



SPECIFICATION SHEET

This product specification sheet provides the detail to aid you in identifying the most appropriate product type to meet your company's specific requirements.

Please direct questions to: **Ricoh Customer Service 1-800-843-7058**

DESCRIPTION

135WRx-2 is a medium sensitivity polypropylene direct thermal film stock with image durability and key specific properties designed to withstand environmental elements for the applications shown.

KEY FEATURES

Medium sensitivity, moderate image preservation properties; resistant to sanitizers, hand soap, alcohol, etc.; durable polypropylene base film that is tear and water resistant.

— APPLICATION AREAS —



Wristbands



Shelf Tags

FACESTOCK / PRESERVATION PROPERTIES

FACESTOCK PROPERTIES

ITEM		UNIT	SPECIFICATION	TEST METHOD
Basis Weight		lbs (24x36x500 sheets)	50.4 ± 4.9	TAPPI T-410
		g/m2	82 ± 8	
Caliper		mil	3.8 ± 0.5	TAPPI T-411
		µm	96 ± 12	
Image Color			Black	Visual Check
Image Density	(ODU)	Minimum	1.25	X-Rite Densitometer
Tear Strength	MD	gf Minimum	25.0	TAPPI T-414
	CD	gf Minimum	9.0	
Tensile Strength	MD	kgf/15 mm Minimum	5.0	TAPPI T-494
	CD	kgf/15 mm Minimum	14.5	
Stiffness	MD	gf-cm Minimum	18.0	TAPPI T-489
	CD	gf-cm Minimum	14.0	
Initial Activation Temperature	(O.D. = 0.2)	°F / °C	212 / 100	
Effective Activation Temperature	(O.D. = 0.8)	°F / °C	257 / 125	

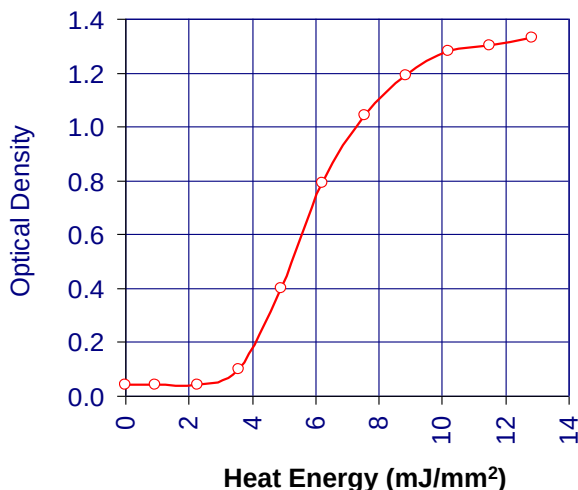
PRESERVATION PROPERTIES

ITEM		SPECIFICATION	TEST METHOD
Water Resistance	Image	1.10 Minimum	Water Immersion 15 Hours
	Background	0.12 Maximum	
Oil Resistance	Image	1.10 Minimum	40° C, Dry, 15 Hours X-Rite (ODU)
	Background	0.15 Maximum	
Moisture Resistance	Image	1.10 Minimum	40° C, 90% RH, 24 Hours X-Rite (ODU)
	Background	0.15 Maximum	
Heat Resistance	Image	1.10 Minimum	80° C, Dry, 1 Hour X-Rite (ODU)
	Background	0.30 Maximum	
Light Resistance	Image	1.10 Minimum	5000 lx, 100 Hours X-Rite (ODU)
	Background	0.15 Maximum	

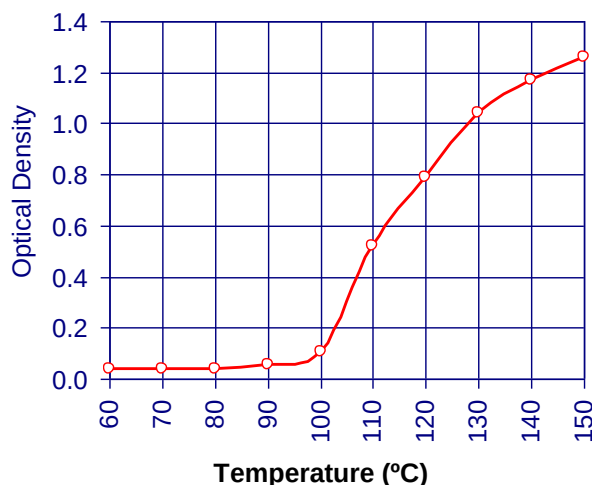


SENSITIVITY RESULTS

Dynamic Sensitivity



Static Sensitivity



Sensitivity curves are for reference only.

