KODAK PROFESSIONAL PORTRA Sepia Black & White Paper

— Timeless look. Convenient processing. —

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.

KODAK PROFESSIONAL PORTRA Sepia Black & White Paper delivers the classic look of traditional sepia-tone prints with the convenience of color negative paper processing. This paper is ideal for making brown-tone prints from color, chromogenic, or black-and-white negatives.

PORTRA Sepia Black & White Paper fits seamlessly into your lab's workflow because of its printing and processing compatibility with professional color negative paper. It is designed to have a printing speed and setup similar to those of KODAK PROFESSIONAL PORTRA ENDURA, SUPRA ENDURA, and PORTRA Black & White Papers. In addition, it can be processed simultaneously with other color negative papers in standard RA-4 process.

With its distinctive creamy base and sepia look, this new chromogenic black-and-white paper expands the range of creative image possibilities for labs, photographers, and clients. Images are rich in tone, consistent in image quality and offer a print life comparable to current Kodak Professional color negative papers.

Note: PORTRA Sepia Black & White Paper yields a warm-brown sepia-toned "dye" image. You cannot alter the tone by adjusting printing filtration, but the tone may vary slightly with processing and viewing conditions. This paper provides an alternative means of producing sepia-tone images. It is not intended as a replacement for toned traditional black-and white papers or digitally generated sepia images printed on color papers.

FEATURES	BENEFITS
• Excellent image quality	• Outstanding brown-tone reproduction throughout the density scale • Creamy white base • Excellent sharpness • Great highlight detail
• Processing in standard RA-4 chemicals, such as KODAK EKTACOLOR Chemicals	• Simultaneous processing with professional color negative papers • No need for dedicated black-and-white process • Lower cost (chemicals, labor, and waste) than with traditional sepia toning methods
• Unsurpassed image stability	• Print life comparable to current Kodak Professional color negative papers • No change in tone as prints age • No discoloration of highlights under light or dark conditions
• Printing speed and setup similar to PORTRA ENDURA, SUPRA ENDURA, and PORTRA Black & White Papers	• Compatibility with color negative papers yields greater efficiency in the lab • Easily incorporates into print workflow
• Excellent retouching capability	• Blemishes can easily be eliminated on prints • Images can be enhanced through colorization
• Excellent raw stock keeping	• Unexposed paper will not change hue when stored for extended periods
• Excellent reciprocity	• Consistent results with long or short exposures

SIZES AVAILABLE

Sizes and catalog numbers may differ from country to country. See your dealer who supplies KODAK PROFESSIONAL Products.

STORAGE AND HANDLING

Store unprocessed paper at 55°F (13°C) or lower in the original sealed package. High temperatures or high humidity may produce undesirable photographic changes. Avoid moisture condensation by removing the package from cold storage the day before printing.

Warm-Up Times (Hours) to Reach Room Temperature of 21°C (70°F)			
Size	From a Storage Temperature of		
	-18°C (0°F)	2°C (35°F)	13°C (55°F)
8 x 10-inch (100-sheet box)	3 hours	2 hours	2 hours
16 x 20-inch (50-sheet box)	3 hours	2 hours	2 hours
20 x 24-inch (50-sheet box)	3 hours	2 hours	2 hours
4-inch x 577-foot roll	7 hours	5 hours	3 hours
8-inch x 577-foot roll	10 hours	7 hours	4 hours
20-inch x 288-foot roll	7 hours	5 hours	3 hours

Handle paper carefully by the edges. The paper is packaged with the emulsion side of all sheets facing in the same direction. For complete light, moisture and photo-activity protection, use the inner bag *and* the two-part cardboard box to store the paper.

DARKROOM RECOMMENDATIONS

Handle the paper in total darkness. Be sure that your darkroom is lighttight. Eliminate stray light from enlarger heads, timers, LEDs, etc.

Note: Using a safelight *will* affect your results. *If absolutely necessary*, you can use a safelight equipped with a KODAK 13 Safelight Filter (amber) and a 7 1/2-watt bulb. Keep the safelight at least 1.2 metres (4 feet) from the paper. Run tests to determine that safelight use gives acceptable results for your application.

EXPOSURE

Digital Printing

You can expose KODAK PROFESSIONAL PORTRA Sepia Black & White Paper with some digital printers. For up-to-date starting values, refer to the following documents (available at www.kodak.com/go/endura):

- Calibrating KODAK LED Printers, CIS-232
- Calibrating the KODAK PROFESSIONAL Digital Multiprinter, CIS-233

Optical Printing

Expose this paper in automatic printers or enlargers equipped with tungsten or tungsten-halogen light sources or photo enlarger lamps (e.g., No. 212 or 302). Set up and balance the printer or enlarger according to the manufacturer's instructions.

Do not use fluorescent lamps to expose this paper. Use a heat-absorbing glass to remove infrared radiation. Because voltage changes affect light output and color quality, use a voltage regulator.

Keep negatives and the equipment optical system clean. Mask negatives to eliminate stray light.

