

# KODAK PROFESSIONAL PANALURE SELECT RC Paper



## Base and Surface Characteristics

**Discontinuance of KODAK PROFESSIONAL  
Black & White Photographic Papers**

Due to the ongoing transition to digital output technologies in both professional and educational markets, Kodak has announced manufacturing discontinuance of Black & White Photographic Papers. Sales will cease by the end of 2005.

KODAK Black & White Films and Black & White Processing Chemicals will continue to be produced.

The final availability of specific Black & White papers will vary based on type, size, configuration and surface. Please contact your normal supplier of KODAK PROFESSIONAL Products for the latest information.

| Symbol | Texture | Surface     | Base Tint | Base Weight   |
|--------|---------|-------------|-----------|---------------|
| F      | Smooth  | Glossy      | White     | Medium weight |
| D      | Smooth  | Fine-Lustre |           |               |

This is a panchromatic, resin-coated, developer-incorporated, projection-speed paper designed for making black-and-white enlargements (or contact prints with reduced illumination) from color negatives. It is available in a medium contrast grade for use in a broad variety of applications, such as portraiture, photojournalism, and commercial and industrial photography.

PANALURE SELECT RC Paper offers good emulsion consistency; storage stability; sharpness; and increased maximum density. The paper provides gray-tone rendering of scenes recorded on color negative films that is very similar to that produced by using black-and-white negatives with conventional black-and-white papers. It is optimized to give the best possible panchromatic tone rendition when you expose it with tungsten or tungsten-halogen lamps without filters. Use only a safelight equipped with a KODAK 13 Safelight Filter.

Although PANALURE SELECT RC Paper is designed for making prints from color negatives, you can also use it to print black-and-white negatives.

## STORAGE AND HANDLING

Store paper in a cool, dry place (preferably at or below 21°C [70°F] and at a relative humidity of 30 to 50 percent). High temperature or high humidity may produce undesirable changes. Always rewrap unused paper in its original packaging (the outer box as well as the bag) to protect it from light and moisture. Avoid or shield the paper from exposure to radioactivity or x-rays.

## DARKROOM RECOMMENDATIONS

For critical applications, use a KODAK 13 Safelight Filter (amber) in a suitable safelight lamp with a bulb of 7 1/2 watts or less at least 1.2 metres (4 feet) from the paper. For some applications, you can use a 15-watt bulb with a KODAK 13 Safelight Filter, depending on darkroom design and safelight location. Minimize safelight exposure to avoid unwanted quality changes. Excessive safelight exposure will lower paper contrast or affect gray-tone reproduction of colors before creating significant fog density. **Be especially careful** if you use other types of safelights.

See KODAK Publication No. K-4, *How Safe is Your Safelight?*, for information on safelight testing.

**Note: Do not** use a KODAK OC Safelight Filter.

| FEATURES  | BENEFITS  |
|---|---|
| • Optimized spectral sensitivity                                    | • Improved black-and-white tone reproduction from all color negative films  |
| • Medium contrast grade   | • Suits a wide variety of applications  |
| • White, medium-weight support with incorporated optical brightener | • Clean, crisp whites<br>• Added brilliance   |
| • Resin-coated, water-resistant base                                | • Rapid processing, fast drying, and minimum curl   |
| • Specially coated on back  | • Good writing surface and easy interleaving during tray processing   |
| • Good emulsion uniformity and storage stability                    | • More consistency within emulsions, and from emulsion to emulsion<br>• Less time required for emulsion-crossover testing |

## EXPOSURE

### Light Source

This paper is designed primarily for use with tungsten or tungsten-halogen enlarging lamps<sup>1</sup>. You can use other light sources such as cool-white fluorescent lamps, mercury-vapor lamps, or cathode-ray tubes, but you may need to use correction filters in addition to the filters for contrast and control. For best results, make tests to determine the optimum filtration for each light source. Other light sources and color negatives that have been exposed under special conditions may require filters for more realistic panchromatic gray-tone rendering.

Use KODAK Color Compensating Filters or KODAK WRATTEN Gelatin Filters to obtain results other than the usual panchromatic rendering. To lighten a subject color, use a filter or the same color as the subject; to darken a subject color, use a filter of a color complementary to the subject color. The effect is the same as that obtained by using colored filters over the camera lens to make photographs on black-and-white film. For example, a yellow filter will lighten yellows and darken blues. A cyan filter will lighten cyans and darken reds. However, using a cyan filter also has a significant secondary effect: It will slightly increase the contrast of PANALURE SELECT RC Paper<sup>2</sup>. If you use filters in critical work, focus the image with the filter in place. To *decrease* contrast without introducing fog, you can use a very low-level white-light uniform preflash.

