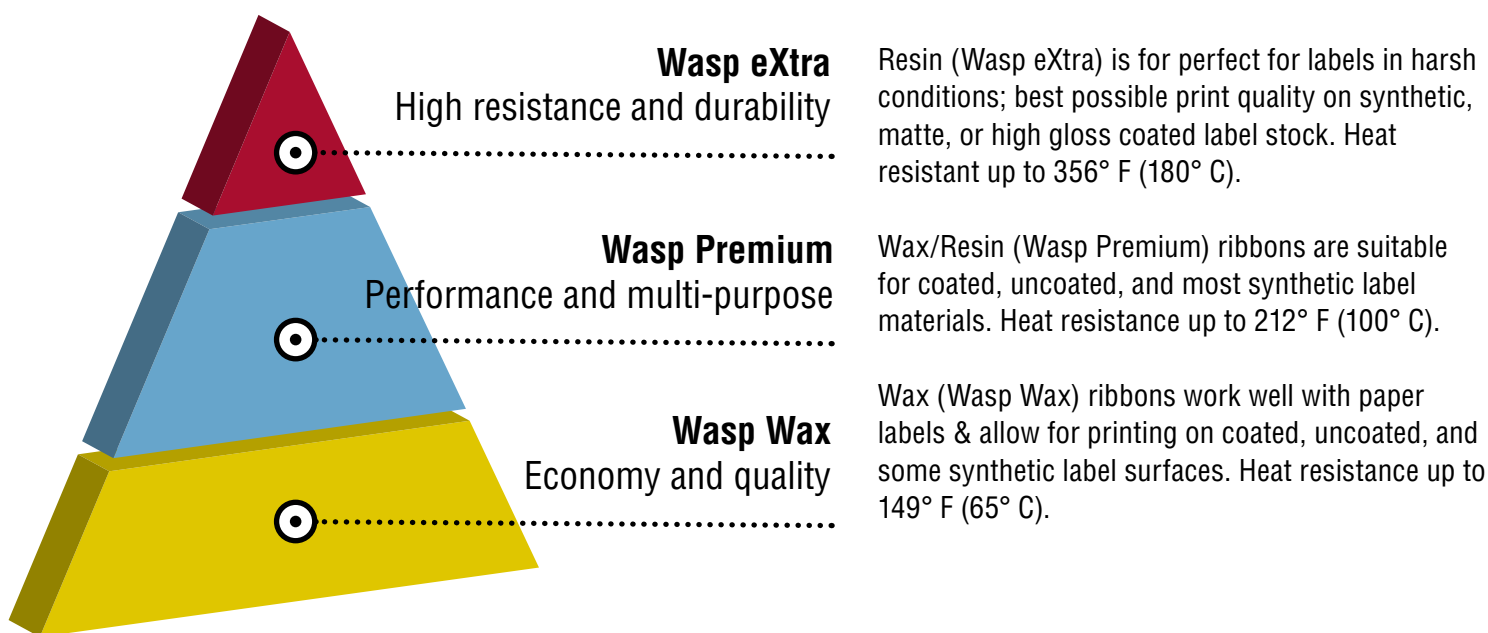
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4. Ribbons

Ribbons are required for thermal transfer printers. Using thermal transfer labels with ribbons means a longer shelf space and will be resistant to damage from heat or friction compared to direct thermal printing.

Ribbons offer benefits like heat and smudge resistance, plus they provide a layer of print head protection. Ribbon material matters because certain ribbons have a stronger bond to certain label materials. Wax, Resin and Wax-Resin blend ribbons are available; prices become more expensive as the ribbon material becomes stronger.



