

KODAK PROFESSIONAL EKTACHROME Film E200



KODAK PROFESSIONAL EKTACHROME Film E200 is a daylight-balanced 200-speed color reversal film designed for KODAK Chemicals, Process E-6. The film offers moderate contrast, along with excellent color and image structure, making it the first high-speed color reversal film with the “look” of a lower speed film. In addition, E200 film delivers outstanding push-processing performance to an exposure index (EI) of 1000 with only minimal shifts in contrast and color balance.

E200 film also features KODAK T-GRAIN® Emulsions for extremely fine grain and very high sharpness, plus improvements in reciprocity and manufacturing consistency.

The film is designed for exposure with daylight or electronic flash. You can also expose it with tungsten illumination (3200 K) or photolamps (3400 K) using filters.

Use E200 film to produce color transparencies for projection or viewing with 5000 K illumination. Duplicate transparencies can be made by direct printing. To make color prints, you can print transparencies onto color reversal paper. Or make internegatives for printing onto color negative paper. You can also scan transparencies for digital printing and for graphic arts and Photo CD applications.

FEATURES

- Superb reciprocity

BENEFITS

- Consistent results in exposures from 10 seconds to 1/10,000 second with no exposure or filter corrections

MANUFACTURING UNIFORMITY

Similar to KODAK PROFESSIONAL EKTACHROME Films E100S and E100SW, the E200 film takes full advantage of Kodak’s state-of-the-art manufacturing facility in Rochester, New York. The result is a film with excellent roll-to-roll consistency and accurate 200 speed.

STORAGE AND HANDLING

Load and unload film in subdued light.

Store unexposed film in a refrigerator at 55°F (13°C) or lower in the original sealed package. To avoid moisture condensation on film that has been refrigerated, allow the film to warm up to room temperature before opening the package. Process film as soon as possible after exposure.

Protect transparencies from strong light, and store them in a cool, dry place. For more information, see KODAK Publication No. E-30, *Storage and Care of KODAK Photographic Materials—Before and After Processing*.

FEATURES

BENEFITS

<ul style="list-style-type: none"> • Outstanding push-processing performance out to EI 1000 	<ul style="list-style-type: none"> • Maintains good contrast and color balance • Extends shooting range under demanding existing-light conditions
<ul style="list-style-type: none"> • Preferred contrast of an EI 100-speed color reversal film (lower contrast than other high-speed color-reversal films) 	<ul style="list-style-type: none"> • Improved reproduction of highlight and shadow details • More tone gradation for more natural-appearing images
<ul style="list-style-type: none"> • KODAK T-GRAIN® Emulsions in all color records 	<ul style="list-style-type: none"> • Finest grain structure of any daylight, high-speed color reversal film on the market • High sharpness • Grain and sharpness hold up well under push conditions
<ul style="list-style-type: none"> • Enhanced colors while maintaining natural-looking skin tones 	<ul style="list-style-type: none"> • Pleasing colors for exceptional results both outdoors and in the studio • Beautiful skin-tone reproduction for both outdoor and studio applications

SIZES AVAILABLE

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

Rolls	Code	Base	CAT No.
135-36	E200	5-mil acetate	107 7114
135-36 (5-roll pro-pack)	E200	5-mil acetate	177 7762
135-36 (20-roll pack)	E200	5-mil acetate	128 8422
120*	E200	3.6-mil acetate	813 7069
120†	E200	3.6-mil acetate	154 9385
120 (5-roll pack)*	E200	3.6-mil acetate	137 3216
120 (5-roll pack)†	E200	3.6-mil acetate	195 5590
220 (5-roll pack)	E200	3.6-mil acetate	894 9018

* For U.S. and Canada

† For other than U.S. and Canada

Rolls	Code/ Spec No.	Base	CAT No.
35 mm x 100 ft	E200 SP404: Perforated on both edges	5-mil acetate	183 2997

DARKROOM RECOMMENDATIONS

Do not use a safelight. Handle unprocessed film in total darkness.

EXPOSURE

Use the exposure index numbers below with cameras or light meters marked for ISO or ASA speeds or exposure indexes. Do not change the film-speed setting when metering through a filter. Metering through filters may affect meter accuracy; see your meter or camera manual for specific information. For critical work, make a series of test exposures.

