RICOH

RICOH THERMAL PAPER

Highly reliable media expand thermal printing applications.

※Images shown here are for illustrative purposes only.

The perfect paper for clearer, more accurate information transfer.

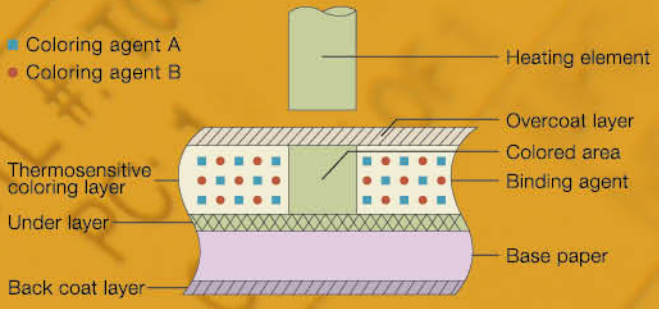
For unsurpassed versatility, capability, and quality, RICOH thermal recording paper is perfect for auto identification and various other applications.

Main Features

- Special surface treatment for excellent image preservation.
- Sharp, dense, complete images even when printed at high speed.
- For maintenance-free, noise-free thermal printer recording.
- Labels can be processed in the same way as ordinary plain-paper labels.
- Suitable for letterpress and other printing methods. (Recommended inks are UV and flexo.)
- Can be stored for a long period without quality degradation.

Coloring System

RICOH Thermal papers (see diagram) are multilayered, and consist of a thermosensitive coloring layer and a special surface treatment layer on base paper. The thermosensitive coloring layer has a thickness of only a few microns, and contains colorless dye, a binding agent and additives. The overcoat layer is made of special resin that protects the thermosensitive coloring layer. If heat from a heating element is applied to the coloring layer, its components melt and color is produced by the chemical reaction. The binding agents prevent the chemicals of the coloring layer from diffusing.



INDUSTRY

Qualities that mean business.

RICOH Thermal Papers can be used for bar-coding, inventory control,classification and shipping in distribution systems, and process control in production lines. We make specific labels with such characteristics as infrared scannability, high heat resistance, and high sunlight resistance, depending on your needs.

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POS (Point of Sales)

Excellent preservation provides fresh performance.

RICOH Thermal Papers are suitable for a wide range of POS system applications, with such characteristics including high sensitivity for high-speed automated labeling, high heat resistance, economical semi top-coating, and a synthetic waterproof film base on opaque film.

TAG・TICKET

High resistance to light and heat expand thermal paper's application greatly.

RICOH thermal board has strong resistance to natural and artificial heat and light, for durability without deformation or fading. These qualities make it perfect for use as price tags, entry/lottery tickets, luggage tags and boarding passes.