Storage Conditions: Below 95°F (35° C) and less than 85% R.H. in a warehouse, avoiding direct sunlight.

Tests performed on Markpoint MP104.

135WRx-2 – LAMINATED PRODUCT

GRADE	UNIT	G5
Application	°F	35 to 120
Temperature	°C	2 to 49
Service	°F	-40 to 131
Temperature	°C	-40 to 55
Basis Weight	lbs	104 ± 12
(24 x 36 x 500)	g/m ²	169 ± 19
Caliper	µm	182 ± 22
	mil	5.9 ± 0.9

Liner: 42 lbs

Caliper: 2.5 mils ± 10% (64 ± 8 µm)

Opacity: 65% Maximum (Photovolt)

Adhesive Attributes:

G5 – General Purpose Hot Melt

CERTIFICATES / REGULATIONS / DIRECTIVES

BPA Free	RoHS	ISO9001	Indirect Food Contact
REACH	WEEE	ISO14001	

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DESCRIPTION

135WRx is a medium sensitivity polypropylene direct thermal film stock with image durability that resists solvents and a durable base film for tear resistance.

KEY FEATURES

Medium sensitivity, moderate image preservation properties; resistant to medical solutions; durable polypropylene base film that is tear and water resistant.

— APPLICATION AREAS —



Laboratory Labels



Wristbands



Medical



Shelf Tags



Industrial

FACESTOCK / PRESERVATION PROPERTIES

FACESTOCK PROPERTIES

ITEM		UNIT	SPECIFICATION	TEST METHOD
Basis Weight		lbs (24x36x500 sheets)	30.7 ± 4.9	TAPPI T-410
		g/m2	50 ± 8.0	
Caliper		mil	2.6 ± 0.3	TAPPI T-411
		µm	65 ± 9.0	
Image Color			Black	Visual Check
Image Density	(ODU)	Minimum	1.25	X-Rite Densitometer
Tensile Strength	MD	kgf/15 mm Minimum	3.8	TAPPI T-494
	CD	kgf/15 mm Minimum	10.0	
Stiffness	MD	gf-cm Minimum	0.98	TAPPI T-489
	CD	gf-cm Minimum	1.76	
Initial Activation Temperature	(O.D. = 0.2)	°F / °C	212 / 100	
Effective Activation Temperature	(O.D. = 0.8)	°F / °C	257 / 118	

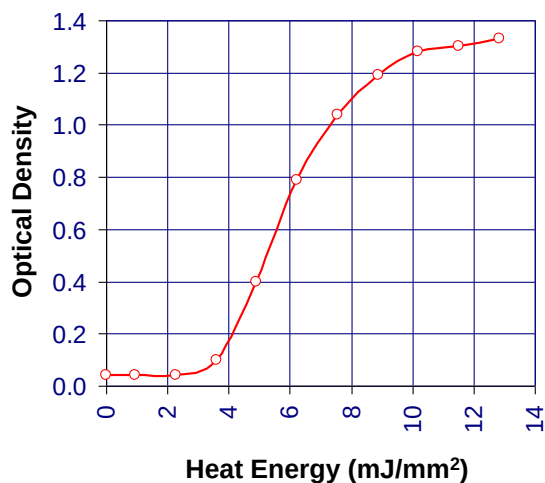
PRESERVATION PROPERTIES

ITEM	SPECIFICATION		TEST METHOD
Water Resistance	Image	1.10 Minimum	Water Immersion 15 Hours
	Background	0.12 Maximum	
Oil Resistance	Image	1.10 Minimum	40° C, Dry, 15 Hours X-Rite (ODU)
	Background	0.15 Maximum	
Moisture Resistance	Image	1.10 Minimum	40° C, 90% RH, 24 Hours X-Rite (ODU)
	Background	0.15 Maximum	
Heat Resistance	Image	1.10 Minimum	80° C, Dry, 1 Hour X-Rite (ODU)
	Background	0.30 Maximum	
Light Resistance	Image	1.10 Minimum	5000 lx, 100 Hours X-Rite (ODU)
	Background	0.15 Maximum	

