KODAK EKTACHROME RADIANCE III Paper

—NOTICE—

Discontinuance of KODAK PROFESSIONAL EKTACHROME RADIANCE III Papers and Materials and KODAK EKTACHROME R-3 Chemicals

Alternative options for image capture and output have gradually eliminated the need for PROFESSIONAL EKTACHROME RADIANCE III Papers and Materials as well as chemicals for Process R-3. Therefore, dependent on individual country and market requirements, Kodak will discontinue these products as inventories are exhausted

Technology has made the option of scanning, manipulating, and outputting images directly to traditional color paper very popular, and photographers are increasingly using color negative film and digital cameras for image capture. Producing positive prints, even from transparencies, for image display no longer requires the use of RADIANCE Papers and Materials.

Information on Kodak Professional Modular Digital Workflow Products (Equipment and Software) is available at **www.kodak.com/go/digitalprolab**

Thank you for using KODAK PROFESSIONAL Products.

This color reversal paper is designed for making high-quality prints and enlargements directly from positive originals (without internegatives). You can use this paper for producing prints from transparencies made on reversal films such as KODAK PROFESSIONAL EKTACHROME and KODACHROME Films.

The paper is available in F (glossy) and N (semi-matt) surfaces and a variety of sizes for your display, advertising, and publishing applications. Process it with KODAK EKTACHROME R-3 or R-3000 Chemicals.

EKTACHROME RADIANCE III Paper offers the following improvements:

FEATURES	BENEFITS
• Improved color reproduction	• Brighter reds with better detail • Improved blues in skies
• Optimized color balance	• Excellent neutral tone scale from highlights to shadows • Improved skin-tone rendition
• Extremely low minimum density	• Brighter whites
• More tolerant to process variations	• Increased productivity • Consistent product performance
• Elimination of thermal yellowing	• Longer print life under dark-storage conditions

SIZES AVAILABLE

Sizes and catalog numbers may differ from country to country. See your dealer who supplies KODAK PROFESSIONAL Products. The following sizes are available in the U.S. and Canada.

Sheets

Size in. x in. / cm x cm	No. of Sheets	Surface	CAT No.
8 x 10 / 20.3 x 25.4	25	F	507 7003
		N	507 6997
8 x 10 / 20.3 x 25.4	100	F	507 3192
		N	507 3101
10 x 10 / 25.4 x 25.4	100	N	508 8752
11 x 14 / 27.9 x 35.6	50	F	507 3903
		N	507 3945
16 x 20 / 40.6 x 50.8	50	F	507 3226
		N	507 3135
20 x 24 / 50.8 x 61	50	F	507 3234
		N	507 3143
30 x 40 / 76.2 x 101.6	50	F	507 3242
		N	507 3168

Rolls

Size in. x ft / cm x m	Spec No.	Surface	CAT No.
3.5 x 574 / 8.9 x 175	224	F	507 2657
3.5 x 700 / 8.9 x 213.4	224	F	507 3770
		N	507 3614
4 x 700 / 10.2 x 213.4	224	F	507 3788
5 x 262 / 12.7 x 79.9	224	F	507 2699
		N	507 2897
5 x 700 / 12.7 x 213.4	224	F	507 3796
8 x 262 / 20.3 x 79.9	224	F	507 2731
		N	507 2921
8 x 500 / 20.3 x 152.4	224	F	507 3804
9.5 x 262 / 24.1 x 79.9	223	N	507 3663
11 x 262 / 27.9 x 79.9	224	F	507 3838
		N	507 3721
16 x 262 / 40.6 x 79.9	224	F	507 2772
		N	507 2962

Size in. x ft / cm x m	Spec No.	Surface	CAT No.
20 x 200 / 50.8 x 61	224	F	507 2780
		N	507 2970
30 x 100 / 76.2 x 30.5	224	F	507 2814
		N	507 3002
50 x 100 / 127 x 30.5	224	F	507 3762
		N	507 3697

STORAGE AND HANDLING

Store unexposed paper at 13°C (55°F) or lower in the original sealed package. High temperatures or high humidity may produce unwanted quality changes.

To avoid moisture condensation on paper that has been refrigerated, allow it to warm up to room temperature before opening the package. For best results, remove the paper from cold storage the day before printing, or use the warm-up times in the following table.

Warm-up time (in Hours) to Reach Room Temperature of 24°C (75°F)			
Size	From a storage temperature of		
	-18°C (0°F)	2°C (36°F)	10°C (50°F)
3½ in. x 574 ft (9 cm x 175 m) roll	8	6	4
Rolls wider than 3½ inches (9 cm)	12	9	6
100-sheet box	4	3	2
50-sheet box	3	2	2

These times are based on a single package, positioned to allow free air circulation. After you remove the material you need, re-wrap the package and reseal it with tape to restore the moisture barrier.