### Paper Speed

| Paper Speed | Starting-Point Exposure*<br>(Seconds) at #11 |
|-------------|--|
| 800         | 4.5  |

\*Typical exposure times for a color negative (using approximately 3/4-footcandle [8 lux] illumination at the easel measured without a negative in the enlarger).

## PROCESSING

### Machine Processing

For rapid processing of this paper, you can use roller-transport and continuous processors that use conventional developers.

| Processor  | Developer  | Fixer   |
|--|--|---|
| Roller-Transport<br>Rack-and-Tank,<br>Continuous | KODAK POLYMAX RT<br>Developer and<br>Replenisher | KODAK<br>POLYMAX RT<br>Fixer and<br>Replenisher<br>OR<br>KODAK Rapid<br>Fixer, Solution A |

### Tray Processing

Tray process with continuous agitation at 20°C (68°F), using the appropriate dilution and development time recommended in the table.

| KODAK Chemical  | Dilution<br>(chemical:<br>water) | Time<br>(min:sec) | Capacity<br>(8 x 10-inch<br>Prints<br>per gal/L) |
|---|----------------------------------|-------------------|--|
| <b>Developer— 20°C (68°F)</b>                                     |                                  |                   |  |
| POLYMAX T   | 1:9                              | 1:00              | 120/32   |
| DEKTOL (powder)   | 1:2                              | 1:00              | 120/32   |
| DEKTOL (liquid)   | 1:9                              | 1:00              | 120/32   |
| EKTONOL*  | 1:1                              | 1:30              | 120/32   |
| <b>Stop Bath— 18 to 24°C (65 to 75°F)</b>                         |                                  |                   |  |
| Indicator   | 1:63                             | 0:10              | 80/20†   |
| EKTAFLO   | 1:31                             | 0:10              | 80/20†   |
| <b>Fixer/Replenisher (single bath)‡— 18 to 24°C (65 to 75°F)</b>  |                                  |                   |  |
| <i>Non-hardening fixer (for general printing and for toning):</i> |                                  |                   |  |
| Rapid Fixer,<br>Solution A<br>(do not use Solution<br>B)          | 1:7                              | 2:00              | 100/26   |
| <i>Hardening fixers (for general printing)§</i>                   |                                  |                   |  |
| KODAK Fixer   | —                                | 2:00              | 100/26   |
| POLYMAX T   | 1:7                              | 2:00              | 100/26   |
| Rapid Fixer<br>(Solution A and B)                                 | 1:7                              | 2:00              | 100/26   |
| KODAFIX Solution  | 1:7                              | 2:00              | 100/26   |
| <b>Wash— 10 to 30°C (50 to 86°F)</b>                              |                                  |                   |  |
|   | —                                | 4:00              | —  |

\*Provides greater development latitude. Do *not* use EKTONOL Developer diluted to 1 to 3.

†Discard the solution when color changes to a purplish blue.

‡To increase capacity, use two fixing baths.

§Using a hardening fixer makes toning less efficient. For the same amount of processing time, you'll see less of a toning effect.

1. Certain enlargers that are designed for printing black-and-white negatives on variable-contrast black-and-white papers have enlarger heads with built-in color filters to control print contrast. You must remove these filters before printing color negatives on PANALURE SELECT RC Paper, because proper black-and-white tone reproduction with this paper requires a white-light exposure. See the owner's manual for your enlarger for instructions on setting up the enlarger to print color negatives on panchromatic black-and-white paper. You may need to purchase a conversion kit. Contact the enlarger manufacturer or a photo dealer if you need more information.
2. Print graininess will also increase.

## Developing

Immerse prints face up, flexing the paper so the entire surface gets wet as it goes into the developer. Drain prints for the last 5 seconds before immersing in stop bath.

## Stop Bath

Bathe prints for at least 10 seconds at 18 to 24°C (65 to 75°F) with continuous agitation in KODAK EKTAFLU Stop Bath, KODAK Indicator Stop Bath, or 48 mL KODAK 28% Acetic Acid and water to make 1 L.

With EKTAFLU or Indicator Stop Bath, discard the solution when the color changes to purplish blue. Change Acetic Acid and water stop bath after approximately twenty 8 x 10-inch prints per litre (eighty 8 x 10s per gallon).

## Fixing

Fix prints at 18 to 24°C (65 to 75°F) with frequent agitation. With KODAK POLYMAX T Fixer, KODAK Rapid Fixer, or KODAFIX Solution, fix for 2 minutes if you use a single bath. If you use two fixing baths, fix prints for 1 minute in each bath, draining for 5 seconds between baths.

