Last Update: October 2025

INDUSTRIAL MEDIA SOLUTIONS

Most people don't think about the impact labels have on their lives, but when you take a closer look, labels are everywhere. Whether in medical, food, or postal and delivery contexts, thermal media plays an essential role in everyday moments, communicating important information and ensuring consumer safety. At Ricoh, we are committed to making a positive impact across industries by delivering reliable, high-quality thermal labels customized to meet your unique business needs.

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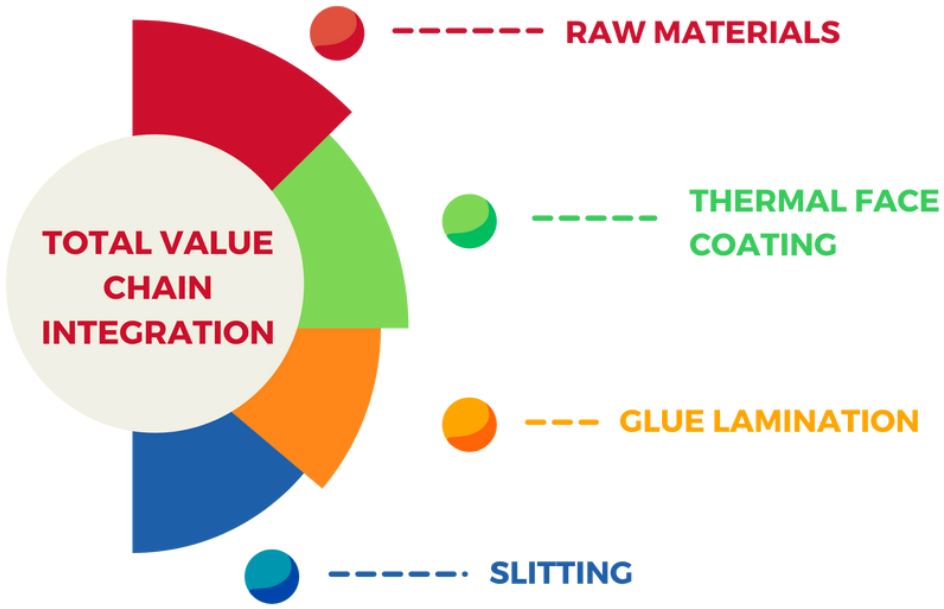
The Ricoh Advantage

ABOUT US

We are Ricoh Electronics, a leading provider of thermal media products. With over 50 years of experience, we have had the opportunity to build lasting relationships with our customers by focusing on quality, reliability, and customer service. Based in Lawrenceville, Georgia, we specialize in the manufacturing and distribution of thermal media products, including Direct Thermal Label Stock (DT), Thermal Transfer Ribbons (TTR), and Thermal Transfer Labels. Our state-of-the-art production facilities and in-house R&D team allow us to offer innovative and customized solutions for our customers' specific needs.

TOTAL VALUE CHAIN INTEGRATION

At Ricoh Electronics Inc., our in-house R&D team innovates custom solutions designed around the unique needs of our customers. REI's Total Value Chain Integration sets us apart from our competitors. From raw materials to finished rolls, we take pride in complete ownership of the manufacturing process, allowing for rigorous end-to-end quality control.



RAW MATERIALS

Paper, film, and chemicals are sourced from raw material distributors.

THERMAL FACE COATING

Unlike our competitors, face coating is developed by our R&D team and manufactured on-site at REI facilities.

GLUE LAMINATION

DT face, adhesive, and liner undergo glue lamination process on-site, monitored for optimal quality control.

SLITTING

The slitting process completes the rolls entirely in-house, for end-to-end labeling solutions.

INDUSTRY APPLICATIONS

Ricoh provides custom application solutions, ensuring optimum efficiency and speed, no matter the complexity.

Ricoh's top-coated direct thermal label products and high-quality thermal transfer products are known for their superior image quality, long-term readability, high image preservation performance, and outstanding print head matching properties.