Light Source	KODAK WRATTEN Gelatin Filter	Exposure Index
Daylight or Electronic Flash	None	200
Photolamp (3400 K)	No. 80B	64
Tungsten (3200 K)	No. 80A	50

Daylight

Use the exposures in the table below for average frontlit subjects from 2 hours after sunrise to 2 hours before sunset.

Lighting Conditions	Shutter Speed (second)	Lens Opening
Bright/hazy sun on sand or snow	1/250	<i>f</i> /22
Bright/hazy sun, distinct shadows	1/250	<i>f</i> /16*
Weak, hazy sun, soft shadows	1/250	<i>f</i> /11
Cloudy bright, no shadows	1/250	<i>f</i> /8
Heavy overcast or open shade†	1/250	<i>f</i> /5.6

*Use *f*/8 for backlit close-up subjects.

† Subjects shaded from sun but lit by large area of clear sky.

Electronic Flash

Use the appropriate guide number in the following table as a starting point for your equipment. First select the unit output closest to the number given by your flash manufacturer. Then find the guide number for feet or metres. To determine the lens opening, divide the guide number by the flash-to-subject distance. If transparencies are consistently too thin (overexposed), use a higher guide number; if they are too dense (underexposed), use a lower number.

Unit Output (BCPS*)	Guide Number	
	Distance in Feet	Distance in Metres
350	60	18
500	70	21
700	85	26
1000	100	30
1400	120	36
2000	140	42
2800	170	50
4000	200	60
5600	240	70
8000	280	85

* BCPS=beam candlepower seconds.

Fluorescent and High-Intensity Discharge Lamps

Use the color-compensating filters and exposure adjustments below as starting points to expose this film under fluorescent or high-intensity discharge lamps. For critical applications, make a series of test exposures under your actual conditions.

To avoid the brightness and color variations that occur during a single alternating-current cycle, use exposure times of 1/60 second or longer with fluorescent lamps; with high-intensity discharge lamps, use 1/125 second or longer.

Type of Fluorescent Lamp	KODAK Color Compensating Filters	Exposure Adjustment
Daylight	50R	+1 stop
White	40M	+2/3 stop
Warm White	20C + 40M	+1 stop
Warm White Deluxe	30B + 30C	+1 1/3 stops
Cool White	40M + 10Y	+1 stop
Cool White Deluxe	20C + 10M	+2/3 stop

Note: When you do not know the type of fluorescent lamps, try a 30M filter and increase exposure by 2/3 stop; color rendition will probably be less than optimum.

High-Intensity Discharge Lamp	KODAK Color Compensating Filters	Exposure Adjustment
General Electric Lucalox*	80B + 20C	+2 1/3 stops
General Electric Multi-Vapor	20R + 20M	+2/3 stop
Deluxe White Mercury	30R + 30M	+1 1/3 stops
Clear Mercury	70R	+1 1/3 stops

* A high-pressure sodium-vapor lamp. The information here may not apply to other manufacturers' sodium-vapor lamps because of differences in spectral characteristics

Note: Consult the manufacturer of high-intensity lamps for ozone ventilation requirements and safety information on ultraviolet radiation.

Some primary color filters were used in the previous tables to reduce the number of filters and keep the exposure adjustment to a minimum. Red filters were substituted for equivalent filtration in magenta and yellow. Blue filters were substituted for equivalent filtration in cyan and magenta.

Adjustments for Long and Short Exposures

No filter correction or exposure compensation is required for exposures from 1/10,000 to 10 seconds.

Note: This information applies only when exposing the film to daylight. The data are based on average emulsions rounded to the nearest 1/3 stop and assume normal, recommended processing. Use the data only as a guide. For critical applications, make tests under your conditions.

PROCESSING

Process E200 film in KODAK Chemicals, Process E-6. For consistent processing of this and all other EKTACHROME Films, use a lab that is a member of the KODAK Q-LAB Process Monitoring Service.

Push Processing Characteristics

You can increase the effective speed (i.e., push) of E200 film by adjusting the time of the first developer. Increased film speed is useful under dim lighting conditions, or when you need high shutter speeds to stop action or small lens openings for increased depth of field. Pushing E200 film will also compensate for underexposure.

Exposing EKTACHROME Film E200 for Push Processing

Labs that provide push processing with Process E-6 usually offer the service for fixed time increases such as push 1, push 2, or push 3 in the first developer (see the following table). It is a good idea to make a series of test exposures and then work with your lab to determine optimum exposure settings for push processing.

The following exposure indexes are good starting points for daylight exposures when you intend to have E200 film push processed.

