Label Printers: Direct Thermal vs. Thermal Transfer

Setup & POS Hardware · https://retailedge.com/docs/label-printers-direct-thermal-vs-thermal-transfer

Here at RetailEdge, we provide an array of hardware to fit the needs of all of our customers' businesses. Without getting too technical, we're giving you a quick rundown of key advantages and disadvantages of a direct thermal printer and thermal transfer printer. We hope this helps!

Thermal Transfer

Advantages

- Long life of printed image
- Printed image does not fade in direct sunlight and is more heat tolerant
- Availability of color ribbons
- Typically, longer printhead life
- Wide selection of label materials available
- Good chemical resistance with some materials

Disadvantages:

- Operators must perform ribbon changes
- More mechanical parts in printer means potential for more downtime and mechanical failures
- Opportunity for print quality problems due to mismatched labels and ribbons
- Opportunity for print quality problems due to incorrect ribbon adjustments

Direct Thermal

Advantages

- Simplified operator intervention; no ribbon to load or ribbon adjustments to make
- No ribbon wrinkle problems

- No mechanical failures associated with ribbon drive mechanisms
- Fewer inventory items due to lack of ribbon and fewer spare parts
- Eliminates potential for mismatched labels and ribbons
- No ribbon disposal

Disadvantages

- Typically, slower print speeds
- Typically, reduced thermal printhead life
- Will fade or “yellow” over extended periods of time**
- Label will darken when exposed to extreme heat and direct sunlight
- Specialty substrates (i.e. films) can be costly
- Limited selection of substrates
- Limited chemical resistance