Proper fixing is important. Underfixing will leave residual silver halide in the emulsion, which will darken or stain with exposure to light. Overfixing will make washing more difficult, and may slightly bleach the print.

**Note:** Using a hardening fixer makes toning less efficient. For the same amount of processing time, you'll see less of a toning effect.

## Washing

Wash for at least 4 minutes in running water at 10 to 30°C (50 to 86°F), interleaving the prints carefully and frequently.

Avoid prolonged fixing or washing times to realize all advantages of this water-resistant base, and to minimize physical damage, edge penetration, and curl.

## Drying

Remove excess water from the front and back of prints with a clean squeegee, soft viscose sponge, or lintless blotter. Air-dry prints at room temperature or with warm air, or use a dryer intended for resin-coated papers.

Ferrotyping (glazing) prints is **not** recommended. You can use ferrotype dryers (glazers) at temperatures below 88°C (190°F) if you place the print's base side against the drum or platten surface.

## POST-PROCESS TREATMENTS

Except for treatment with a toner solution, post-processing treatments generally don't improve the image stability of prints on Kodak black-and-white papers. Some treatments—for example, laminating—provide physical protection. Some may actually have an adverse effect on prints. The effects of post-processing treatment on prints vary widely with the type of treatment and the manner in which the treatments are applied.

## Toning

Treatment with a toner extends the life of prints that may be exposed to oxidizing gases or subjected to adverse storage or display conditions. KODAK Toners will protect prints whether or not they produce a tone shift.

| Processing              | Tone Shift with KODAK Toners |                  |  |  |                       |
|-------------------------|------------------------------|------------------|--|--|-----------------------|
|                         | Full                         | Full to Moderate | Moderate                                   | Slight   | None                  |
| Tray (DEKTOL Developer) | Sepia II Warm                | Sepia            | POLY-TONER (1:4) or (1:24) (1:50) or Brown | POLY-TONER (1:4) or Rapid Selenium (1:3) (1:9) | Rapid Selenium (1:20) |

For more information on toning, see KODAK Publication No. G-23, *Toning KODAK Black-and-White Materials*. It explains the technique of toning, and describes Kodak toners and their effects on Kodak black-and-white papers and films.

## Retouching

You can use liquid dyes, colored or graphite pencils, dry dyes, and opaque to retouch prints on Kodak black-and-white papers.

Use dry dyes, such as KODAK Retouching Colors, to make large-area corrections. Use liquid dyes, pencils, or opaque to make fine corrections—such as eliminating spots, scratches, and reflections—or to outline and accentuate details. Although KODAK Liquid Retouching Colors are intended primarily for color prints, you can use the neutral dye to retouch black-and-white prints, or mix the colored dyes to match toned black-and-white prints.

For more information on retouching, see KODAK Publication No. O-10, *Retouching Black-and-White Negatives and Prints*.

## Lacquering and Laminating

Use lacquers with caution. If you choose to lacquer your prints, select a lacquer that is specifically intended for photographic applications.

Apply multiple light coats rather than a single thick coat of lacquer. Never allow a lacquered print to come into contact with the glass in a picture frame, because it may stick to the glass.

Laminating is really a variation on lacquering. Instead of a very thin polymer layer, laminating produces a much thicker layer. Laminates may contain UV absorbers, plasticizers, and matting agents. They provide protection against fungus and bacterial attack, moisture and dirt in the air, and physical abrasion.

## Mounting

Mounting provides rigidity, helps prevent wrinkling, and gives some physical protection to prints.

For long-term keeping, it is best not to use adhesives or dry-mounting tissue. The best mounting method is to use plastic corners or hinge the print by using Japanese rice paper and water-soluble wheat paste. Do not use rubber cement, contact cement, or animal glue. If you must use a liquid adhesive, use starch paste or polyvinyl chloride.

If you choose to dry-mount your prints, use acid-free, pH-buffered, conservation-quality mounting board and conservation-quality mounting tissue.

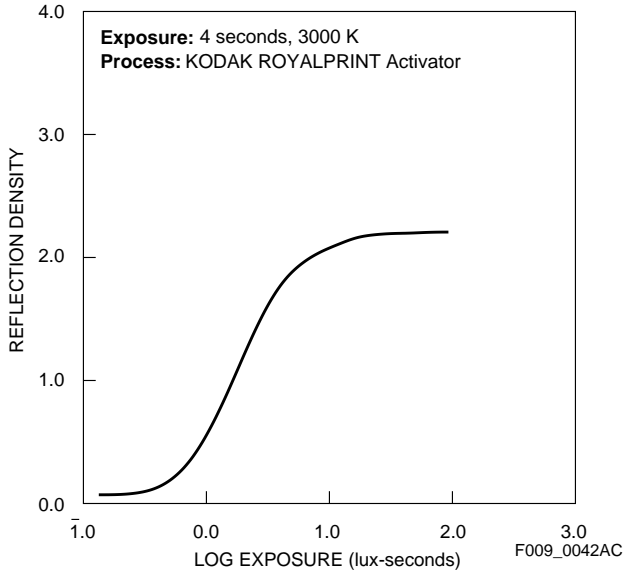
**Note:** Mounting glossy RC prints with dry-mounting tissue can introduce an “orange peel” effect.