Printing Color Negatives

The spectral sensitivity and printing speed of KODAK PROFESSIONAL PORTRA Sepia Black & White Paper are similar to those of KODAK PROFESSIONAL PORTRA ENDURA, SUPRA ENDURA, and PORTRA Black & White Papers. Therefore the printing conditions for those papers are a good starting point for PORTRA Sepia Black & White Paper. If you do not use these papers, start with 45M + 45Y.

Adjust the exposure as required to control print density. Filtration adjustments will not change the color balance or hue of KODAK PROFESSIONAL PORTRA Sepia Black & White Paper, but they will cause small changes in contrast (especially skin). You can remove equal amounts of magenta and yellow filtration to lower skin contrast, or add magenta and yellow filtration to increase flesh contrast. Do not change the filtration by more than 30 units of magenta and yellow— it will impact red color-lightness reproduction.

Printing Black-and-White Negatives

You can also print black-and-white negatives onto this paper. Three methods provide suitable results:

- Put a piece of unexposed, processed (D-min) KODAK PROFESSIONAL PORTRA Film in the exposing beam along with the filters you normally use to print color negatives.
- Simulate a piece of film D-min by adding CC35M and CC65Y filtration to the filtration that you use to print color negatives.
- Use a starting filter pack of 80M + 110Y to simulate the 45M + 45Y and the film D-min.

Printing Chromogenic Films

If you already have a filter pack that provides good neutrals on KODAK PROFESSIONAL SUPRA ENDURA or PORTRA ENDURA Paper, use that to print chromogenic films onto this paper. Otherwise, use the following as starting points:

- For KODAK PROFESSIONAL PORTRA 400BW Film, start with 50M + 45Y.
- For KODAK PROFESSIONAL T400 CN Film, start with 70M + 75Y.

LATENT-IMAGE KEEPING

You should not notice shifts in the latent image with keeping times from 1 minute to 24 hours. Therefore, you do not need to change your printing procedures to compensate for latent-image shifts under normal temperature and handling conditions. If shifts do occur, you can minimize their effect by keeping the time between exposure and processing as consistent as possible.

PROCESSING

Use KODAK EKTACOLOR Chemicals for Process RA-4 to process this paper. For information on Process RA-4, see KODAK Publication Z-130, *Process RA-4 Using KODAK EKTACOLOR RA Chemicals*. You can process PORTRA Sepia Paper in SM minilabs using Process RA-2SM. The image tone will be slightly warmer than that produced in Process RA-4, and should be acceptable for most applications.

Use a drying temperature below 93°C (200°F). Do not ferrotype this paper.

Note: You may notice a change in image hue for the first few minutes following processing. Once the print has cooled to room temperature, the hue will remain constant.

RETOUCHING

If possible, do any required retouching on color negatives before you make prints—especially if you plan to make more than one print from each negative. For information on retouching negatives, see KODAK Publication E-71, *Retouching Color Negatives*.

If the negative image is small, you can make corrections much more easily by applying dry or liquid dyes to small or large areas of the enlarged print. For information on retouching prints, see KODAK Publication No. E-70, *Retouching Prints on KODAK EKTACOLOR and EKTACHROME Papers*.

Note: Do not use oil-base paints, resins, or other materials frequently used to retouch silver-gelatin black-and-white prints. These materials can harm the dye structure of PORTRA Black & White Paper.

POST-PROCESS TREATMENTS

Mounting Prints

Mount the prints with KODAK Dry Mounting Tissue, Type 2, or a photographic mounting adhesive. If tissue is used, the temperature across the heating platen should be 82 to 93°C (180 to 200°F). Apply pressure for 30 seconds, or longer in case of a thick mount. Preheat the cover sheet that is used over the face of the print to remove moisture that can cause sticking.

Note: The hue of hot mounted prints may temporarily change while the print is hot. It will return to normal when the print returns to room temperature.

Caution

Temperatures above 99°C (210°F) and/or high pressures may cause physical and color changes in prints.

If prints are displayed behind glass, maintain a slight separation between the prints and the glass.

Lacquering

For more information on lacquering and other post-process treatments, see KODAK Publication E-176, *Post-Process Treatment of Color Prints—Effects on Image Stability*.

VIEWING

For consistency, labs should always evaluate print quality under the same type of lighting conditions that will be used for print viewing and display.

A good average viewing condition is a light source with a color temperature of 5000 1000 K, a Color Rendering Index (CRI) of 85 to 100, and an illuminance of at least 50 footcandles (538 lux). Some fluorescent lamps, such as the cool white deluxe (made by several manufacturers) or Phillips 5000 K Ultralume, meet these conditions. Satisfactory results can be obtained by using a mixture of incandescent and fluorescent lamps. For each pair of 40-watt cool white deluxe fluorescent lamps, use a 75-watt frosted tungsten bulb. Your light source should meet the standards specified in ANSI PH2.30-1989, Viewing Conditions—Color Prints, Transparencies, and Photomechanical Reproductions.