Meat Processing


Wristbands


Courier


Weigh Scale


Airline Baggage Tags

Application Examples

- Industrial Warehouse
- Prescription bottles
- Laboratory
- Shelf Tags
- Production and Inventory Control
- Price and Brand Tags
- Admission and Transportation Tickets
- Textiles
- Food and Beverage
- Electronic Parts
- Date Coding
- Storage Drums
- Automotive Parts

DIRECT THERMAL PRODUCT PORTFOLIO - PAPER BASED

GRADE	PRODUCT	PERFORMANCE CHARACTERISTICS	FACE CALIPER
Paper Base	N140LA	• Standard top-coated thermal paper • High sensitivity • Medium-high image resolution & • Strong image preservation against most environments	3.0 mil (76µm)
	N150LA-2	• Premium top-coated thermal paper • High sensitivity, image resolution & barcode reliability • Highest heat resistance	3.0 mil (76µm)
	130NIR-3	• Near infrared readable; able to scan up to 670nm • Medium sensitivity & good image resolution • Moderate image preservation properties	3.0 mil (76µm)
	130PLL-RN	• Silicon linerless label that provides environmentally friendly solution • Medium sensitivity • Excellent barcode reliability	3.5 mil (88µm)
	130PLL-RRE	• Standard top-coated DT paper • Medium sensitivity with removable adhesive • Environmentally friendly solution ideal for multiple applications	3.5 mil (88µm)
	135PLS-LST	• Silicon linerless label that provides environmentally friendly solution • High sensitivity • Excellent barcode reliability	3.5 mil (90µm)
	140TLE	• Premium top-coated thermal paper • High sensitivity; high stiffness • Excellent image resolution & image preservation • Smooth surface for improved thermal head life	5.0 mil (126µm)
	150PRx	• Strong resistance to medical solutions • Soap, lotion, & hand sanitizer resistant • Medium-high sensitivity	3.1 mil (78.5 µm)
	150PRx PF	• Medium-high sensitivity and superb head-matching performance • Phenol-free premium top-coated DT paper • Strong resistance to medical solutions • Ideal for healthcare/medical applications	3.1 mil (78.5µm)
	150LB PF	• Medium image sensitivity and preservation properties • Phenol-free premium top-coated DT paper • Anti-flagging design that will not stick to disposable gloves, ideal for curved surfaces	3.0 mil (75µm)

DIRECT THERMAL PRODUCT PORTFOLIO - FILM BASED

GRADE	PRODUCT	PERFORMANCE CHARACTERISTICS	FACE CALIPER
Film Base	140LES	• High image sensitivity and preservation properties • Durable polypropylene direct thermal base film • Highly tear and water resistant • Ideal for multiple applications	3.9 mil (99µm)
	140LFS	• High image sensitivity and preservation properties • Durable polypropylene direct thermal base film • Highly tear and water resistant • Ideal for multiple applications	3.1 mil (80µm)
	140LDS	• High image sensitivity and preservation properties • Durable polypropylene direct thermal base film • Highly tear and water resistant • Ideal for multiple applications	2.3 mil (59µm)
	135WRx-60	• Medium sensitivity and image preservation properties • Durable polypropylene direct thermal base film • Resistant to medical solutions, tearing, and water • Ideal for multiple applications	2.4 mil (61µm)
	CDT-1 (PET)	• High sensitivity and ideal for high-speed printing • Clear durable polyethylene direct thermal base film • Enhances visibility of package contents • Strong water resistance • Designed for food labeling applications	2.1 mil (54µm)

REGULATORY COMPLIANCE

California Proposition 65

As regulations around chemical safety continue to evolve, it's essential to stay informed and compliant. California's Proposition 65 now includes Bisphenol S (BPS), requiring businesses to provide clear warnings on products that could expose consumers to this chemical. We are committed to compliance and safety, offering both BPS Free and Phenol Free products that help customers meet these standards without compromising on quality.

REI will not indemnify or defend for Prop 65 non-conformance. We strongly encourage all customers to take necessary action to understand any additional compliance obligations that may be required of you under this regulation.

BPS Free and Phenol Free Options

While our products are currently BPA Free and contain no added PFAS, we are also working to eliminate all BPS from our product formulations as quickly as possible. We understand the growing apprehension around these chemicals and are committed to addressing the concerns of our customers.

Our Phenol Free product portfolio ensures compliance with regulations restricting the use of phenols in consumer products. Our expanding line of products does not contain phenolic compounds including BPA, BPS, and other bisphenols.