Handle this paper carefully by the edges to avoid creases and fingerprints. This high-speed paper is extremely sensitive to light. Store and transport it in lighttight boxes.

DARKROOM RECOMMENDATIONS

Do *not* use a safelight. Handle this paper in *total darkness*. Be sure that your darkroom is lighttight. Eliminate stray light from the enlarger head, timers, digital displays, etc.

EXPOSURE

Printing Equipment

You can expose this paper in automatic printers or enlargers equipped with tungsten or tungsten-halogen light sources or photo enlarger lamps. Do not use fluorescent lamps or electronic flash to expose this paper. Exposing equipment must be equipped with a heat-absorbing glass.

You can use the white-light (subtractive) or the tricolor (additive) exposure method.

White-Light Exposure (Subtractive)

To control print color balance, use KODAK Color Compensating (CC) Filters (gelatin), KODAK Color Printing (CP) Filters (acetate), or dichroic filters built into the lamphouse of some enlargers. Place CP filters only between the lamp and the original. Place CC filters (no more than three) between the original and the paper.

If you need cyan filtration, do *not* use filters with the suffix “2,”e.g., CP10C-2.

1. For printing with an enlarger, start with a filter pack of 10M + 20C to make a test print.
2. Evaluate the test print under a light source of the same color and brightness that you will use to view the final print.
3. Judge the print density first. If necessary, make another print by adjusting the exposure as recommended in the table below.

If your print is	Do this	OR	Do this
TOO DARK	Open the lens aperture to increase the light level		Increase the exposure time
TOO LIGHT	Close the lens aperture to decrease the light level		Decrease the exposure time

4. Then judge the color balance. Use the following table as a guide to adjust the filter pack.

If color balance is	Subtract these filters	OR	Add these filters
YELLOW	Yellow		Magenta + Cyan
MAGENTA	Magenta		Yellow + Cyan
CYAN	Cyan		Yellow + Magenta
BLUE	Magenta + Cyan		Yellow
GREEN	Yellow + Cyan		Magenta
RED	Yellow + Magenta		Cyan

5. When you make corrections to a filter pack, you must also adjust the exposure time by using the filter factors in the table below.

   To use the factors, *divide* the initial exposure time by the factor for any filter you *remove* from the pack. If you *add* a filter, *multiply* the exposure time by the factor. If you add or remove two or more filters, multiply the individual factors and use the result as your factor. You may need to adjust these factors for your equipment.

Filter Factors for CP and CC Filters			
Filter	**Factor**	**Filter**	**Factor**
05Y	1.1	05R	1.2
10Y	1.1	10R	1.3
20Y	1.1	20R	1.5
30Y	1.1	30R	1.7
40Y	1.1	40R	1.9
50Y	1.1	50R	2.2
05M	1.2	05G	1.1
10M	1.3	10G	1.2
20M	1.5	20G	1.3
30M	1.7	30G	1.4
40M	1.9	40G	1.5
50M	2.1	50G	1.7
05C	1.1	05B	1.1
10C	1.2	10B	1.3
20C	1.3	20B	1.6
30C	1.4	30B	2.0
40C	1.5	40B	2.4
50C	1.6	50B	2.9

The filter factors below represent an average for dichroic filters. Use them as starting points.

Filter Factors for Dichroic Filters	
Filter	**Factor**
05Y	1.0
10Y	1.05
20Y	1.09
05M	1.1
10M	1.24
20M	1.44
05C	1.05
10C	1.17
20C	1.34

Tricolor Exposure (Additive and Semi-Additive)

Additive Printing—This method has the advantage of limiting flare by reducing the number of filters in the optical path to one filter per exposure. Use KODAK WRATTEN Gelatin Filters No. 47B (blue), No. 61 (green), and No. 29 (red) to give the paper three separate exposures. Do not move the paper or the enlarger until you have made all three exposures. Typical exposure times are given below.

Filter	Times (in seconds) for an illumination of 0.5 lux on the paper plane
No. 29 (Deep Red)	4
No. 61 (Deep Green)	7
No. 47B (Deep Blue)	7

First judge print density. A print with too much overall density requires an increase in exposure; a print with too little density requires a decrease in exposure.