Image Hue

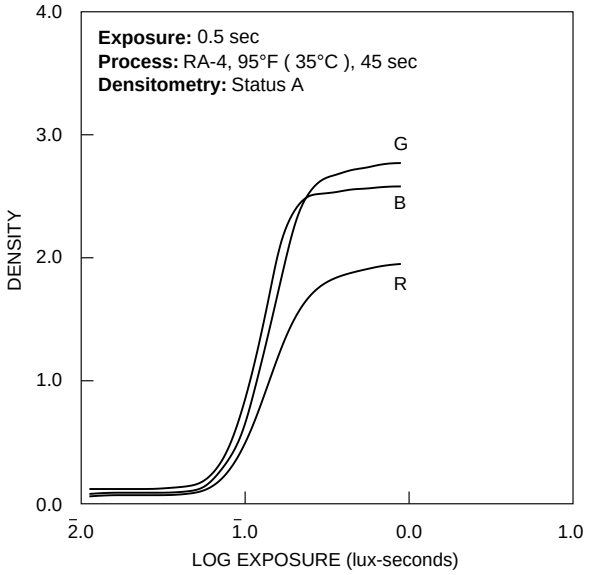
Because PORTRA Sepia Black & White Paper uses colored dyes to form images, it can exhibit slight variations in hue (when we use the term hue in this publication, we are referring to the image tone). In fact, viewers may be more sensitive to hue variations in these prints than they are to hue variations in color prints.

Note: For hue sensitive applications, conventional black-and-white (silver) paper, toned with KODAK Sepia II Warm Toner, will provide the best performance.

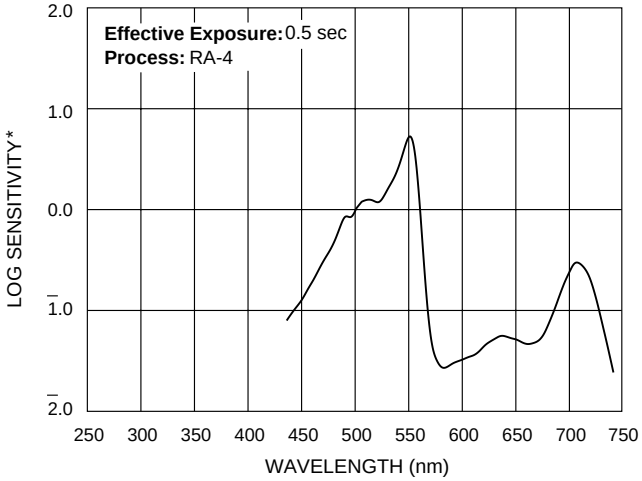
While some processing conditions may have an effect, the most likely contributor to hue variations is the color quality of the viewing light. Use a light source such as daylight, tungsten, or tungsten-halogen/quartz-halogen. These sources provide continuous frequency of energy in the visible spectrum and will result in the intended rendering of the image. Where there is little control over viewing conditions, a conventionally toned black-and white (silver) paper might be a more appropriate choice.

CURVES

Characteristic Curves

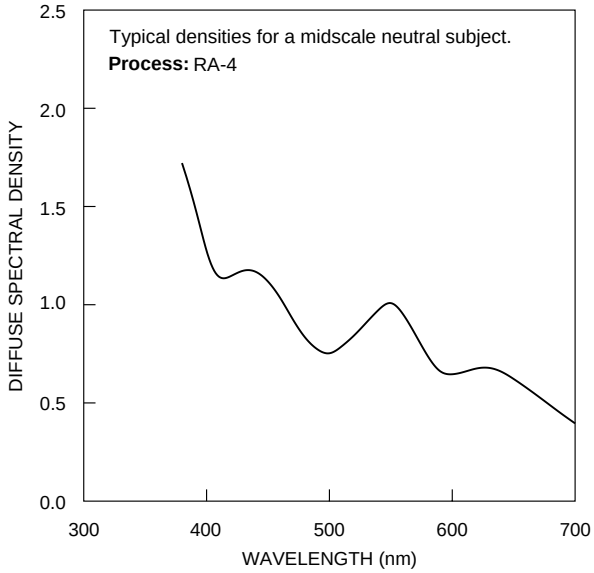


Spectral-Sensitivity Curve



*Sensitivity = reciprocal of exposure (erg/cm^2) required to produce specified density

Spectral-Dye-Density Curve



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.

MORE INFORMATION

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

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

E-70	*Retouching Prints on KODAK EKTACOLOR and EKTACHROME Papers*
E-71	*Retouching Color Negatives*
E-4021	*KODAK PROFESSIONAL PORTRA ENDURA Paper and KODAK PROFESSIONAL SUPRA ENDURA Paper*
G-27	*KODAK PANALURE SELECT RC Paper*
G-4006	*KODAK PROFESSIONAL PORTRA Black & White Paper*

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 PROFESSIONAL PORTRA Sepia Black & White Paper are available from dealers who supply KODAK PROFESSIONAL Products. You may use other materials, but you may not obtain similar results.

EASTMAN KODAK COMPANY

Kodak Professional
Imaging Solutions

KODAK PROFESSIONAL PORTRA
Sepia Black & White Paper
KODAK Publication No. **G-4019**

CAT 107 1265

Minor Revision 6-05
Printed in U.S.A.