Starting-Point Exposures for Push Processing EKTACHROME Film E200

Exposure Index	Specify This Push Condition to the Lab	Typical Time in First Developer
320	Push 1	8 minutes
640	Push 2	11 minutes
1000	Push 3	14 minutes

RETOUCHING TRANSPARENCIES

Use KODAK E-6 Transparency Retouching Dyes. You can chemically retouch the 120 format of this film on both the base and the emulsion side. Retouch only the emulsion side on the 135 size. For information on retouching equipment, supplies, and techniques, see KODAK Publication No. E-68, *Retouching Transparencies on KODAK EKTACHROME Film*.

PRINTING TRANSPARENCIES

Duplicate Color Transparencies

For direct printing, use—

KODAK EKTACHROME Duplicating Films
KODAK EKTACHROME RADIANCE Overhead Material
Or make internegatives on KODAK Commercial Internegative Film, and print them on—
KODAK VERICOLOR Print Film
KODAK VERICOLOR Slide Film
KODAK DURATRANS® RA Display Material
KODAK DURACLEAR™ RA Display Material

Color Prints

For direct printing, use—

KODAK EKTACHROME RADIANCE III Papers
KODAK EKTACHROME RADIANCE III SELECT Material
Or make internegatives on KODAK Commercial Internegative Film, and print them on—
KODAK PROFESSIONAL PORTRA III Papers
KODAK PROFESSIONAL SUPRA III Paper
KODAK PROFESSIONAL ULTRA III Paper
KODAK DURAFLEX® RA Print Material

SCANNING TRANSPARENCIES

For Graphic Arts Applications

The KODAK EKTACHROME Film family is characterized by sets of image dyes which perform very similarly when scanned. The scanner operator can set up one basic tone scale and color correction channel for EKTACHROME Films, and then optimize the tone scale and gray balance for the requirements of individual images.

Use the KODAK Color Input Target / Q-60E1 or Q-60E3 to establish the setup for KODAK EKTACHROME Films on all scanners. This target meets ANSI standards and represents the dye sets of all EKTACHROME Films.

For Photo CD Applications

Use the Universal E-6 Film Term to scan all KODAK EKTACHROME Films for KODAK PCD Imaging Workstation applications.

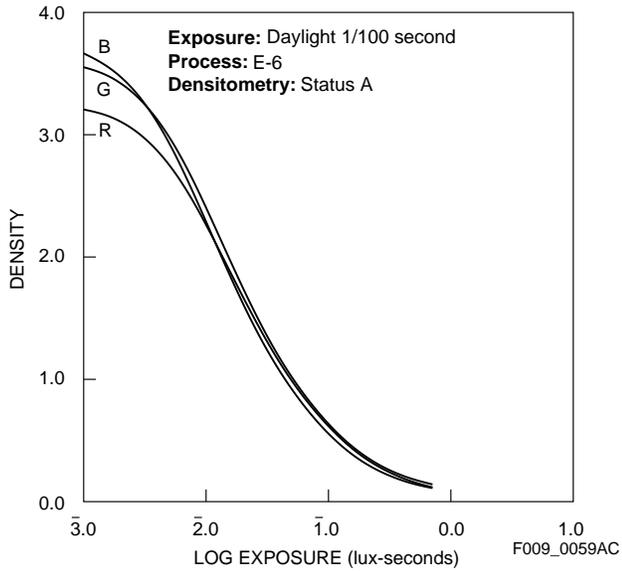
For output to a Photo CD player: Using the Universal E-6 Film Term should result in an image that closely matches your original in density, tone scale, and overall color balance when viewed on a player.

For output devices other than Photo CD players: The YCC data that results when using the Universal E-6 Film Term is capable of producing a high-quality duplicate of your original in terms of density, tone scale, and color reproduction. Final quality of your reproduced image depends on the capabilities of your output device, the viewing environment, and the rendering path used.