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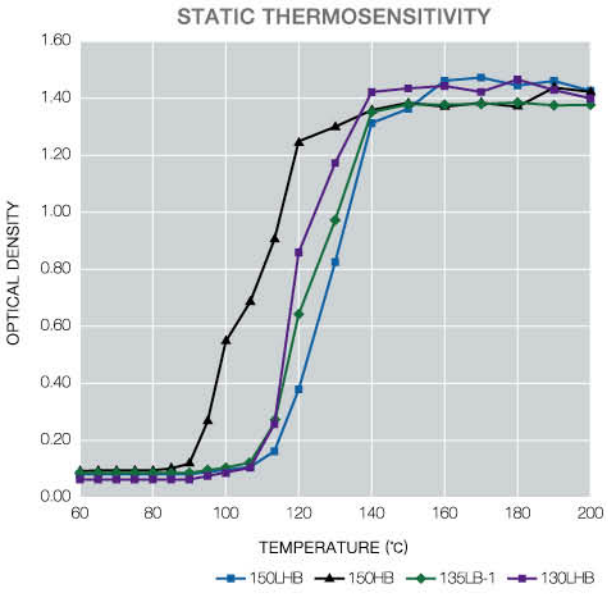
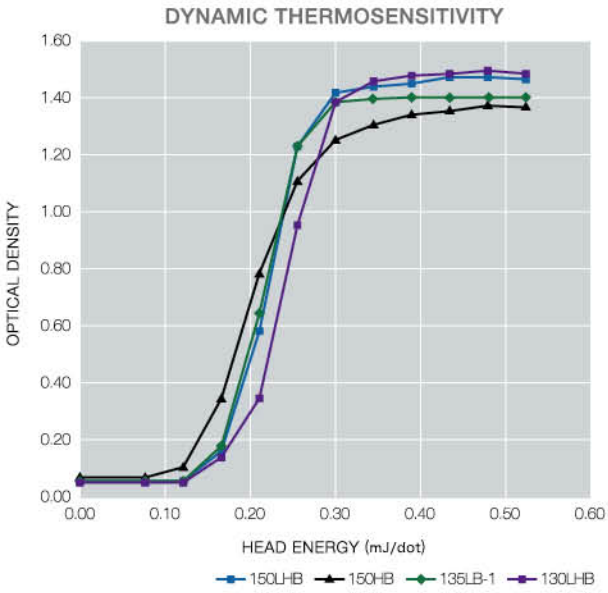
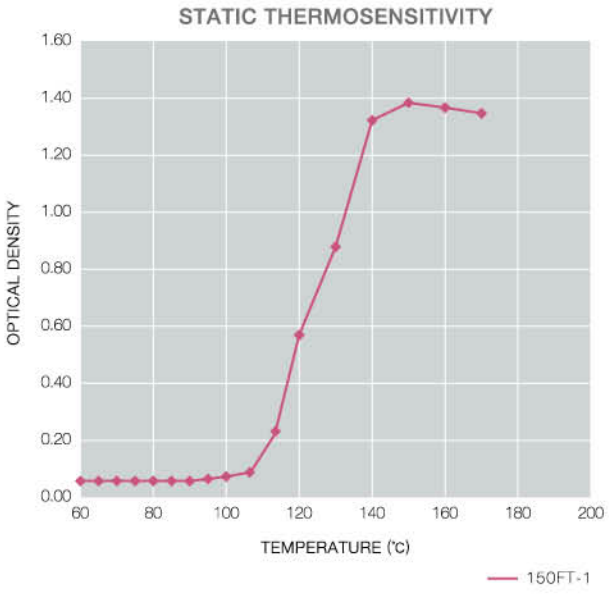
Thermosensitivity and Scannability

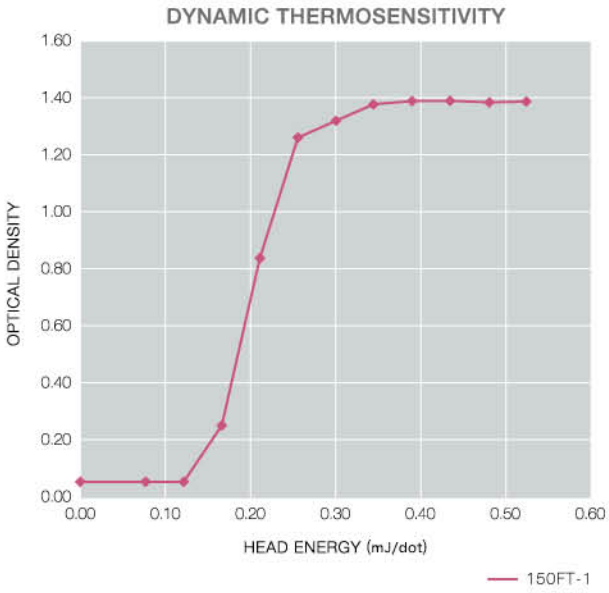
Paper Base





Film Base





Thermo sensitivity

RICOH Thermal Papers produce color with thermal printer. The bright colorings start as the graphs of Dynamic Thermo-sensitivity show. (Please see the preceding page.)

Instructions for Handling and Storage of RICOH Thermal Papers

■Care in storage

1. Before unpacking

- Avoid storage at temperatures of 50°C or more for a long period. (Long exposure to such an environment may lead to discoloration of the thermal paper.)
- RICOH Thermal papers can be used without any deterioration for a long period after purchase if they are stored in the dark at temperatures not exceeding 35°C and humidity not exceeding 85% RH

2. After unpacking

- In addition to the above, avoid long-term exposure to direct rays of sun and strong fluorescent light sources, for this may cause discoloration of thermal paper.
- Do not place RICOH Thermal papers near heating equipment.

■Treatment of thermal papers

1. Care in adhesive treatment

- RICOH basically recommends water-solvent bond for the adhesive agent. However, if solvent-type bond is used, be sure to make a laminating pre-test to ensure that the glue penetration would not be made.

2. Care in printing

- The surface treatment has been applied in consideration of the suitability for printing. The most suitable inks are UV and flexo. You are requested, however, to make a pre-test with your selected ink before printing. Also note that special care in ink selection and printing technique are required in gravure printing.

