



# 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**

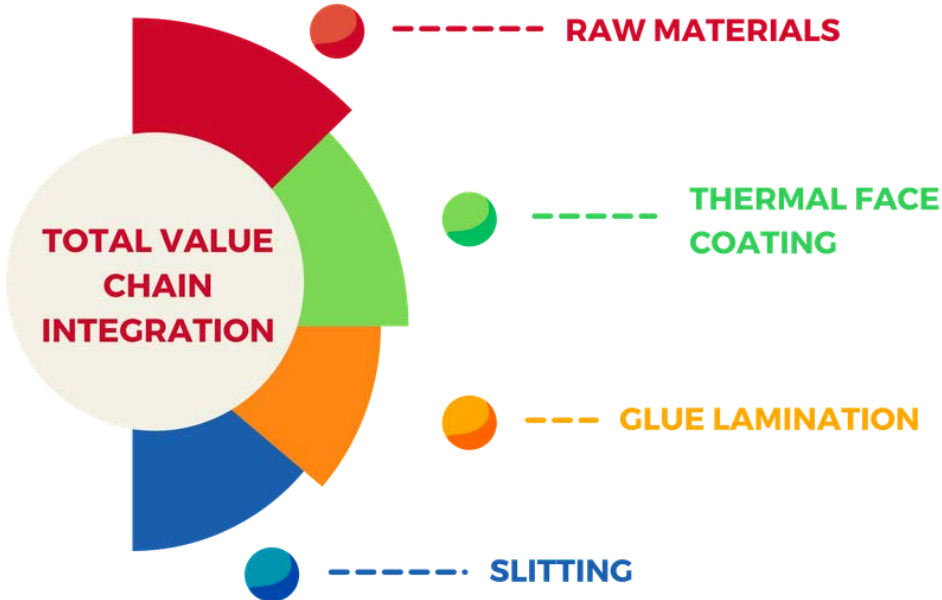


# ABOUT US

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.



## 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	N140 PF	<ul style="list-style-type: none"> <li>Highly sensitive with medium-high image resolution</li> <li>Completely phenol-free standard top-coated DT paper</li> <li>Strong resistance to plasticizers</li> </ul>	3.0 mil (76µm)
	N150 PF	<ul style="list-style-type: none"> <li>Highly sensitive with excellent image resolution</li> <li>Completely phenol-free premium top-coated DT paper</li> <li>Highest heat resistance</li> </ul>	3.0 mil (76µm)
	150PRx PF	<ul style="list-style-type: none"> <li>Medium-high sensitivity and excellent image resolution</li> <li>Completely phenol-free premium top-coated DT paper</li> <li>Strong resistance to medical solutions</li> </ul>	3.1 mil (78.5µm)
	150LB PF	<ul style="list-style-type: none"> <li>Medium sensitivity and excellent image resolution</li> <li>Completely phenol-free premium top-coated DT paper with anti-flagging design ideal for curved surfaces</li> <li>Strong resistance to medical solutions</li> </ul>	3.1 mil (78.5µm)
	130NIR-3 PF	<ul style="list-style-type: none"> <li>Medium sensitivity with good image resolution</li> <li>Completely phenol-free standard top coated DT paper</li> <li>Strong heat, moisture and water resistance</li> </ul>	3.0 mil (76µm)
	140TLE PF	<ul style="list-style-type: none"> <li>Highly sensitive with exceptional image resolution</li> <li>Completely phenol-free DT paper specifically designed for tag and ticket applications</li> <li>Smooth surface for improved thermal head life</li> </ul>	5.0 mil (126µm)
	140ST 1.6M PF	<ul style="list-style-type: none"> <li>Medium sensitivity with medium-high image resolution</li> <li>Completely phenol-free standard top-coated DT paper</li> <li>1.6 mil thin liner reduces waste and increases roll capacity</li> </ul>	3.0 mil (76µm)
	130PLL-RN	<ul style="list-style-type: none"> <li>Medium sensitivity with excellent image resolution</li> <li>Silicone linerless standard top-coated DT label</li> <li>Strong heat resistance</li> </ul>	3.5 mil (88µm)
	130PLL-RRE	<ul style="list-style-type: none"> <li>Medium sensitivity with excellent image resolution</li> <li>Silicone linerless standard top-coated DT label</li> <li>Removable adhesive</li> </ul>	3.5 mil (88µm)
	135PLS-LST	<ul style="list-style-type: none"> <li>Highly sensitive with strong image resolution</li> <li>Silicone linerless standard top-coated DT label</li> <li>Strong heat resistance</li> </ul>	3.5 mil (90µm)