An overmat, or window mat, will help protect a print from abrasion, keep the emulsion away from the glass in a frame, and provide a neutral or complementary field. Be sure to use conservation-quality mat boards and backing and non-reactive framing materials.

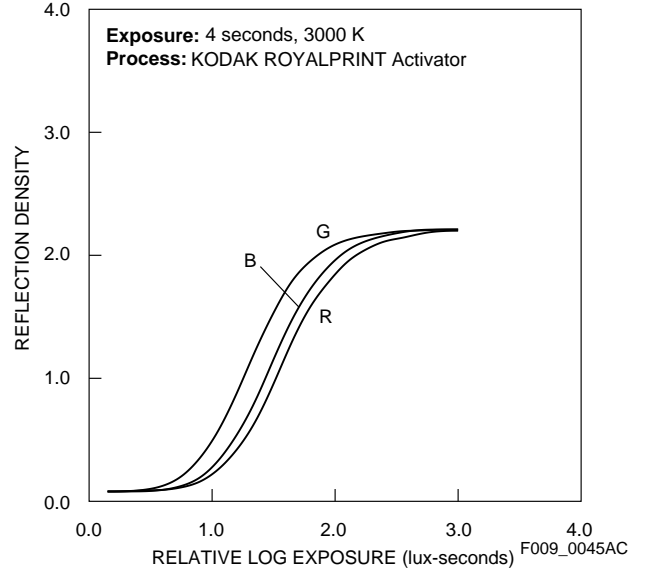
For more information on laminating, lacquering, and mounting, see KODAK Publication No. E-67, *Finishing Prints on KODAK Water-Resistant Papers*, or No. F-35, *Protecting and Displaying Black-and-White Prints*.

# CURVES

**Characteristic Curve**



**Characteristic Curves\***



\*These characteristic curves represent the black-and-white images produced from three separate exposures through red, green, and blue filters. The "R," "G," and "B" designation on the curves indicate the colors of the filters, not the colors of the images produced by dye layers, as with color papers.

**NOTICE:** The sensitometric curves and data in this publication represent product tested under the conditions of exposure and processing specified. They are representative of production coatings, and therefore do not apply directly to a particular box or roll of photographic material. They do not represent standards or specifications that must be met by Eastman Kodak Company. The company reserves the right to change and improve product characteristics at any time.

# KODAK PROFESSIONAL PANALURE SELECT RC Paper

## MORE INFORMATION

Kodak has many publications to assist you with information on Kodak products, equipment, and materials.

Additional information is available on the Kodak website.

The following publications are available from Kodak Customer Service and from dealers who sell Kodak products, or you can contact Kodak in your country for more information.

- E-30 *Storage and Care of KODAK Photographic Materials—Before and After Processing*
- E-67 *Finishing Prints on KODAK Water-Resistant Papers*
- E103BP *KODAK PROFESSIONAL Black-and-White Papers Matrix*
- E103CP *Chemicals for KODAK PROFESSIONAL Black-and-White Papers Matrix*
- F-2 *Pathways to Black and White*
- F-35 *Protecting and Displaying Black-and-White Prints*
- G-23 *Toning KODAK Black-and-White Materials*
- J-5 *KODAK POLYMAX T Developer and KODAK POLYMAX T Fixer*
- K-4 *How Safe is Your Safelight?*
- O-10 *Retouching Black-and-White Negatives and Prints*

For the latest version of technical support publications for KODAK PROFESSIONAL Products, visit Kodak on-line at:  
**<http://www.kodak.com/go/professional>**

If you have questions about KODAK PROFESSIONAL Products, call Kodak.

In the U.S.A.:

1-800-242-2424, Ext. 19, Monday–Friday  
9 a.m.–7 p.m. (Eastern time)

In Canada:

1-800-465-6325, Monday–Friday  
8 a.m.–5 p.m. (Eastern time)

**Note:** The Kodak materials described in this publication for use with KODAK PANALURE SELECT RC Paper are available from dealers who supply KODAK PROFESSIONAL Products. You can use other materials, but you may not obtain similar results.



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