TF-160

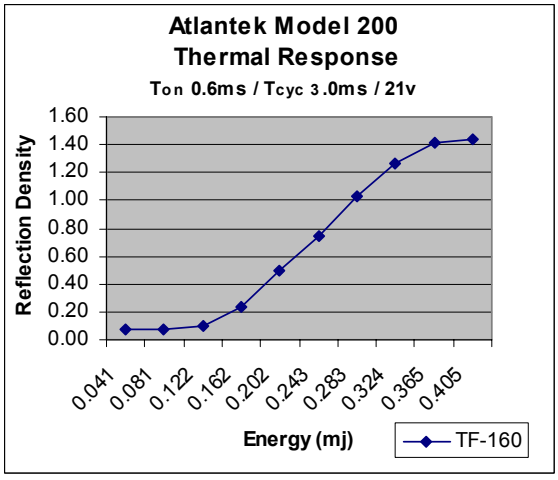
1.6 mil Topcoated Direct Thermal Polypropylene Film (White)

Capitalizing on our thin film coating capabilities, IIMAK has engineered and produced a unique direct thermal film that is the thinnest film currently available. At 1.6 mil, IIMAK's new TF-160 direct thermal film offers significant cost savings compared to standard films and delivers higher yields for less downtime. Durable topcoat enhances scratch resistance, adds moisture resistance, and reduces yellowing from UV exposure. Additionally, TF-160's surface is very receptive to flexo printing, so static information and colors can be preprinted.

Image Durability

	Test Method	TF-160 Performance	ANSI Scan after test
Heat Resistance	140º F/24 hrs.	Excellent	A Grade
Light Exposure	24 hrs. QUV	Excellent	A Grade
Water Submersion	4 hr/Dry/Scan	Excellent	A Grade

Thermal Response



Sensitivity Curve presented for general purpose only.

Product Specifications

Roll Specs	Max: 2 splices/roll Supplied on 6" core (820mm centered)
Film Width	780 mm wide x 3000 m long (+/- 10%) (764 mm wide coated)
Caliper	1.6 mil
Film Color	White Opaque
Image Color	Black
Storage Conditions	20º – 30º C <80% RH
Shelf Life	18 Months

Technical Specifications

Opacity (TAPPI T425)	94%
Stretch (Coating Adhesion)	Excellent
Ultimate Tensile Strength, kpsi MD	13.6
Elongation to Break, % MD	148
Image Density	1.42 RD
Print Speed	2 – 6 ips
Brightness	87% min
Smoothness	10 – 20 (30 max)

Base film is FDA approved for food contact

Applications

Airline Bag Tags, Pharmaceutical Labels, Frozen Food and Meat Packing, RFID, Fruit Labels, Healthcare/Medical Wristbands, Durable Receipts, Ski Passes, Sporting Licenses, Shelf Labeling, Garment Tags, Bar Code and Inventory Labels, Carpet Tags, Temporary Phone Cards

Call Toll Free: **888.464.4625** ◦ Fax Toll Free: **888.329.0260** ◦ Online: **www.iimak.com** ◦ Phone: **716.691.6333** ◦ Fax: **716.691.3395** ◦ Email: **salesinfo@iimak.com**

March 2005

TF-100

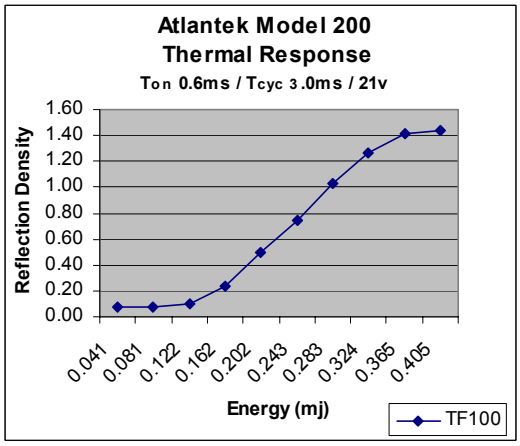
1.0 mil Topcoated Direct Thermal Synthetic Facestock (white)

Capitalizing on our thin film coating capabilities, IIMAK has engineered and produced a unique direct thermal synthetic that is the thinnest direct thermal film currently available. TF-100 can be utilized as-is for durable/recyclable receipts, laminated to a release liner for fruit labels or permanently laminated to other papers/synthetics as a direct thermal “skin” creating the desired strength, thickness or stiffness required by an application. At 1.0 mil, IIMAK's new TF-100 offers significant cost savings compared to standard caliper films. Durable topcoat enhances scratch resistance, adds moisture resistance, and reduces yellowing from UV exposure. Additionally, TF-100's surface is very receptive to flexo printing, so static information and colors can be preprinted.