# DIRECT THERMAL PRODUCT PORTFOLIO - FILM BASED

GRADE	PRODUCT	PERFORMANCE CHARACTERISTICS	FACE CALIPER
Film Base	140LES PF	<ul style="list-style-type: none"> <li>• High sensitivity and image preservation properties</li> <li>• Completely phenol-free durable polypropylene DT base film</li> <li>• Highly tear and water resistant</li> </ul>	3.9 mil (99µm)
	140LDS PF	<ul style="list-style-type: none"> <li>• High sensitivity and preservation properties</li> <li>• Completely phenol-free, durable polypropylene DT base film</li> <li>• Highly tear and water resistant</li> </ul>	2.3 mil (59µm)
	140LFS	<ul style="list-style-type: none"> <li>• High sensitivity and image preservation properties</li> <li>• BPS-free, durable polypropylene DT base film</li> <li>• Highly tear and water resistant</li> </ul>	3.1 mil (80µm)
	135WRx-60	<ul style="list-style-type: none"> <li>• Medium sensitivity and preservation properties</li> <li>• Durable polypropylene DT base film</li> <li>• Highly tear and water resistant</li> </ul>	2.4 mil (61µm)
	CDT-1 (PET)	<ul style="list-style-type: none"> <li>• High sensitivity with excellent image resolution</li> <li>• Completely phenol-free and transparent polyester DT film</li> <li>• Highly tear and water resistant</li> <li>• Designed for food labeling applications</li> </ul>	2.1 mil (54µm)

# REGULATORY COMPLIANCE



## California Proposition 65

California's Proposition 65 now includes Bisphenol S (BPS), which requires businesses to provide warnings on products that may expose consumers to this chemical. Ricoh supports compliance with these regulations by offering phenol-free direct thermal materials. These phenol-free options provide a compliant, high performance alternative for customers without compromising print quality or durability.

Certain regulations, including Prop 65 and WAC 173-337, may impose compliance obligations independent of REI's actions. REI does not provide legal advice, and customers are solely responsible for compliance. REI cannot indemnify or defend non-conformance.

















































## Washington WAC 173-337

Washington state's WAC 173 337 prohibits the sale, distribution and manufacturing of thermal paper that contains bisphenols, including Bisphenol A (BPA) and Bisphenol S (BPS). Beginning January 1, 2026, all thermal paper sold or distributed within the state must meet these requirements and non-compliance may result in enforcement actions.
















Ricoh offers phenol-free direct thermal materials that are designed to align with the requirements of WAC 173 337. Choosing-phenol free products can help reduce the risk of regulatory issues and support smoother, more confident compliance with the state's restrictions.



# DIRECT THERMAL REGULATORY REFERENCE GUIDE

GRADE	PRODUCT	PERFORMANCE CHARACTERISTICS	FACE CALIPER
   	N140 PF	Standard Top-Coated DT, Paper-Base	3.0 mil
   	N150 PF	Premium Top-Coated DT, Paper-Base	3.0 mil
   	SYN-1	Synthetic Matte Receiver, Film-Base	3.9 mil
   	SYN-2	Synthetic Semi-Gloss Receiver, Film-Base	2.4 mil
   	TTP-1	Coated Matte Receiver, Paper-Base	2.8 mil
   	150PRx PF	Premium Top-Coated DT, Paper-Base	3.1 mil
   	150LB PF	Premium Top-Coated DT, Paper-Base	3.1 mil
   	CDT-1 (PET)	PET Clear DT, Film-Base	2.1 mil
   	130NIR-3 PF	Standard Top-Coated DT, Paper-Base	3.0 mil
   	140TLE PF	Premium Top-Coated DT, Paper-Base	5.0 mil
   	140ST 1.6M PF	Standard Top-Coated DT, Paper-Base	3.0 mil
   	140LES PF	Polypropylene DT, Film-Base	3.9 mil

# DIRECT THERMAL REGULATORY REFERENCE GUIDE

GRADE	PRODUCT	PERFORMANCE CHARACTERISTICS	FACE CALIPER
   	14OLDS PF	Polypropylene DT, Film-Base	2.3 mil
  	14OLFS	Polypropylene DT, Film-Base	3.1 mil
 	13OPLL-RN	Silicone Linerless DT, Paper-Base	3.5 mil
 	13OPLL-RRE	Silicone Linerless DT, Paper-Base	3.5 mil
 	135 PLS-LST	Silicone Linerless DT, Paper-Base	3.5 mil
 	135WRx-60	Polypropylene DT, Film-Base	2.4 mil



# CLEAR DIRECT THERMAL

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



## FEATURED TECHNOLOGY

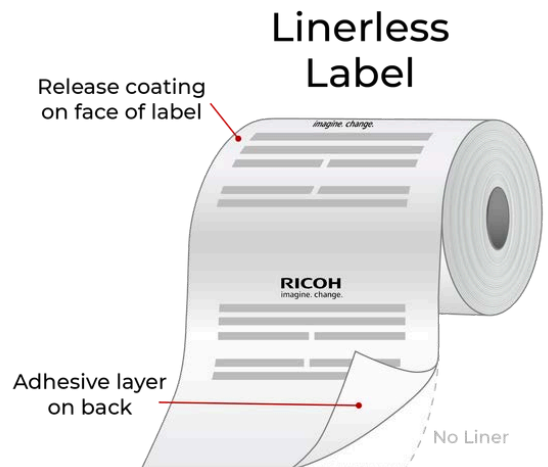


 <p><b>IDEAL FOR FOOD AND DELIVERY APPLICATIONS</b> Perfect for weigh scale, postal and delivery applications, and food labels</p>	 <p><b>SUSTAINABILITY</b> Reduction of liner waste disposal costs and 31% reduction in CO2 emissions, according to REI estimate</p>	 <p><b>EXCELLENT IMAGE RESOLUTION</b> Quality customized for your application with options like heat resistance and removable adhesive</p>	 <p><b>PRODUCTIVITY BENEFITS</b> According to REI's estimate, there is 50% longer effective length per roll, improving operational efficiency</p>
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# LINERLESS