■Other care in handling

- Avoid contact with materials composed of or containing solvent (volatile organic solvents of alcohol, ketone or ester) or plasticizer, which may lead to discoloration or deterioration of colors.
- Do not press the thermal paper surface with a hard object or scratch it, for this may lead to production of colors
- Contact with water does not fade the images recorded on RICOH Thermal papers. However, if a paper becomes wet, wipe moisture as soon as possible.

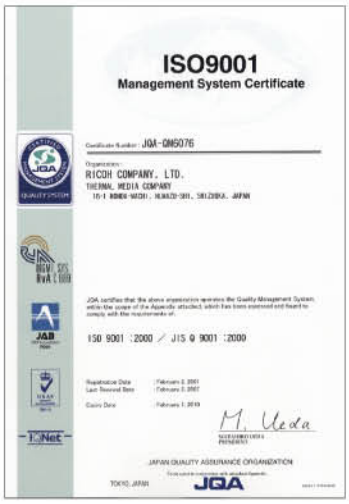
Products list of Direct Thermal Products

Base	Type	Thickness (μm)	Weight (g/m²)	Sensitivity	Heat Resistance (Dry,24h)	Features	Applications
Standard Paper Base	135LB-1	81±9	75±7	Middle high	90℃	· High heat resistance · Top and back barrier coated for high reliability	· Lottery ticket · POS label · Industrial use label
	130LHB	84±9	77±7	Middle high	100℃	· Intense heat resistance · High resistance to UV-light · Superb dot reproduction · Top and back barrier coated for high reliability	· Industrial use label (Mail classification, Inventory control, Distribution, etc)
	150LHB	81±9	79±8	High	90℃	· High speed printing and high resolution · High heat resistance · High resistance to UV-light · Long Image durability	· Industrial use label (Mail classification, Inventory control, Distribution, etc) · High speed printing application · Long term storage application
Thin Paper Base	150HB	60±5	52±5	High	65℃	· Super-high sensitivity · Top barrier coated for high reliability	· Handy terminal receipt · Ticket
Film Base	150FT-1 (85)	88±9	71±8	High	90℃	· High sensitivity · Top coated for high reliability	· Airline baggage tag · Ski ticket · Pallet package label · Frozen food label
	150FT-1 (100)	103±9	82±8	High	90℃		
Board Paper Base	150TAB (120)	128±10	123±10	Super	70℃	· Super High sensitivity · Top and back barrier coated for high reliability	· Tickets (Amusement, etc) · Industrial-use tag
	130LBB (150)	155±20	150±15	Middle	80℃	· High heat resistance · Top and back barrier coated for high reliability	· Ticket (Amusement, Train, Parking, Lottery, Airline, etc) · Industrial-use tag
	130LBB (190)	185±15	170+5, -15	Middle	80℃		

World-Renowned Ricoh Quality

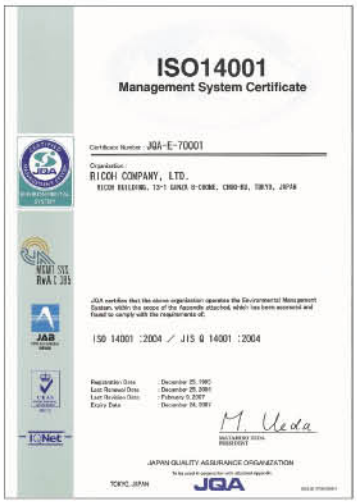
Ricoh employs the latest large-scale equipment and thin layer coating technology to provide customers around the world with a stable supply of superior thermal papers. Our plants and employees are establishing a new global standard for quality control and environmental protection.

- NUMAZU PLANT
- FUKUI PLANT
- RICOH ELECTRONICS,INC.
- RICOH INDUSTRIE FRANCE S.A.S.
- RICOH THERMAL MEDIA (BEIJING) CO., LTD.
- RICOH THERMAL MEDIA (WUXI) CO., LTD.
- RICOH INTERNATIONAL (SHANGHAI) CO., LTD



JQA Certification for ISO 9001

Ricoh Thermal paper was developed and is produced at the plants (Numazu and Fukui) approved by ISO (International Organization for Standardization) 9001. Under this strict quality management system, we ensure a stable supply of products that satisfy our customers. (Certificate No. JQA-QM6076)



JQA Certification for ISO 14001

Ricoh has an environmental management system, and observes legal and self regulation on environmental impact. Establishing targets of contamination protection and resource and energy saving, we are making continuous improvement. We are also making an effort to develop safe and pollution-free products that will contribute to reduce industrial wastes. (Certificate No. JQA-E-70001)

For more information, visit:
http://www.ricoh.com/thermal

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