LABEL MATERIAL	BEST	GOOD
Paper	Wasp Wax (Wax)	Wasp Premium (Wax-Resin)
Polyester	Wasp eXtra (Resin)	Wasp Premium (Wax-Resin)
Kimdura	Wasp eXtra (Resin)	Wasp Premium (Wax-Resin)

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4. Ribbons

Asset-tag	An informational tag on inventoried items, used for ongoing asset management purposes
Barcode	An array of parallel bars and spaces encoding information
Desktop barcode printer	Easy-to-use, compact label printers that use thermal printing technology to produce barcodes quickly and efficiently
Direct thermal (DT)	A process in which a set of pins on a printhead are selectively heated onto heat-sensitive paper (or label stock). In turn, the paper turns dark and a bar code is formed. Direct thermal does not require a second consumable (ink or toner) to print, but a direct thermal image will fade over time.
DPI	Dots per inch
Flexographic printing	Printing process that utilizes a flexible relief plate for mass production of an item, printable on most any substrate and widely used in packaging and other large-scale operations
Industrial barcode printer	Industrial barcode printers are used in large warehouses and manufacturing facilities. They have large paper capacities, operate faster and have a longer service life
Inkjet printer	Print process that creates digital image by propelling ink droplets onto paper. Inkjet printers range from inexpensive consumer models to large, professional machines
Kimdura labels	Kimdura is a brand of polypropylene. Polypropylene labels are durable, waterproof and tearproof. Common applications include shelf and bin labels, as well as any other indoor application requiring durable or moisture-resistant labels
Laser printer	Electrostatic digital printing process that rapidly produces high quality text and graphics.
Paper labels	Versatile and for use in both TT and DT printers, paper labels come in many sizes and resistance factors, depending on print technology
Polyester labels	Durable labels for use in harsh temperatures, polyester labels may include a tamper-evident feature
Print head	The device on a direct thermal or thermal transfer printer containing the heating element that causes an image to be transferred to the facstock.
Printer media	Of or relating to printed matter
Resin ribbon	Resin ribbon produces the best possible print quality on synthetic, matte, or high gloss coated label stock. Heat resistant up to 356° F (180° C)

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Ribbon	Material used with thermal transfer printers producing visible marks on a label (or substrate). A print head is heated and the ribbon is burned onto the label stock producing the barcode
Thermal transfer (TT)	Thermal transfer printing is a related method that uses a heat-sensitive ribbon instead of heat-sensitive paper to transfer printed image
Thermal printing	Thermal printing is a digital print process that uses heat to transfer images
Vector Artwork	Vector artwork means that the image to be printed is resolution independent and can be scaled up with no loss of quality. This is especially important when producing barcodes as resolution errors when outputting the barcodes can result in poor quality barcodes which in turn result in misreads if the codes
Wax ribbon	Wax ribbon works well with paper labels & allows for printing on coated, uncoated and some synthetic label surfaces. Heat resistance up to 149° F (65° C)
Wax-Resin ribbon	Wax/Resin ribbon is suitable for coated, uncoated and most synthetic label materials. Heat resistance up to 212° F (100° C)



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Wasp Printer Media

To enhance your print applications, Wasp Barcode Technologies offers a broad selection of barcode printing supplies - labels, ribbons, asset tags, wristbands, replacement print heads and print head cleaning supplies. Wasp media is compatible with most printers on the market today. The information below will help you quickly select and order the best printer media and accessories for your business.

To place a media order visit www.waspbarcode.com/barcode_labels_supplies or call **866.547.WASP** (9277).

Wasp Wax Ribbon			
Description	W x L	Rolls/Box	Part Number
Wax	1.57" x 820'	1	633808431136
Wax	2.16" x 820'	1	633808431143
Wax	3.26" x 820'	1	633808431150
Wax	4.33" x 820'	1	633808431167
Wasp Premium Wax-Resin Ribbon			
Description	W x L	Rolls/Box	Part Number
Wax/Resin	1.57" x 820'	1	633808431174
Wax/Resin	2.16" x 820'	1	633808431181
Wax/Resin	3.26" x 820'	1	633808431198
Wax/Resin	4.33" x 820'	1	633808431204
Wasp eXtra Resin Ribbon			
Description	W x L	Rolls/Box	Part Number
Resin	1.57" x 820'	1	633808431211
Resin	2.16" x 820'	1	633808431228
Resin	3.26" x 820'	1	633808431235
Resin	4.33" x 820'	1	633808431242