## ELIMINATES LINER WASTE

Ricoh linerless labels are an innovative solution that eliminate 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		
<b>Application Temperature</b>	-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)		
<b>Service Temperature</b>	-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.	
<b>Packaging Films</b>	✓	✓	✓	●	●	■	✓	✓	■	✓	✓	
<b>Plastic</b>	✓	✓	✓	●	●	■	✓	✓	■	✓	✓	
<b>Corrugated Boxes</b>	●	✓	✓	●	●	■	✓	✓	■	✓	✓	
<b>Paper</b>	✓	✓	✓	●	●	■	✓	✓	■	✓	✓	
<b>Metal</b>	✓	✓	✓	●	●	■	●	✓	■	●	✓	
<b>Glass</b>	✓	✓	✓	●	●	■	✓	✓	■	✓	✓	

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



# VERSATILE LABEL STOCK

## KEY PRODUCTS



### TTP-1

Paper-based coated receiver with a matte finish, perfect for high-volume printing with 2.8 mil face caliper



### 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 2.4 mil face caliper for excellent flexibility

## FEATURES

Ricoh Electronics offers multi-purpose label stock designed for pressure-sensitive applications requiring durability, print clarity, and reliable adhesion. Featuring robust BOPP film or high-strength paper bases and our wide-temperature G12 adhesive, these label stock products are designed to perform across a variety of print technologies, including thermal transfer printing and flexographic pre-printing.

Ricoh Electronics non-DT versatile label stock products deliver exceptional smudge resistance, high resolution detail, and long-lasting image printing capabilities.

# THERMAL TRANSFER RIBBON PRODUCT PORTFOLIO

GRADE	PRODUCT	PERFORMANCE CHARACTERISTICS	PRINTER
Wax-Resin	B110A	<ul style="list-style-type: none"> <li>Designed to print on a wide variety of receiving materials including paper, coated paper and film at low and high printing speeds</li> <li>Highly resistant to chemicals and abrasion</li> <li>Minimizes static electricity and ink flaking while maximizing barcode scanning rates</li> <li>Suitable for a broad range of end-use applications</li> </ul>	Flat Head
	B110C	<ul style="list-style-type: none"> <li>Engineered to print on film and synthetic materials</li> <li>Highly resistant to solvents (alcohol, petrol, kerosene, brake fluid, engine oil, car wax and more), heat, scratch, and smear</li> <li>Excellent print quality, exceptional sensitivity for high-speed printing</li> <li>Ideal for automotive and factory applications</li> </ul>	Flat Head
Resin	B110CR	<ul style="list-style-type: none"> <li>Designed for film-based substrates, such as PET</li> <li>Unparalleled resistance to heat, abrasions, and solvents</li> <li>Outstanding resolution even when printing with a 600dpi thermal head</li> <li>Specifically produced for electronics, automotive, and medical applications</li> </ul>	Flat Head
	B110CU	<ul style="list-style-type: none"> <li>Designed for film-based substrates, such as PET</li> <li>Ultra-resistant to solvents (acetone, ethanol, toluene, MEX, xylene, thinner, and more), scratch, and smear</li> <li>Outstanding resolution even when printing with a 600dpi thermal head</li> <li>Ideal solution for healthcare, specimen, bioscience, and industrial applications</li> </ul>	Flat Head
	B120HS	<ul style="list-style-type: none"> <li>Formulated for polyolefin labels such as PP and PE</li> <li>Outstanding resistance to oil, water, chemicals, scratch, and heat</li> <li>Excellent image quality, highly sensitive for high-speed printing</li> <li>Ideal for car battery applications</li> </ul>	Flat Head
Resin for Textile	D110A	<ul style="list-style-type: none"> <li>Designed to print on nylon, polyester, and acetate</li> <li>Produces a durable, smear-resistant image that withstands dry cleaning, water/stone/chemical washing, and ironing</li> </ul>	Near Edge & Flat Head
	D110C	<ul style="list-style-type: none"> <li>Formulated for textile printing on nylon, acetate, satin, and other materials</li> <li>Superior durability able to withstand washing, steam/dry cleaning, and ironing</li> </ul>	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.

GRADE	PRODUCT	PRINTER	APPLICATION	PAPER BASE			FILM BASE					CLOTH BASE		
				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

# CONTACT US



## Locations

### GEORGIA - HEADQUARTERS

1125 Hurricane Shoals Rd.  
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### LINKEDIN

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### YOUTUBE

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