DIRECT THERMAL REGULATORY REFERENCE GUIDE

GRADE	PRODUCT	PERFORMANCE CHARACTERISTICS	FACE CALIPER
BPA FREE, NO ADDED PFAS, BPS FREE, PHENOL FREE	N140 PF	Standard Top-Coated DT, Paper-Base	3.0 mil
BPA FREE, NO ADDED PFAS, BPS FREE, PHENOL FREE	N150 PF	Premium Top-Coated DT, Paper-Base	3.0 mil
BPA FREE, NO ADDED PFAS, BPS FREE, PHENOL FREE	SYN-1	Synthetic Matte Receiver, Film-Base	3.9 mil
BPA FREE, NO ADDED PFAS, BPS FREE, PHENOL FREE	SYN-2	Synthetic Semi-Gloss Receiver, Film-Base	2.4 mil
BPA FREE, NO ADDED PFAS, BPS FREE, PHENOL FREE	TTP-1	Coated Matte Receiver, Paper-Base	2.8 mil
BPA FREE, NO ADDED PFAS, BPS FREE, PHENOL FREE	150PRx PF	Premium Top-Coated DT, Paper-Base	3.1 mil
BPA FREE, NO ADDED PFAS, BPS FREE, PHENOL FREE	150LB PF	Premium Top-Coated DT, Paper-Base	3.0 mil
BPA FREE, NO ADDED PFAS, BPS FREE, PHENOL FREE	CDT-1 (PET)	PET Clear DT, Film-Base	2.1 mil
BPA FREE, NO ADDED PFAS, BPS FREE	N140LA BF	Standard Top-Coated DT, Paper-Base	3.0 mil
BPA FREE, NO ADDED PFAS, BPS FREE	N150LA-2 BF	Premium Top-Coated DT, Paper-Base	3.0 mil
BPA FREE, NO ADDED PFAS, BPS FREE	130NIR-3 BF	Standard Top-Coated DT, Paper-Base	3.0 mil
BPA FREE, NO ADDED PFAS, BPS FREE	140LES	Polypropylene DT, Film-Base	3.9 mil

DIRECT THERMAL REGULATORY REFERENCE GUIDE

GRADE	PRODUCT	PERFORMANCE CHARACTERISTICS	FACE CALIPER
BPA FREE, NO ADDED PFAS, BPS FREE	140LFS	Polypropylene DT, Film-Base	3.1 mil
BPA FREE, NO ADDED PFAS, BPS FREE	140LDS	Polypropylene DT, Film-Base	2.3 mil
BPA FREE, NO ADDED PFAS, BPS FREE	140TLE BF	Premium Top-Coated DT, Paper-Base	5.0 mil
BPA FREE, NO ADDED PFAS	N140LA	Standard Top-Coated DT, Paper-Base	3.0 mil
BPA FREE, NO ADDED PFAS	N150LA-2	Premium Top-Coated DT, Paper-Base	3.0 mil
BPA FREE, NO ADDED PFAS	130NIR-3	Premium Top-Coated DT, Paper-Base	3.0 mil
BPA FREE, NO ADDED PFAS	130PLL-RN	Silicone Linerless DT, Paper-Base	3.5 mil
BPA FREE, NO ADDED PFAS	130PLL-RRE	Silicone Linerless DT, Paper-Base	3.5 mil
BPA FREE, NO ADDED PFAS	135 PLS-LST	Silicone Linerless DT, Paper-Base	3.5 mil
BPA FREE, NO ADDED PFAS	140TLE	Premium Top-Coated DT, Paper-Base	5.0 mil
BPA FREE, NO ADDED PFAS	150PRx	Premium Top-Coated DT, Paper-Base	3.1 mil
BPA FREE, NO ADDED PFAS	135WRx-60	Polypropylene DT, Film-Base	2.4 mil

CLEAR DIRECT THEMAL

Ricoh transparent direct thermal labels provide sleek, premium packaging with full product visibility. When CDT-1 (PET) is attached to clamshell packaging, a tear-resistant seal is created, aiding loss prevention efforts.

KEY FEATURES

BARCODE RELIABILITY

Excellent resolution for consistent barcode scannability

HIGH SENSITIVITY

Highly sensitive, high-speed printing

IDEAL FOR FOOD APPLICATIONS

Perfect for clamshell packaging, shelf tags, and beverage sleeves

WATER & TEAR RESISTANT

Durable film-based labels resistant to moisture and tearing

IDEAL FOR FOOD AND DELIVERY APPLICATIONS
Perfect for weigh scale, postal and delivery applications, and food labels

SUSTAINABILITY
Reduction of liner waste disposal costs and 37% reduction in CO2 emissions, according to REI estimate

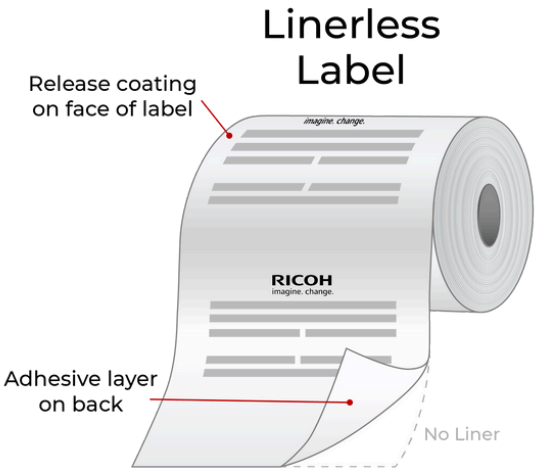
EXCELLENT IMAGE RESOLUTION
Quality customized for your application with options like heat resistance and removable adhesive

