

Ribbon Basics



Ribbons are used with Thermal Transfer labels (Thermal Transfer Printing) to produce an image that is compatible with a variety of environments and applications. Printers that use ribbons will have spindles to hold and control the ribbon during printing to prevent ribbon wrinkle and monitor ribbon out conditions. There are several ribbon types that are used based on the media and durability/environmental requirements of your printing application.

The ribbon should be inked on the outside of the roll. This will result in the inked side of the ribbon contacting the label surface as it passes into the printhead. To test your ribbon to assure the ink is on the correct side [Read More>>](#)

The ribbon should be wider than the labels (media) to protect the printhead from direct contact with the media. Thermal Transfer media will abrade the surface of the printhead if it comes in direct contact with the media surface. The ribbon protect the printhead by preventing this direct contact.

The heating of the ribbon backing heats through the ribbon carrier and causes the ink to adhere to the label surface resulting in the printed image.

Ribbon Types - Wax, Wax/Resin, and Resin

WAX RIBBONS are for printing onto a coated paper label that is specifically designed for Thermal Transfer printing. These images are not for long lasting durability but remain intact if in a minimally abrasive or chemically neutral environment. These typically work well with lower darkness ranges and higher print speeds when properly matched to the labels. The ribbon carrier will melt or distort if you attempt to use high heat settings in poorly matched media applications.

Heat Settings - Low to Medium (Avoid excessively high heat settings or the carrier will melt sticking to the printhead elements)

Print Speed - Low to high (Varies based on media matching)

WAX / RESIN RIBBONS produce a more durable image on smooth paper or coated paper labels with either semi-gloss or high-gloss surfaces. The medium high settings are typical for these types of ribbons

Heat Settings - Medium to high

Print Speed - Low to Medium

RESIN RIBBONS are formulated to print onto plastic labels such as polyester, polypropylene and vinyl. The ink is designed to slightly dissolve into the plastic surface of the label. The tight adhesion of the ink to the surface of the label renders the printing extremely durable. Plastic labels with resin printing will survive outside in full sunlight, can withstand immersion in water, are highly scratch-resistant and may be resistant to chemicals and oils. Resin ribbons offer the most resilient printed image and typically require the higher heat settings and slower print speeds.

Heat Settings - Typically uses high darkness settings

Print Speed - Low speed printing