

140LES PF DIRECT THERMAL

Specifications may change without notice.
Last Update: December 2025 PS-2521



PRODUCT FEATURES

140LES PF is a phenol-free alternative to the standard 140LES formulation. It is a high sensitivity polypropylene direct thermal film stock with a 3.9 mil base film thickness, designed for applications requiring exceptional durability and high-quality imaging. Its tear and water-resistant base film ensures reliable performance in demanding environments, making it ideal for applications such as meat processing labels, laboratory labels, shelf tags, and weigh scale labels.

APPLICATION AREAS

- Airline Baggage Tags
- Meat Processing
- Wristbands
- Laboratory Labels
- Shelf Tags
- Weigh Scale Labels
- Product ID





FACESTOCK PROPERTIES

Basis Weight	
lbs (24 x 36 x 500 sheets)	49.2 ± 4.9
g/sq m	80 ± 8
Caliper	
mil	3.9 ± 0.4
µm	99 ± 10
Image Density (ODU Minimum)	1.30
Tensile Strength (kgf/15 mm Minimum)	
MD	15.0
CD	25.0
Stiffness (gf-cm Minimum)	
MD	7.84
CD	11.76
Initial Activation Temperature	
(°F / °C)	
O.D. = 0.2	203°F / 95°C
Effective Activation Temperature	
(°F / °C)	
O.D. = 0.8	221°F / 105°C

CERTIFICATIONS

- Indirect Food Contact
- ISO9001
- ISO14001

REGULATORY

-  Phenol Free
-  BPS Free
-  BPA Free
-  No Added PFAS

PRESERVATION PROPERTIES

Oil Resistance

Image	1.20 Minimum
Background	0.15 Maximum
Test Method	40°C, Dry, 15 Hrs, X-Rite (ODU)

Moisture Resistance

Image	1.20 Minimum
Background	0.15 Maximum
Test Method	40°C, 90% RH, 24 Hrs, X-Rite (ODU)

Heat Resistance

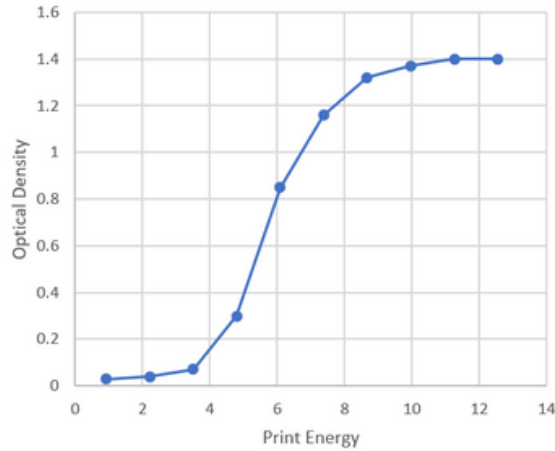
Image	1.20 Minimum
Background	0.20 Maximum
Test Method	70°C, Dry, 24 Hrs, X-Rite (ODU)

Water Resistance

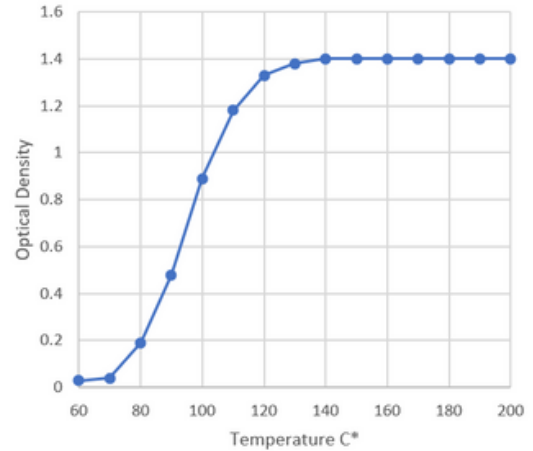
Image	1.00 Minimum
Background	0.12 Maximum
Test Method	Water Immersion, 15 Hrs, X-Rite (ODU)

140LES PF DIRECT THERMAL SENSITIVITY RESULTS

DYNAMIC SENSITIVITY



STATIC SENSITIVITY



Sensitivity curves for reference only. Storage Conditions: Below 95°F (35°C) and less than 85% R.H. in a warehouse, avoiding direct sunlight. Dynamic sensitivity tests performed on Markpoint MP104.

LINER AND ADHESIVE PROPERTIES

Liner: 42 lbs (24 x 36 x 500)

Caliper: 2.4 mils ± 10% (61 ± 6µm)

Opacity: 65% Maximum (Photovolt)

G12 Adhesive: Wide Temperature and Permanent

G8 Adhesive: : Tight Removable

G22 Adhesive: Hot Melt for High Moisture Environments

LAMINATED PRODUCT PROPERTIES

Application Temperature	G8	G12	G22
°F	10 to 120	-40 to 122	28 to 120
°C	-12 to 49	-40 to 50	-2 to 50
Service Temperature			
°F	-20 to 120	-65 to 131	-40 to 122
°C	-29 to 49	-54 to 55	-40 to 50
Basis Weight (24 x 36 x 500)			
lbs	101 ± 11	105 ± 11	105 ± 11
g/sq m	164 ± 18	171 ± 18	170 ± 18
Caliper			
mil	7.0 ± 0.8	7.0 ± 0.8	7.0 ± 0.7
µm	178 ± 21	179 ± 21	179 ± 21

CONTACT US

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