PRODUCTIVITY BENEFITS
54% longer effective length per roll, improving operational efficiency with fewer roll changes

LINERLESS

ELIMINATES LINER WASTE

Ricoh linerless labels are an innovative solution that eliminates the need for the silicone liner, standard on most direct thermal labels. Linerless labels feature adhesive on the back of the label with the release coating found on the face.



TIGHT MANDREL LABELING

150LB PF is a top-coated direct thermal product designed for curved surface applications. Ideal for lab and medical environments, 150LB PF features 3.0 mil face caliper and #40 flexible base paper for better mandrel-hold performance.

KEY FEATURES

GLOVE FRIENDLY

Labels will not stick to disposable gloves, reducing waste and boosting operational efficiency

PHENOL-FREE

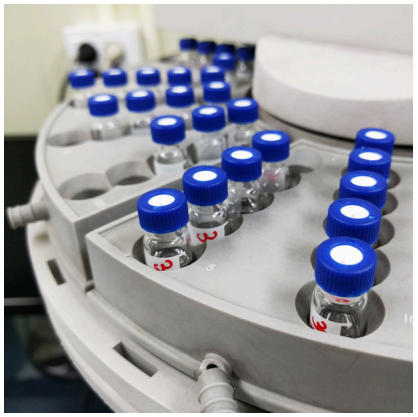
Completely phenol-free direct thermal label stock to ensure safe handling and legislative compliance

REPOSITIONABLE

Labels can be repositioned with minimal residue left behind

EXCELLENT IMAGE RESOLUTION

Outstanding barcode scannability and sharp image resolution



DIRECT THERMAL ADHESIVES

G25/G12: Wide Temperature Permanent Adhesive

- Excellent adhesion to a wide variety of surfaces including paper, wax paper bags, corrugated board, light waxed corrugated board, various packaging films, glass enamel, and polyethylene, as well as other plastic substrates.
- Specially designed for adhesion to cryovac film, even with light moisture condensation, and to other low energy surfaces.
- Excellent initial tack, strong self-dispensing performance in automatic printers.
- Complies with F.D.A. 175.105 for indirect food contact.

G8: Tight Removable Adhesive

- Good adhesion to most packaging substrates.
- Excellent removability from most substrates.
- Used for applications requiring clean removable properties, such as shelf tags, retail price labels, medical and industrial.
- Complies with F.D.A. 175.105 for indirect food contact.

G5: General Purpose Permanent Hot Melt Adhesive

- High initial contact.
- Excellent adhesion on packaging boxes, film and/or a wide range of substrates.
- Complies with F.D.A. 175.105 for indirect food contact.

G22: Permanent Hot Melt Adhesive for Moist Plastic Substrates at Low Temperatures

- High initial contact.
- Excellent adhesion on plastic substrates in high moisture environments such as meat processing.
- Complies with F.D.A. 175.105 for indirect food contact.

DIRECT THERMAL ADHESIVE MATCHING GUIDE

Use our Direct Thermal Adhesive Matching Guide to find the best adhesive for your unique application based on temperature, substrate type, and adhesive type.

	ADHESIVES			
	EMULSION ACRYLIC		HOT MELT	
	G25/G12	G8	G5	G22
Application Temperature	-40°F to 122°F (-40°C to 50°C)	10°F to 120°F (-12°C to 49°C)	35°F to 120°F (2°C to 49°C)	28°F to 122°F (-2°C to 50°C)
Service Temperature	-65°F to 131°F (-54°C to 55°C)	-20°F to 120°F (-29°C to 49°C)	-40°F to 131°F (-40°C to 55°C)	-40°F to 122°F (-40°C to 50°C)

	APPLIED AT:										
Application Conditions	0°F/-18°C	35°F/2°C	Room Temp.	10°F / -12°C	Room Temp.	0°F/-18°C	35°F/2°C	Room Temp.	0°F/-18° C	35°F/2°C	Room Temp.
Packaging Films	✓	✓	✓	●	●		✓	✓		✓	✓
Plastic	✓	✓	✓	●	●		✓	✓		✓	✓
Corrugated Boxes	●	✓	✓	●	●		✓	✓		✓	✓
Paper	✓	✓	✓	●	●		✓	✓		✓	✓
Metal	✓	✓	✓	●	●		●	✓		●	✓
Glass	✓	✓	✓	●	●		✓	✓		✓	✓

