**DIRECT THERMAL**

**HOW DOES IT WORK**
A heated printhead prints on paper like a heat stamp in the desired design.

**ADDITIONAL COMPONENTS**
None

**ORDERING SPECIFICS**
Must use a specific type of paper - direct thermal paper

**PRICING**
Cheaper (no ribbon needed)

**LONGEVITY**
Printed image naturally degrades over time, especially when subjected to heat, sunlight, or abrasion.

**USED IN RFID PRINTING**
Not common - however, custom & select RFID labels available

**USED IN BARCODE PRINTING**
Yes - for short term barcodes

**ADVANTAGE**
Cheaper

**DISADVANTAGE**
Shorter lifespan

**SUSTAINABILITY**
More sustainable because it eliminates the need for ribbon - reducing a company's carbon footprint.

**COMMON APPLICATIONS**
Short-term identification: receipts, shipping labels, name tags

**LABEL EXAMPLES**
- Zebra 2” x 1” Z-Perform 2000D, Honeywell 2” x 1” Duratherm S Direct Label
- SATO 4” x 2” 100P Label

**PRINTER EXAMPLES**
- Zebra ZT411
- Zebra ZQ521R
- Honeywell RP2E

**VIEW LABELS NOW**

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**THERMAL TRANSFER**

**HOW DOES IT WORK**
A heated printhead prints on a ribbon that melts to the paper in the desired design.

**ADDITIONAL COMPONENTS**
Yes - ribbon

**ORDERING SPECIFICS**
Less restrictive with materials

**PRICING**
Slightly more expensive because ribbon is needed

**LONGEVITY**
Longer lifespan vs direct thermal, especially when using a resin blend ribbon.

**USED IN RFID PRINTING**
Yes

**USED IN BARCODE PRINTING**
Yes - for long term barcodes

**ADVANTAGE**
Longer lifespan

**DISADVANTAGE**
More expensive

**SUSTAINABILITY**
Slightly less sustainable because ribbon is required.

**COMMON APPLICATIONS**
Long-term identification: RFID labels, inventory identification

**LABEL EXAMPLES**
- Zebra 4” x 2” Z-Select 4000T, Volcan RFID 4” x 2” RFID Label, Contidex Crosswave Classic 4” x 6” RFID Label

**PRINTER EXAMPLES**
- SATO CLIQNX Plus
- Zebra ZD621R
- SATO CT4-LX

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