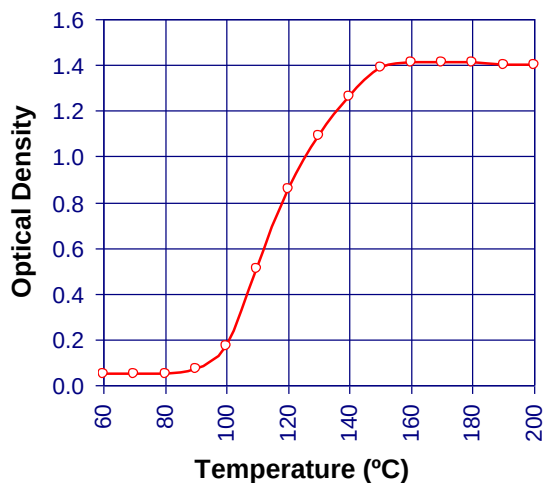


SENSITIVITY RESULTS

Dynamic Sensitivity



Static Sensitivity



Sensitivity curves are for reference only.

Storage Conditions: Below 95°F (35° C) and less than 85% R.H. in a warehouse, avoiding direct sunlight.

Tests performed on Markpoint MP104.

135WRx-60 – LAMINATED PRODUCT

GRADE	UNIT	G12
Application	°F	-40 to 122
Temperature	°C	-40 to 50
Service	°F	-65 to 131
Temperature	°C	-54 to 55
Basis Weight	lbs	80 ± 11
(24 x 36 x 500)	g/m ²	131 ± 18
Caliper	µm	139 ± 21
	mil	5.5 ± 0.8

Liner: 42 lbs

Caliper: 2.5 mils ± 10% (64 ± 8 µm)

Opacity: 65% Maximum (Photovolt)

Adhesive Attributes:

G12 – Wide Temperature and Permanent

CERTIFICATES / REGULATIONS / DIRECTIVES

BPA Free	RoHS	ISO9001	Indirect Food Contact
REACH	WEEE	ISO14001	

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SPECIFICATION SHEET

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Please direct questions to: **Ricoh Customer Service 1-800-843-7058**

DESCRIPTION

Ricoh's 140LDS is a high sensitivity polypropylene direct thermal film stock with high image durability against most environments.

KEY FEATURES

High sensitivity, high image preservation properties; durable polypropylene base film that is tear and water resistant.

— APPLICATION AREAS —



Produce Labels

Meat Processing

Wristbands

Laboratory Labels

Shelf Tags

Weigh Scale Labels

Product ID

FACESTOCK / PRESERVATION PROPERTIES

FACESTOCK PROPERTIES

ITEM		UNIT	SPECIFICATION	TEST METHOD
Basis Weight		lbs (24x36x500 sheets)	33.2 ± 4.9	TAPPI T-410
		g/m2	54.0 ± 8.0	
Caliper		mil	2.6 ± 0.3	TAPPI T-411
		µm	65.0 ± 9.0	
Image Color			Black	Visual Check
Image Density	(ODU)	Minimum	1.30	X-Rite Densitometer
Tensile Strength	MD	kgf/15 mm Minimum	9.0	TAPPI T-494
	CD	kgf/15 mm Minimum	15.0	
Stiffness	MD	gf-cm Minimum	0.98	TAPPI T-489
	CD	gf-cm Minimum	1.76	
Initial Activation Temperature	(O.D. = 0.2)	°F / °C	212 / 100	
Effective Activation Temperature	(O.D. = 0.8)	°F / °C	239 / 115	