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WPL205 Direct Thermal Labels					
Description	W x L	OD	Labels/Roll	Rolls/box	Part Number
Paper	1.25" x 1.0"	5"	2300	4	633808402686
Paper	1.5" x 1.0"	5"	2300	4	633808402693
Paper	2.0" x 1.0"	5"	2300	4	633808402709
Paper	2.25" x 0.75"	5"	3000	4	633808402716
Paper	2.25" x 1.25"	5"	1900	4	633808402723
Paper	3.0" x 3.0"	5"	850	4	633808402730
Paper	3.5" x 1.0"	5"	2300	4	633808402747
Paper	4.0" x 1.0"	5"	2300	4	633808402754
Paper	4.0" x 2.0"	5"	1250	4	633808402761
Paper	4.0" x 3.0"	5"	850	4	633808402778
Paper	4.0" x 6.0"	5"	450	4	633808402785

WPL305 Direct Thermal Labels					
Description	W x L	OD	Labels/Roll	Rolls/box	Part Number
Paper	1.25" x 1.0"	5"	2300	4	633808402686
Paper	1.5" x 1.0"	5"	2300	4	633808402693
Paper	2.0" x 1.0"	5"	2300	4	633808402709
Paper	2.25" x 0.75"	5"	3000	4	633808402716
Paper	2.25" x 1.25"	5"	1900	4	633808402723
Paper	3.0" x 3.0"	5"	850	4	633808402730
Paper	3.5" x 1.0"	5"	2300	4	633808402747
Paper	4.0" x 1.0"	5"	2300	4	633808402754
Paper	4.0" x 2.0"	5"	1250	4	633808402761
Paper	4.0" x 3.0"	5"	850	4	633808402778
Paper	4.0" x 6.0"	5"	450	4	633808402785

WPL305 Thermal Transfer Labels					
Description	W x L	OD	Labels/Roll	Rolls/box	Part Number
Paper	1.25" x 1.0"	5"	2300	4	633808402488
Paper	1.5" x 1.0"	5"	2300	4	633808402495
Paper	2.0" x 1.0"	5"	2300	4	633808402501
Paper	2.25" x 0.75"	5"	3000	4	633808402518
Paper	2.25" x 1.25"	5"	1900	4	633808402525
Paper	3.0" x 1.0"	5"	1425	4	633808403713
Paper	3.0" x 3.0"	5"	850	4	633808402532
Paper	3.5" x 1.0"	5"	2300	4	633808402549
Paper	4.0" x 1.0"	5"	2300	4	633808402556
Paper	4.0" x 2.0"	5"	1250	4	633808402563
Paper	4.0" x 3.0"	5"	850	4	633808402570
Paper	4.0" x 6.0"	5"	450	4	633808402587

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WPL305 Blank Asset Tags					
Description	W x L	OD	Labels/Roll	Rolls/Box	Part Number
Polyester	2.0" x 0.75"	5"	3000	1	633808403010
Polyester void remove	2.0" x 0.75"	5"	2500	1	633808403027
Polyester	2.0" x 1.0"	4"	1380	1	633808403256
Kimdura	2.0" x 1.0"	4"	1125	1	633808403706
WPL608/WPL610 Direct Thermal Labels					
Description	W x L	OD	Labels/Roll	Rolls/Box	Part Number
Paper	1.25" x 1.0"	8"	5560	4	633808402907
Paper	1.5" x 1.0"	8"	5560	4	633808402914
Paper	2.0" x 1.0"	8"	5560	4	633808402921
Paper	2.25" x 0.75"	8"	7000	4	633808402938
Paper	2.25" x 1.25"	8"	4500	4	633808402945
Paper	3.0" x 3.0"	8"	2000	4	633808402952
Paper	4.0" x 1.0"	8"	5600	4	633808402976
Paper	4.0" x 2.0"	8"	3000	4	633808402983
Paper	4.0" x 3.0"	8"	2000	4	633808402990
Paper	4.0" x 6.0"	8"	1000	4	633808403003
WPL608/WPL610 Thermal Transfer Labels					
Description	W x L	OD	Labels/Roll	Rolls/Box	Part Number
Paper	1.25" x 1.0"	8"	5560	4	633808402792
Paper	1.5" x 1.0"	8"	5560	4	633808402808
Paper	2.0" x 1.0"	8"	5560	4	633808402815
Paper	2.25" x 0.75"	8"	7000	4	633808402822
Paper	2.25" x 1.25"	8"	4500	4	633808402839
Paper	3.0" x 3.0"	8"	2000	4	633808402846
Paper	3.5" x 1.0"	8"	5600	4	633808402853
Paper	4.0" x 1.0"	8"	5600	4	633808402860
Paper	4.0" x 2.0"	8"	3000	4	633808402877
Paper	4.0" x 3.0"	8"	2000	4	633808402884
Paper	4.0" x 6.0"	8"	1000	4	633808402891
WPL608/WPL610 Blank Asset Tags					
Description	W x L	OD	Labels/Roll	Rolls/Box	Part Number
Polyester	2.0" x 0.75"	8"	6000	1	633808402389
Polyester void remove	2.0" x 0.75"	8"	6000	1	633808402396