● : Test for Suitability ✓ : Excellent Suitability ■ : Not Recommended

THERMAL TRANSFER RIBBON PRODUCT PORTFOLIO

GRADE	PRODUCT	PERFORMANCE CHARACTERISTICS	PRINTER
Wax-Resin	B110A	• Designed to print on a wide variety of receiving materials including paper, coated paper and film at low and high printing speeds • Highly resistant to chemicals and abrasion • Minimizes static electricity and ink flaking while maximizing barcode scanning rates • Suitable for a broad range of end-use applications	Flat Head
Resin	B110C	• Engineered to print on film and synthetic materials • Highly resistant to solvents (alcohol, petrol, kerosene, brake fluid, engine oil, car wax and more), heat, scratch, and smear • Excellent print quality, exceptional sensitivity for high-speed printing • Ideal for automotive and factory applications	Flat Head
	B110CR	• Designed for film-based substrates, such as PET • Unparalleled resistance to heat, abrasions, and solvents • Outstanding resolution even when printing with a 600dpi thermal head • Specifically produced for electronics, automotive, and medical applications	Flat Head
	B110CU	• Designed for film-based substrates, such as PET • Ultra-resistant to solvents (acetone, ethanol, toluene, MEX, xylene, thinner, and more), scratch, and smear • Outstanding resolution even when printing with a 600dpi thermal head • Ideal solution for healthcare, specimen, bioscience, and industrial applications	Flat Head
	B120HS	• Formulated for polyolefin labels such as PP and PE • Outstanding resistance to oil, water, chemicals, scratch, and heat • Excellent image quality, highly sensitive for high-speed printing • Ideal for car battery applications	Flat Head
Resin for Textile	D110A	• Designed to print on nylon, polyester, and acetate • Produces a durable, smear-resistant image that withstands dry cleaning, water/stone/chemical washing, and ironing	Near Edge & Flat Head
	D110C	• Formulated for textile printing on nylon, acetate, satin, and other materials • Superior durability able to withstand washing, steam/dry cleaning, and ironing	Flat Head

THERMAL TRANSFER RIBBON MATCHING GUIDE

Use our Thermal Transfer Matching Guide to find the best product for your unique application based on receiving material, printer, and end-use.

				PAPER BASE			FILM BASE					CLOTH BASE		
GRADE	PRODUCT	PRINTER	APPLICATION	LIGHT-WEIGHT COATED	COATED	GLOSS	PE	PP	PVC	PET	PI	NYLON	POLYESTER	ACETATE
WAX-RESIN	B110A	Flat Head	Tag & Ticket, Logistics	✓	✓	✓	✓	✓	✓	✓	✓			
RESIN	B110C	Flat Head	Automotive Electronic Components				●	●	✓	✓	✓			
	B110CR	Flat Head	Automotive, Electronics, Chemical, Healthcare				●	●	●	✓	✓			
	B110CU	Flat Head	Automotive, Electronics, Chemical, Healthcare				●	✓	✓	✓	✓			
	B120HS	Flat Head	Food Packaging				✓	✓						
	D110A	Near Edge & Flat Head	Textile									✓	✓	✓
	D110C	Flat Head	Textile: High Image Density									✓	✓	✓

● : Test for Suitability

✓ : Excellent Suitability

THERMAL TRANSFER LABEL STOCK

KEY PRODUCTS

TTP-1

Paper-based coated receiver with a matte finish, perfect for high-volume printing

SYN-1

Synthetic, film-based, matte finish, premium BOPP label stock with a robust 3.9 mil face caliper for increased durability

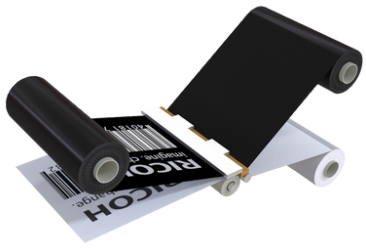
SYN-2

Synthetic, film-based, semi-gloss finish, premium BOPP label stock with excellent flexibility

Industry Applications

Ricoh Electronics offers a range of high-quality Thermal Transfer Label Stock compatible with Thermal Transfer Ribbons for outstanding durability and high-resolution printing. With both paper-base and film-base options, Ricoh Electronics has the right label solutions for your application specifications.

Thermal Transfer Process



Thermal Transfer Ribbon melts ink onto a thermal transfer label, creating a durable image as it cools.

CONTACT US

Locations

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