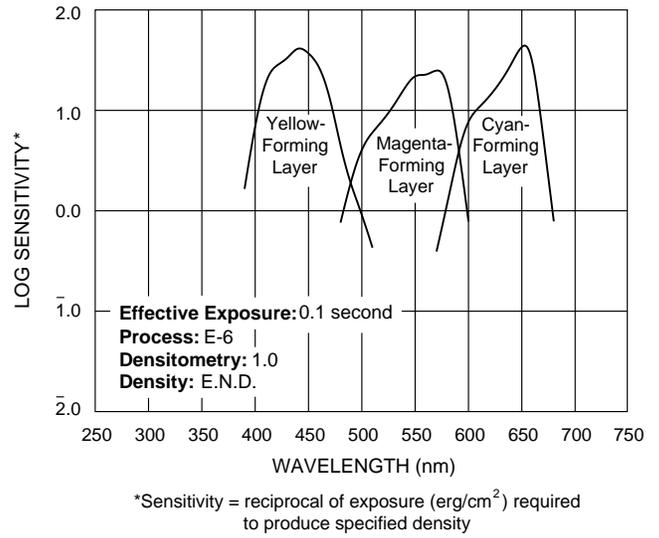
IMAGE STRUCTURE

Diffuse rms Granularity* 12

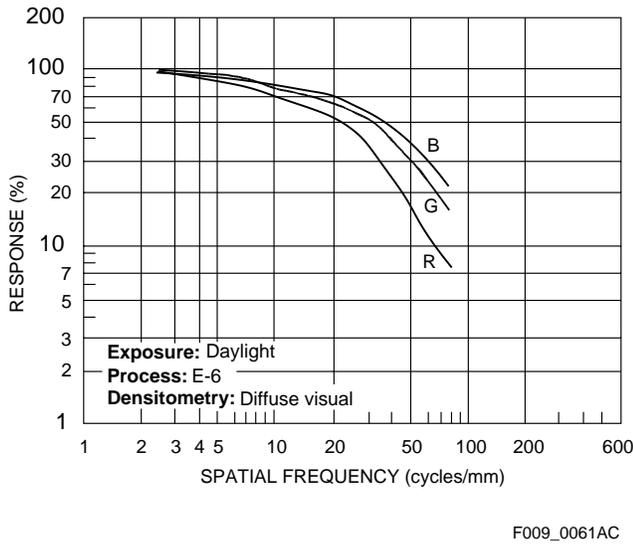
Characteristic Curves



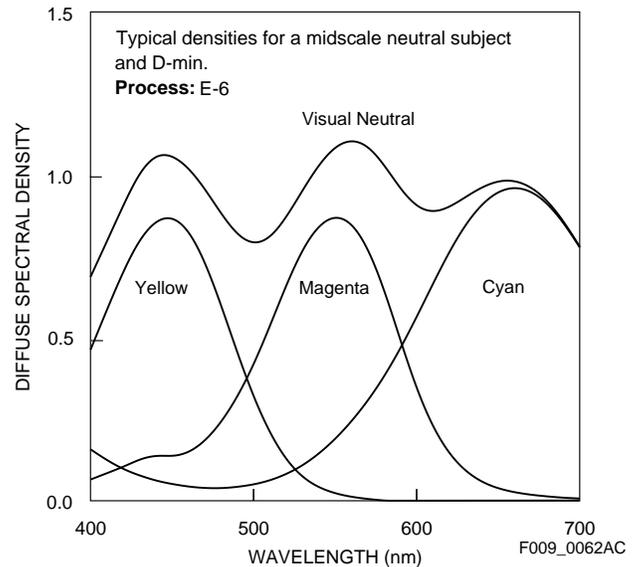
Spectral-Sensitivity Curves



Modulation-Transfer Curves



Spectral-Dye-Density 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.

* *Read at a gross diffuse visual density of 1.0, using a 48-micrometre aperture, 12X magnification.

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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 and through the U.S.A. /Canada faxback system.

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-31 *Reciprocity and Special Filter Data for KODAK Films*
- E-38 *KODAK EKTACHROME Duplicating Films*
- E-68 *Retouching Transparencies on KODAK EKTACHROME Film*
- E103RF *KODAK PROFESSIONAL Color Reversal Films*
- E-164 *KODAK PROFESSIONAL EKTACHROME Films E100S and E100SW*
- H3-995 *KODAK Q-60 Color Input Targets*

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

Many technical support publications for KODAK PROFESSIONAL Products can be sent to your fax machine from the Kodak Information Center. Call:
U.S. 1-800-242-2424, Ext. 33 / Canada 1-800-295-5531
—Available 24 hours a day, 7 days a week—

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 EKTACHROME Film E200 are available from dealers who supply KODAK PROFESSIONAL Products. You can use other materials, but you may not obtain similar results.



Kodak Professional Division
EASTMAN KODAK COMPANY

Kodak Professional