

KODAK PROFESSIONAL KODABROME II RC Paper



Contrast Grades

With this type of negative:	Use paper with this grade number:
High contrast	1
Normal contrast	2
Low contrast	3
Very low contrast	4

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 KODABROME II RC Paper is a fast, continuous-tone, graded-contrast, black-and-white enlarging paper. It has developer-incorporated emulsion on a medium-weight, water-resistant base. It is well suited to most general photographic applications such as commercial, industrial, aerial, press, and professional photography. This paper can also be used in advertising, display, mapping, police, and school applications.

KODAK PROFESSIONAL KODABROME II RC Paper can be processed in trays, continuous processors, and roller-transport processors.

This paper is available in four numbered contrast grades—1 soft, 2 medium, 3 hard, and 4 extra hard. It is available in F and N surfaces in a variety of sheet and roll sizes.

FEATURES	BENEFITS
• Incorporated optical brightener	• Crisp, clean whites
• Resin-coated, water-resistant base	• Rapid processing and drying
• Neutral-black image tone	• Exceptional print quality
• Specially coated on back	• Good writing surface and easy interleaving during tray processing

Base and Surface Characteristics

Symbol	Texture	Surface	Base Tint	Base Weight
F	Smooth	Glossy	White	Medium Weight
N	Smooth	Semi-matt		

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 temperatures 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

Use a KODAK OC Safelight Filter (light amber) in a suitable safelight lamp with a bulb of 15 watts or less at least 1.2 metres (4 feet) from the paper. Minimize safelight exposure to avoid unwanted quality changes. **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 OA Safelight Filter (greenish yellow).

EXPOSURE

Light Sources

Expose this paper with tungsten or tungsten-halogen enlarging lamps, cool-white fluorescent lamps, mercury-vapor lamps, or cathode-ray tubes. For best results, make test prints for each light source.

ISO Paper Speed and Range

Tray processed in KODAK DEKTOL Developer (1:2) at 20°C (68°F) for 60 seconds.

Surface/ Contrast Grade	ISO Paper Speed	ISO Paper Range
F1	P640	R150
F2	P640	R140
F3	P640	R110
F4	P320	R90

PROCESSING

Machine

You can process this paper in roller-transport processors or continuous processors with KODAK POLYMAX RT Developer and Replenisher and KODAK POLYMAX RT Fixer and Replenisher or KODAK Rapid Fixer, Part A.

Tray

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

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

*Not available in all countries.

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

‡To increase capacity, use two fixing baths.

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 EKTAFLO Stop Bath, KODAK Indicator Stop Bath, or 48 mL KODAK 28% Acetic Acid and water to make 1 L.

With EKTAFLO or Indicator Stop Bath, discard the solution when the color changes to a 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. If you use two fixing baths, fix prints for 1 minute in each bath, draining for 5 seconds between baths. Fix for 2 minutes if you use a single bath.

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 hardening fixer will enhance surface durability. However, 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.

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

Drying

Air-dry prints at room temperature after removing surface water with a clean, lintless blotter or cloth, or a soft squeegee or sponge. You can also dry prints with warm air, or use a dryer intended for resin-coated papers.

Do not ferrotypes prints made on this paper. You can use ferrotype dryers (glazing machines) below 88°C (190°F) if you squeegee the prints and feed them base side toward the drum 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 treatments 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)	Brown (1:19)	Sepia	POLY-TONER (1:24)	POLY-TONER (1:4)	Rapid Selenium
	POLY-TONER (1:50)				(1:3)
	Sepia II Warm				(1:9) (1:20) (1:40)

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 of 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.

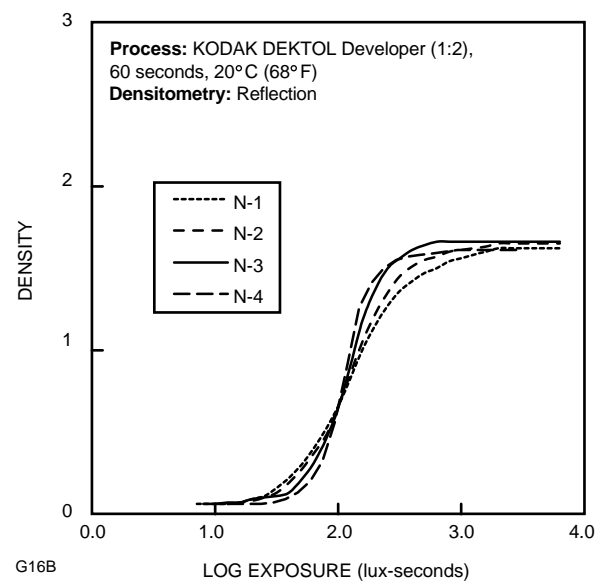
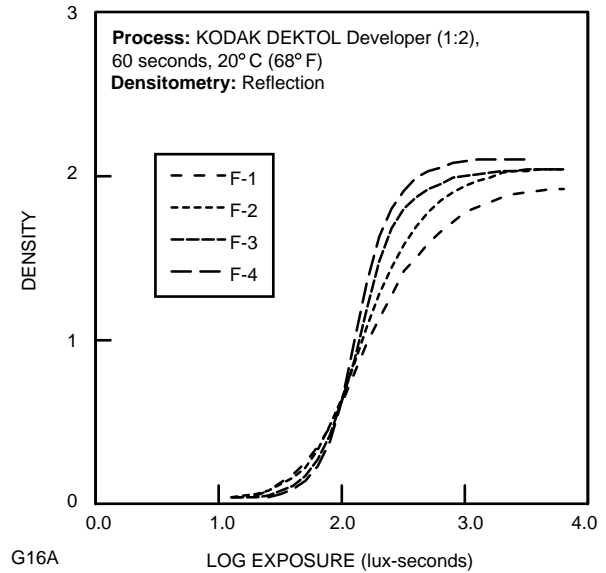
Mounting glossy RC prints with dry-mounting tissue can introduce an "orange peel" effect.