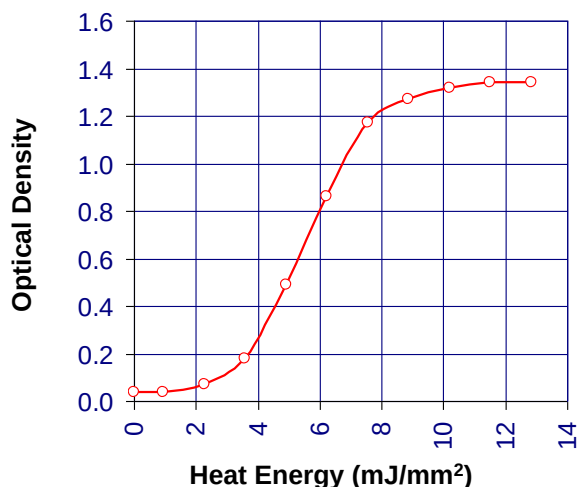
PRESERVATION PROPERTIES

ITEM		SPECIFICATION	TEST METHOD
Oil Resistance	Image	1.20 Minimum	40°C, Dry, 15 Hours X-Rite (ODU)
	Background	0.15 Maximum	
Moisture Resistance	Image	1.20 Minimum	40°C, 90% RH, 24 Hours X-Rite (ODU)
	Background	0.15 Maximum	
Heat Resistance	Image	1.20 Minimum	70°C, Dry, 24 Hours X-Rite (ODU)
	Background	0.20 Maximum	
Water Resistance	Image	1.00 Minimum	Water Immersion, 15 Hours X-Rite (ODU)
	Background	0.12 Maximum	

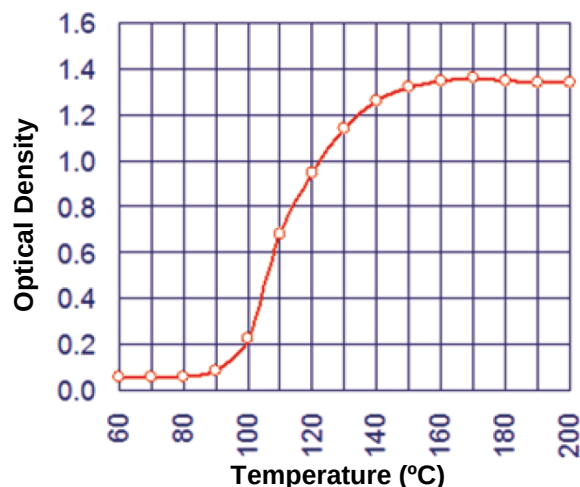


SENSITIVITY RESULTS

Dynamic Sensitivity



Static Sensitivity



Sensitivity curves are for reference only.

Storage Conditions: Below 95°F (35° C) and less than 85% R.H. in a warehouse, avoiding direct sunlight.

Tests performed on Markpoint MP104.

140LDS – LAMINATED PRODUCT

GRADE	UNIT	G8	G12	G29
Application	°F	10 to 120	-40 to 122	-40 to 122
Temperature	°C	-12 to 49	-40 to 50	-40 to 50
Service	°F	-20 to 120	-65 to 131	-65 to 131
Temperature	°C	-29 to 49	-54 to 55	-54 to 55
Basis Weight	lbs	84 ± 11	83 ± 12	80 ± 12
(24 x 36 x 500)	g/m ²	137 ± 18	136 ± 19	130 ± 19
Caliper	µm	140 ± 22	140 ± 22	138 ± 22
	mil	5.5 ± 7.0	5.5 ± 7.0	5.4 ± 7.0

Liner: 42 lbs

Caliper: 2.5 mils ± 10% (64 ± 8 µm)

Opacity: 65% Maximum (Photovolt)

Adhesive Attributes:

G8 – Tight Removable

G29 – Washable

G12 – Wide Temperature and Permanent

CERTIFICATES / REGULATIONS / DIRECTIVES

BPA Free

RoHS

ISO9001

Indirect Food Contact

REACH

WEEE

ISO14001

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Please direct questions to: **Ricoh Customer Service 1-800-843-7058**

DESCRIPTION

Ricoh's 140LES is a high sensitivity polypropylene direct thermal film stock with high image durability against most environments.

KEY FEATURES

High sensitivity, high image preservation properties; durable polypropylene base film that is tear and water resistant.

— APPLICATION AREAS —



Airline
Baggage Tags

Meat Processing

Wristbands

Laboratory Labels

Shelf Tags

Weigh Scale Labels

Product ID

FACESTOCK / PRESERVATION PROPERTIES

FACESTOCK PROPERTIES

ITEM		UNIT	SPECIFICATION	TEST METHOD
Basis Weight		lbs (24x36x500 sheets)	52.4 ± 4.9	TAPPI T-410
		g/m ²	85 ± 8	
Caliper		mil	4.1	TAPPI T-411
		µm	105 ± 11	
Image Color			Black	Visual Check
Image Density	(ODU)	Minimum	1.30	X-Rite Densitometer
Tensile Strength	MD	kg / mm ²	9.0	ASTM D-882
	CD	kg / mm ²	15.0	
Stiffness	MD	gf-cm Minimum	7.84	TAPPI T-489
	CD	gf-cm Minimum	11.76	
Initial Activation Temperature	(O.D. = 0.2)	°F / °C	203 / 95	
Effective Activation Temperature	(O.D. = 0.8)	°F / °C	221 / 105	

