

DIRECT THERMAL FILMS & PAPER

Industrial, Shelf Marking, Weight Scale, Packaging and Medical Labels



Mactac® offers a wide variety of medium to high sensitivity paper and film Direct Thermal products that are ideal for use where high-reliability bar code scanning is required. Whether it's topcoating for added environmental resistance, or the ability to scan at higher wave lengths, Mactac has the facestock to meet your needs. By combining the appropriate facestock and adhesive to perform in your application, Mactac's product line offers you the solution.

Direct Thermal Film Products

Products	DBH 3.0 Mil Medium Sensitivity	DPI 3.0 Mil Medium Sensitivity	DPT 4.2 Mil High Sensitivity
Infusion™ +20°F (-7°C) App -65°F to +150°F Range			DPT1701
710 VHP +20°F (-7°C) App -65°F to +150°F Range		DPI9011TR	
ST95 +25°F (-4°C) App -75°F to +200°F Range	DBH9501 Precise P5, P10	DPI9501 Precise P10	
XT99 +32°F (0°C) App -75°F to +200°F Range		DPI9901	
640AT -20°F (-29°C) App -65°F to +200°F Range	DBH2601 Precise P5, P10	DPI2601	
Applications	DBH 3.0 Mil	DPI 3.1 Mil	DPT 4.2 Mil
Medical Labeling	✓	✓	
Airline Baggage Tag			✓
Shelf Marking	✓	✓	
Poultry Packaging		✓	✓
Ski Lift Tickets			✓
Address Labels			
Industrial Warehouse	✓	✓	✓
General Durable	✓	✓	✓

Information above is general guidelines in selecting a Direct Thermal Film. As always, Mactac strongly recommends extensive testing to determine suitability.

Note: Precise Parts are subject to change.

* Human Readable Only

For an up to date listing of Precise, please visit www.mactac.com.

Direct Thermal Paper Products

Products	Top-Coated Paper Medium to High Sensitivity	Non-Top-Coated Paper Medium Sensitivity	Top-Coated Weigh Scale Paper Medium Sensitivity	Top-Coated Paper High Sensitivity	True IR Scannable TC Paper	Near IR Scannable Top-Coated Paper	MACScript 2 Pharmacy Prescription
Infusion™ +20°F (-7°C) App -65°F to +150°F Range	TCDT1702 Precise P5, P10	DTNN1702 Precise P5, P10	DTW1702 Precise P10				
ST95 +25°F (-4°C) App -75°F to +200°F Range	DTM9502 Precise P5, P10	DTNN9502 Precise P10	DTW9502 Precise P10	DTJ9502 Precise P5, P10	DTR9502 Precise P5, P10	DNR9502	DDR9502 Precise P10
XT99 +32°F (0°C) App -75°F to +200°F Range	DTM9902 Precise P10				DTR9902 Precise P10		
XT100 +32°F (0°C) App -75°F to +200°F Range	DTM9602 P5						
CHILL AT™ -10°F (-23°C) App -65°F to +150°F Range			DTW7802 Precise P5, P10				
640AT -20°F (-29°C) App -65°F to +200°F Range	TCDT2602 Precise P5, P10	DTNN2602 Precise P5, P10, P15	DTW2602 Precise P5, P10	DTJ2602 Precise P10			
HR51 Removable +32°F (0°C) App -40°F to +200°F Range	TCDT5102 Precise P5, P10						
LT20 Short Term Removable +32°F (0°C) App -40°F to +200°F Range	DTM0902						
Applications	Top-Coated Paper Medium to High Sensitivity	Non-Top-Coated Paper Medium Sensitivity	Top-Coated Weigh Scale Paper Medium Sensitivity	Top-Coated Paper High Sensitivity	True IR Scannable TC Paper	Near IR Scannable Top-Coated Paper	MACScript 2 Pharmacy Prescription
Warehouse/Industrial Labeling	✓						
Distribution/Shipping Labeling	✓	✓	✓			✓	
Meat Packaging/Food Packaging Labeling	✓		✓				
Bakery Labeling	✓		✓				
Weigh Scale Labeling	✓		✓				
Retail Labeling	✓						
Medical Diagnostic/Vial Labeling	✓			✓ Non-mandrel	✓	✓	
Pharmacy Prescription Labeling							✓

Information above is general guidelines in selecting a Direct Thermal Paper. As always, Mactac strongly recommends extensive testing to determine suitability.

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Shelf Life & Storage of Mactac® Direct Thermal Products

Optimal Storage Conditions

Before imaging, the shelf life of Mactac adhesive laminated direct thermal products is approximately one year from the date of shipment when stored under the following conditions:

- Temperature 72°F
- Relative humidity 50%
- Stored in a dark environment, avoiding natural or artificial light
- In sealed packaging and avoiding contact with chemicals such as plasticizers, oils, solvents and water.

These are the conditions under which the full 1 year shelf life can be achieved.

Higher humidity and higher temperatures can affect shelf life. Specific time frames based on incremental changes in temperature and humidity are impossible to compute.

CALL 1-800-548-3456 for additional product information

Environmental Conditions Impacting Direct

IMPORTANT NOTICE: The information given and the recommendations made herein are based on our research and are believed to be accurate, but no guarantee of their accuracy or completeness is made. In every case, user shall determine before using any product in full scale production, or in any way, whether such product is suitable for user's intended use for their particular purpose under their own operating conditions. User assumes all risk and liability whatsoever in connection with their use of any product. The products discussed herein are sold without any warranty as to merchantability or fitness for a particular purpose, or any other warranty, express or implied. No representative of ours has any authority to waive or change the foregoing provisions, and no statement or recommendation not contained herein shall have any force of effect unless in an agreement signed by the officers of seller and manufacturer. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent without authority from the owner of the patent. The following is made in lieu of all warranties, express or implied: Seller's and manufacturer's only obligation shall be to replace or credit such quantity of the product proved to be defective at its discretion.

Thermal

It is most important to understand a few key points related to direct thermal products.

- High temperature will accelerate the aging process, which will involve some degradation of thermal imaging characteristics and discoloration.
- Very high temperatures close to 150°F may begin to pre-activate the thermal coating, causing a light gray appearance. As temperatures increase to about 170°F, the image will become dark black (heat resistant grades are available to prevent pre-activation up to about 190°F).
- Humidity increases the aging affect of heat, with high humidity and high heat being the most undesirable combination. Low humidity is generally not a problem with respect to imaging characteristics or appearance of the paper surface or coating. However, paper is reactive to changes in temperature and low humidity and may cause the stock to tend to curl when giving off some amount of its inherent moisture content into a low humidity surrounding (inversely; stock may take on additional moisture in high humidity).
- Prolonged exposure to open air environments with airborne contaminants can cause oxidation which may tend to discolor the stock through low grade activation, typically occurring in conjunction with light and/or heat.
- Although virtually any direct light will have an affect on direct thermal stocks, the ultraviolet component of direct sunlight will have a more pronounced yellowing effect on direct thermal products than indoor fluorescent lighting. However prolonged exposure to indoor fluorescent lighting and/or incandescent lighting can also influence background discoloration.



Mactac North America

4560 Darrow Road • Stow, OH 44224-1898 | ph: 800-548-3456
email: Mactac.Americas@mactac.com | www.mactac.com/rolllabel