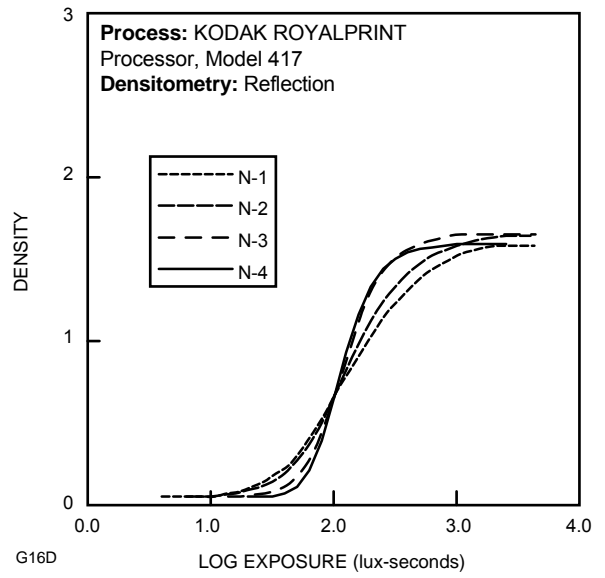
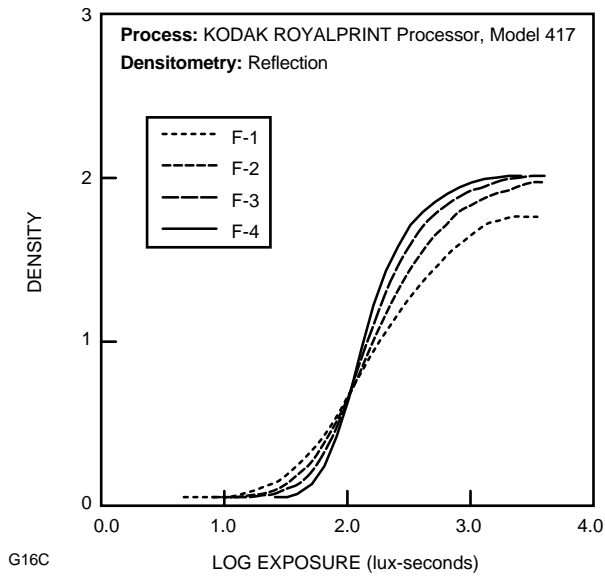
An overmat, or window mat, will help protect a print from abrasion, keep the emulsion away from the glass in a frame, and provide a neutral or complementary field. Be sure to use conservation-quality mat boards and backing and non-reactive framing materials.

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*.

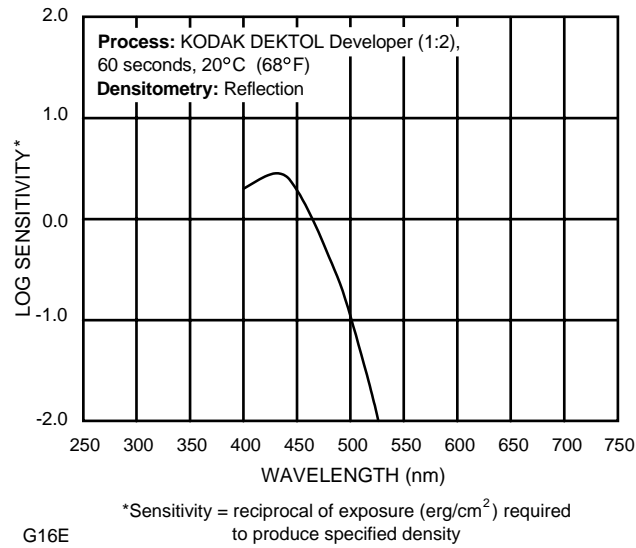
CURVES

Characteristic Curves





Spectral-Sensitivity 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.

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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-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 PROFESSIONAL KODABROME II RC Paper is available from dealers who supply KODAK PROFESSIONAL Products. You can use other materials, but you may not obtain similar results.



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