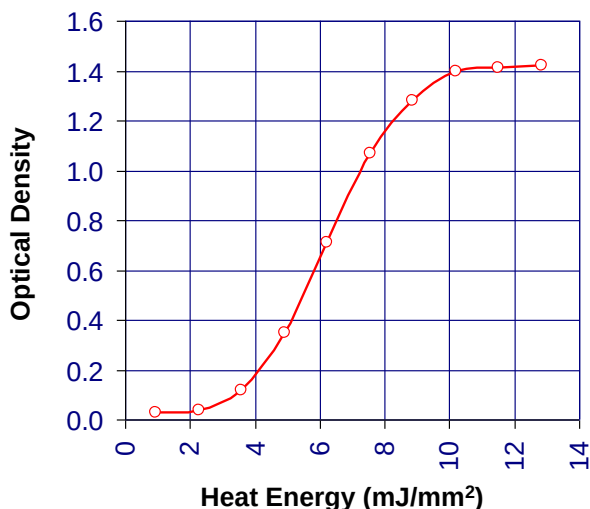
PRESERVATION PROPERTIES

ITEM		SPECIFICATION	TEST METHOD
Oil Resistance	Image	1.20 Minimum	40° C, Dry, 15 Hours
	Background	0.15 Maximum	X-Rite (ODU)
Moisture Resistance	Image	1.20 Minimum	40° C, 90% RH, 24 Hours
	Background	0.15 Maximum	X-Rite (ODU)
Heat Resistance	Image	1.20 Minimum	70° C, Dry, 24 Hours
	Background	0.20 Maximum	X-Rite (ODU)
Water Resistance	Image	1.00 Minimum	Water Immersion, 15 Hours
	Background	0.12 Maximum	X-Rite (ODU)

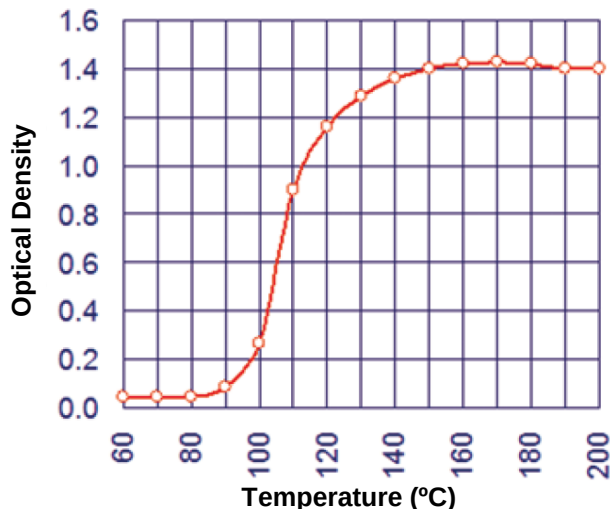


SENSITIVITY RESULTS

Dynamic Sensitivity



Static Sensitivity



Sensitivity curves are for reference only.

Storage Conditions: Below 95°F (35° C) and less than 85% R.H. in a warehouse, avoiding direct sunlight.

Tests performed on Markpoint MP104.

140LES – LAMINATED PRODUCT

GRADE	UNIT	G8	G12	G22
Application	°F	10 to 120	-40 to 122	28 to 120
Temperature	°C	-12 to 49	-40 to 50	-2 to 50
Service	°F	-20 to 120	-65 to 131	-40 to 122
Temperature	°C	-29 to 49	-54 to 55	-40 to 50
Basis Weight	lbs	101 ± 11	105 ± 11	105 ± 11
(24 x 36 x 500)	g/m ²	164 ± 18	171 ± 18	170 ± 18
Caliper	µm	178 ± 22	179 ± 22	179 ± 21
	mil	7.0 ± 0.7	7.0 ± 0.7	7.0 ± 0.7

Liner: 42 lbs

Caliper: 2.5 mils ± 10% (64 ± 8 µm)

Opacity: 65% Maximum (Photovolt)

Adhesive Attributes:

G12 – Wide Temperature and Permanent

G8 – Tight Removable

G22 – Hot Melt for High Moisture Environments

CERTIFICATES / REGULATIONS / DIRECTIVES

BPA Free

RoHS

ISO9001

Indirect Food Contact

REACH

WEEE

ISO14001

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