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WHC25 Adult Wristbands					
Description	W x L	Color	WB/Roll	Rolls/Box	Part Number
Polypropylene	11" x 1.125"	White	250	2	633808403942
Polypropylene	11" x 1.125"	Pink	250	2	633808403959
Polypropylene	11" x 1.125"	Blue	250	2	633808403966
Polypropylene	11" x 1.125"	Yellow	250	2	633808403973
Polypropylene	11" x 1.125"	Red	250	2	633808403980
Polypropylene	11" x 1.125"	Green	250	2	633808403997
Polypropylene	11" x 1.125"	Purple	250	2	633808404000
Polypropylene Front/ PE Back	11.5" x 1.125"	White	150	2	633808404017
WHC25 Infant Wristbands					
Description	W x L	Color	WB/Roll	Rolls/Box	Part Number
Polypropylene	8" x 0.75"	White	200	2	633808403935
WHC25 Direct Thermal Labels					
Description	W x L	OD	Labels/Roll	Rolls/Box	Part Number
Paper	1.25" x 1.0"	5"	2300	4	633808402686
Paper	1.5" x 1.0"	5"	2300	4	633808402693
Paper	2.0" x 1.0"	5"	2300	4	633808402709
WPL25 Direct Thermal Labels					
Description	W x L	OD	Labels/Roll	Rolls/Box	Part Number
Paper	1.25" x 1.0"	5"	2300	4	633808402686
Paper	1.5" x 1.0"	5"	2300	4	633808402693
Paper	2.0" x 1.0"	5"	2300	4	633808402709
WPL25 Adult Wristbands					
Description	W x L	Color	WB/Roll	Rolls/Box	Part Number
Polypropylene Top Side	11.5" x 1.125"	White	150	2	633808404017
WPL25 Infant Wristbands					
Description	W x L	Color	WB/Roll	Rolls/Box	Part Number
Polypropylene	8" x 0.75"	White	200	2	633808403935

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Pre-Printed Asset Tags				
Description	W x L	Number Range	Rolls/Box	Part Numbers
Paper	2.0" x 1.0"	1100-2100	1	633808403515
Paper	2.0" x 1.0"	2101-3100	1	633808403522
Polyester	2.0" x 1.0"	1100-2100	1	633808403539
Polyester	2.0" x 1.0"	2101-3100	1	633808403546
Kimdura	2.0" x 1.0"	1100-2100	1	633808403553
Kimdura	2.0" x 1.0"	2101-3100	1	633808403560
WRP8055 Receipt Paper				
Description			Rolls/Box	Part Number
Paper			1	633808491093
Paper			12	633808491116
Paper			50	633808471231

Wasp Print heads	
Description	Part Number
WPL205 203 DPI Print Head	633808402167
WPL305 203 DPI Print Head	633808402167
WPL608 203 DPI Print Head	633808403676
WPL610 203 DPI Print Head	633808403683
WPL25/WHC25 203 DPIU Print Head	633808403881
Thermal Print Head Cleaning Pen	633808441012

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