Image Durability

	Test Method	TF-100 Performance	ANSI Scan after test
Heat Resistance	140º F/24 hrs.	Excellent	A Grade
Light Exposure	24 hrs. QUV	Excellent	A Grade
Water Submersion	4 hr/Dry/Scan	Excellent	A Grade

Thermal Response



Sensitivity Curve presented for general purpose only.

Product Specifications

Roll Specs	Max: 2 splices/roll Supplied on 6” core (820mm centered)
Film Width	780 mm wide x 3000 m long (+/- 10%) (764 mm wide coated)
Caliper	1.0 mil
Film Color	White Opaque
Image Color	Black
Storage Conditions	20º – 30º C <80% RH
Shelf Life	18 Months

Technical Specifications

Opacity (TAPPI T425)	80%
Ultimate Tensile Strength, kpsi MD	10.5
Elongation to Break, % MD	120
Image Density	1.30 RD
Print Speed	2 – 6 ips
Brightness	87% min
Smoothness (Sheffield)	10 – 20 (30 max)

Base film is FDA approved for food contact

Applications

RFID Label Facestock, Fruit Labels, Durable Receipts, Other bar code and text based labels where a thin water resistant direct thermal face is added to another substrate to achieve desired strength and caliper requirements.

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June 2005

TF200C

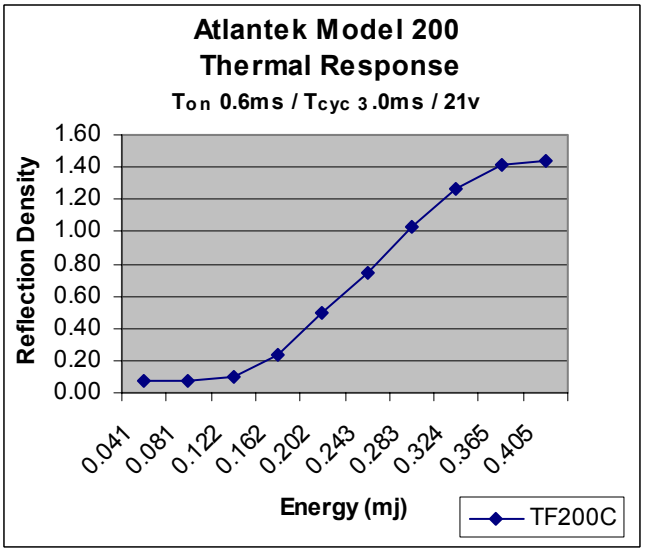
2.0 mil Topcoated Direct Thermal Polypropylene Film (Clear)

Capitalizing on our thin film coating capabilities, IIMAK has engineered and introduced a unique clear direct thermal film that provides the highest level of clarity on the market today. At 2.0 mil, IIMAK's new TF200C direct thermal film offers significant cost savings compared to competitive clear films. Durable topcoat enhances scratch resistance, adds moisture resistance, and reduces yellowing from UV exposure. Additionally, TF200C's surface is very receptive to flexo printing, so static information and colors can be preprinted. Consider color tinting the adhesive to create unique product appeal!

Image Durability

	Test Method	TF200C Performance	ANSI Scan after test
Heat Resistance	140º F/24 hrs.	Excellent	A Grade
Light Exposure	24 hrs. QUV	Excellent	A Grade

Thermal Response



Sensitivity Curve presented for general purpose only.

Product Specifications

Roll Specs	Max: 2 splices/roll Supplied on 6" core (820mm centered)
Film Size	780 mm wide x 3500 m long (+/- 10%) (764 mm wide coated)
Caliper	2.0 mil
Film Color	Clear
Image Color	Black
Storage Conditions	20º – 30º C <80% RH
Shelf Life	18 Months

Technical Specifications

Stretch (Coating Adhesion)	Excellent
Ultimate Tensile Strength, kpsi MD	20
Elongation to Break, % MD	140
Image Density	1.42 RD
Print Speed	2 – 6 ips
Smoothness	10 – 20 (30 max)

Base Film is FDA approved for food contact.

Applications

Pharmaceutical Labels, Frozen Food and Meat Packing, RFID, Fruit Labels, Healthcare/Medical Wristbands, Durable Receipts, Ski Passes, Sporting Licenses, Shelf Labeling, Garment Tags, Bar Code and Inventory Labels, Carpet Tags, Temporary Phone Cards, and more.

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March 2005