

RMS INSTRUMENTS' RMS2030 THERMAL PAPERS

In thermal printing, energy in the form of heat is transferred from miniature heating elements organized in an array along a *printhead*, to the thermal recording medium. Through carefully designed, proprietary firmware and hardware techniques, the system controls the energy applied to print elements and the timing of numerous signals that result in the printing of sharp graphic images, traces, text, and other forms of annotation – all at print speeds up to 260 mm/sec, resolutions as high as 11.8x11.8 dots/mm (300 dpi), and on 321-mm wide print media. By continuously adjusting print variables based on measurements of printhead temperature and print rates, outstanding photographic quality is achieved in images printed using the gray scaling capability of some models – *true* gray scaling with 16 shades, in which the gray shade of each print element is individually modulated by the image data. Superior-quality thermal media (paper and film) supplied by RMS INSTRUMENTS ensures outstanding print quality and longevity.

BENEFITS OF THERMAL PRINTING

Printing based on RMS INSTRUMENTS' thermal array technology is ideal for harsh environments in which instrumentation is exposed to wide temperature ranges and vibration. Minimal maintenance and support are required. Totally eliminated are the complicated mechanisms for pen positioning and control, paper movement, and the ensuing high maintenance cost, the need for replacement cartridges/ribbons, and the frequent problems such as smearing of ink and nozzle clogging associated with other technologies.

STORAGE AND HANDLING THERMAL PAPER - P/N RMS2030

RMS2030 papers are guaranteed to maintain a human-readable image for at least 25 years if stored under the following conditions:

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|----------------------|--|
| Ambient Temperature: | Less than 25 degrees C |
| Relative Humidity: | Less than 70% |
| Storage Location: | In darkness, before and after exposure |

TO ELIMINATE PREMATURE PAPER DEVELOPMENT:

Careful attention must be paid to ambient temperature and relative humidity for long-term storage of RMS2030 Thermal Paper. Colour development begins at temperatures between 70 and 100 degrees C, and reaches saturation density between 80 and 120 degrees C. Premature development of the paper may occur at lower temperatures, and particularly if the humidity is greater than 70%.

For example:

Ambient Temperature: If the paper is stored for 24 hours at a temperature of 60 degrees C, some development may occur.

Ambient Temperature and Relative Humidity: If the paper is stored for 24 hours at a temperature of 45 degrees C when the relative humidity is 90%, some development may also occur.

Frictional heat generated by rubbing a fingernail or sharp object over the surface will cause images to develop.

TO MINIMIZE PAPER FADING:

Store in a dark environment away from natural or artificial light.

Avoid contact with chemicals such as plasticizers, oil, solvent, water and adhesives. These can have an adverse affect on the paper as well as the direct thermal image.

Handling thermal paper with dirty or sweaty fingers may cause images to fade.

Do not store developed paper with the sensitized surfaces touching, as images may be transferred from one sheet to another.

25 YEAR LONGEVITY

Projected image life based on RMS INSTRUMENTS' data and manufacturing specifications.

[Optical Density Using X-Rite Densitometer]

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|---------------------------|--------|
| Initial saturated density | 1.25 |
| Density at 5 years | > 1.03 |
| Density at 10 years | > 0.89 |
| Density at 15 years | > 0.80 |
| Density at 20 years | > 0.74 |
| Density at 25 years | > 0.70 |