



# TECHNICAL ASSISTANCE

[www.MACtac.com](http://www.MACtac.com)

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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.

### Environmental Conditions Impacting Direct 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.

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

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