If your print is	Do this	OR	Do this
TOO DARK	Open the lens aperture to increase the light level		Increase the exposure time
TOO LIGHT	Close the lens aperture to decrease the light level		Decrease the exposure time

To correct color balance, adjust the exposure times of the individual exposures. Increase the exposure time through the filter complementary to the dominant color or decrease the exposure time through the filter of the dominant color. Use the following table as a guide.

If color balance is	Increase exposure through these filters	OR	Decrease exposure through these filters
BLUE	Green + Red		Blue
GREEN	Blue + Red		Green
RED	Blue + Green		Red
YELLOW	Blue		Green + Red
MAGENTA	Green		Blue + Red
CYAN	Red		Blue + Green

Semi-Additive Printing—This technique consists of an initial white-light exposure followed by two complementary exposures through filters.

Adjust color balance by using the same method as in the additive system.

White Borders

You can produce prints with white borders by using a mask. Make the printing exposure first. Then place the mask over the image area. Remove the transparency from the film carrier and expose the border areas of the paper by giving an additional exposure equal to 3 times the printing exposure time. (You can leave the filters in while you expose the borders.) To avoid dark edges where the border meets the image area, use a mask that is slightly smaller than the image area.

With automatic printers, follow the instructions supplied with the equipment.

LATENT-IMAGE KEEPING

Under normal temperature and handling conditions, you should not see any shifts in color or density with different keeping times between exposure and processing. Therefore, you do not need to change your printing procedures to compensate for latent-image shifts, if you process the paper within 2 days after exposure.

PROCESSING

Use KODAK EKTACHROME R-3 or R-3 LU Chemicals to process this paper in continuous or roller-transport processors. For specific processing instructions, see KODAK Publication No. Z-129B, *Using KODAK EKTACHROME R-3 Chemicals in Continuous and Roller-Transport Processors*.

Use KODAK EKTACHROME R-3000 Chemicals for tray, drum, or rotary-tube processing. For processing instructions, see KODAK Publication No. Z-129C, *Using KODAK EKTACHROME R-3000 or R-3 Chemicals in Batch-Type Processors.*

Complete processing and process-monitoring instructions are contained in KODAK Publication No. Z-129, *Using KODAK EKTACHROME R-3 Chemicals,* available on our website at *www.kodak.com/go/professional.*

DRYING

Do **not** ferrotype this paper.

Remove excess water from the surface of the paper before drying. Dry the prints using dust-free air. The temperature of the air will depend on the design of the dryer, air-flow rate, and total drying time. The ideal drying temperature is between 122 and 158°F (50 and 70°C). If the temperature is too high, the paper may curl. If the temperature is too low, the surface gloss of the paper is reduced, and the possibility that the paper will stick is increased.

VIEWING PRINTS

Evaluate prints under light of the same color and brightness that you will use to view the final prints. A good average viewing condition is a light source with a color temperature of 4000 $\pm$ 1000 K, a Color Rendering Index (CRI) of 85 to 100, and an illuminance of at least 50 footcandles (538 lux). Fluorescent lamps such as the cool white deluxe lamp (made by several manufacturers) meet these conditions. You can also use 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.

MOUNTING PRINTS

You can mount prints with KODAK Dry Mounting Tissue, Type 2. The temperature across the heating platen of the mounting press should be between 180 and 210°F (82 and 99°C). Temperatures above 230°F (110°C) or high pressure may cause physical and color changes in prints. Preheat the cover sheet that you use over the face of the print to remove moisture. Apply pressure for 30 seconds or longer for a thick mount.

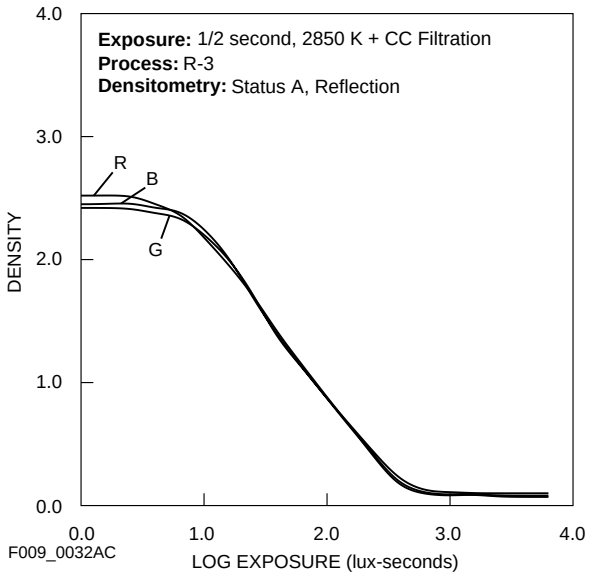
STORAGE AND DISPLAY OF PRINTS

Photographic dyes, like all dyes, can change with time and exposure to sunlight, ultraviolet radiation, excessive heat, and high humidity. To help prevent changes in photographic dyes, follow these guidelines:

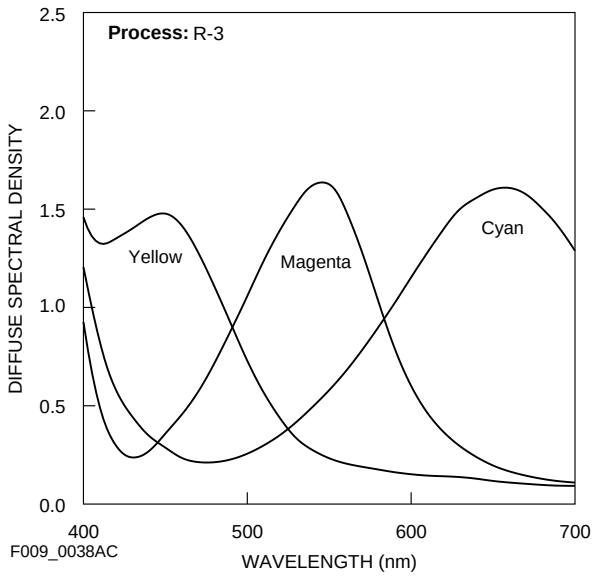
- Illuminate prints with tungsten light whenever possible.
- Display prints in the lowest light level consistent with your viewing needs.
- If a print is exposed to direct or indirect sunlight or fluorescent light, use an ultraviolet-absorbing filter between the light source and the print.
- Keep the temperature and humidity as low as possible.

CURVES

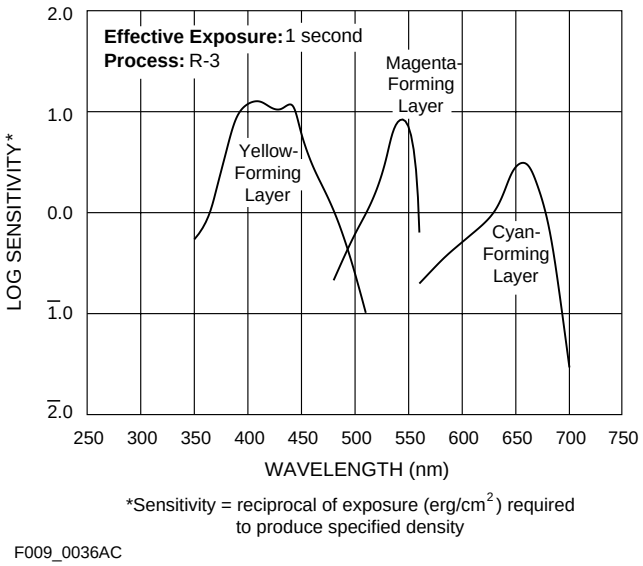
Characteristic Curves



Spectral-Dye-Density Curves



Spectral-Sensitivity Curves



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 dealers who sell Kodak products, or you can contact Kodak in your country for more information.

E-1767	*KODAK EKTACHROME RADIANCE III SELECT Material*
E-30	*Storage and Care of KODAK Photographic Materials—Before and After Processing*
E-67	*Finishing Prints on KODAK Water-Resistant Papers*
E-2410	*KODAK EKTACHROME RADIANCE III Copy Paper*
E-2411	*KODAK EKTACHROME RADIANCE III HC Copy Paper*
E-2412A	*KODAK EKTACHROME RADIANCE III Overhead Material*
E-2412B	*KODAK EKTACHROME RADIANCE III Clear Display Material*
E-2413	*KODAK EKTACHROME RADIANCE III Translucent Display Material*
Z-129	*Using KODAK EKTACHROME R-3 Chemicals*
Z-129A	*KODAK EKTACHROME R-3 and R-3000 Chemicals*
Z-129B	*Using KODAK EKTACHROME R-3 Chemicals in Continuous and Roller-Transport Processors*
Z-129C	*Using KODAK EKTACHROME R-3000 or R-3 Chemicals in Batch-Type Processors*
Z-129E	*Monitoring and Troubleshooting Processes Using KODAK EKTACHROME R-3 and R-3000 Chemicals*
Z-129G	*Recovering Silver from Processes Using KODAK EKTACHROME R-3 Chemicals*
Z-129H	*Using KODAK EKTACHROME R-3 LU Chemicals in Roller-Transport Processors*

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 EKTACHROME RADIANCE III 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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