# KODAK PROFESSIONAL EKTACHROME Films E100G and E100GX

*Grain as Fine as Your Art.*

KODAK PROFESSIONAL EKTACHROME Films E100G and E100GX are the next generation of color transparency films. Both films deliver extremely fine grain (rms 8), a lower D-min for whiter, brighter whites, and an improved tone scale. These films feature the latest advancements in Kodak's Color Amplifying Technology and KODAK T-GRAIN® Emulsion Technology to capture light more efficiently.

EKTACHROME E100G Film offers moderately enhanced color saturation with a neutral color balance. EKTACHROME 100GX Film also features moderately enhanced color saturation, but with a warm balance (the "X" is for warm).

Both films produce exceptional results for advertising, fashion, editorial, architecture, nature/wildlife, and other commercial applications.

These films are designed for exposure with daylight or electronic flash.

| FEATURES | BENEFITS |
|---|---|
| • High efficiency T-GRAIN Emulsion Technology | • Extremely fine grain<br>• Remarkably detailed scans<br>• Greater enlargements |
| • Lower D-min | • Whiter, brighter whites |
| • Lower contrast tone scale | • Extended tonal range from highlights to shadows<br>• Improved highlight and shadow detail |
| • Matched color records for a neutral tone scale | • Pleasing, natural skin tone reproduction<br>• Consistent gray scale rendition throughout tonal range |
| • Outstanding reciprocity | • No speed or color compensation required for exposures from 1/10,000 to 10 seconds |
| • Image archivability | • Dark storage image stability of at least 80 years*<br>• Images can be accessed for further use many years into the future |

* In storage conditions of 10°C (50°F) and 15-20% relative humidity.

## SIZES AVAILABLE

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

**KODAK PROFESSIONAL EKTACHROME Film E100G**

| Rolls | Code / Spec No. | Acetate Base |
|---|---|---|
| 135-36 | E100G | 5-mil (0.13 mm) |
| 35 mm x 100 ft | E100G / SP404* | |
| 120 | E100G | 3.9-mil (0.10 mm) |
| 220 | E100G | |

* Perforated on both edges.

| Sheets | Film Code | ESTAR Thick Base |
|---|---|---|
| 4 x 5 in. | E100G | 7-mil (0.18 mm) |
| 8 x 10 in. | E100G | |
| KODAK PROFESSIONAL READYLOAD Single-Sheet Packet* | | |
| 4 x 5 | E100G | 7-mil (0.18 mm) |

* For best results use with the KODAK PROFESSIONAL READYLOAD Single-Sheet Packet Film Holder, CAT No. 893 7542.

**KODAK PROFESSIONAL EKTACHROME Film E100GX**

| Rolls | Code / Spec No. | Acetate Base |
|---|---|---|
| 135-36 | E100GX | 5-mil (0.13 mm) |
| 35 mm x 100 ft | E100GX / SP404* | |
| 120 | E100GX | 3.9-mil (0.10 mm) |
| 220 | E100GX | |

* Perforated on both edges.

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## STORAGE AND HANDLING

Load and unload film in subdued light.

Store unexposed film in a refrigerator at 13°C (55°F) 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 processed film from strong light, and store it in a cool, dry place. For more information on storing transparencies, see KODAK Publication No. E-30, *Storage and Care of KODAK Photographic Materials—Before and After Processing.*

## DARKROOM RECOMMENDATIONS

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

## EXPOSURE

Use the exposure index (EI) numbers below with meters and cameras 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 light 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 | 100 |
| Photo lamp (3400 K) | 80B | 32 |
| Tungsten (3200 K) | 80A | 25 |

### 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 | 1/125 | *f*/22 |
| Bright or hazy sun, distinct shadows | 1/125 | *f*/16* |
| Weak, hazy sun, soft shadows | 1/125 | *f*/11 |
| Cloudy bright, no shadows | 1/125 | *f*/8 |
| Heavy overcast, open shade† | 1/125 | *f*/5.6 |

* Use f/8 for backlit close-up subjects.
† Subject shaded from the sun but lit by a large area of clear sky

### Electronic Flash

Use the appropriate guide number in the table below 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 | 40 | 12 |
| 500 | 50 | 15 |
| 700 | 60 | 18 |
| 1000 | 70 | 21 |
| 1400 | 85 | 26 |
| 2000 | 100 | 30 |
| 2800 | 120 | 36 |
| 4000 | 140 | 42 |
| 5600 | 170 | 50 |
| 8000 | 200 | 60 |

* BCPS = beam candlepower seconds

### Multiple Exposure with Electronic Flash

No filter corrections or exposure adjustments are required for the effects of multiple, consecutive flashes (multipops) up to 4 flashes. For 8 flashes, add CC05M filtration.

### Adjustments for Long and Short Exposures

No filter correction or exposure compensation is required for exposure times from 1/10,000 to 10 seconds. At exposure times of 120 seconds, add CC10R filtration.

**Note:** This information applies only when the films are exposed 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.

### Fluorescent and High-Intensity Discharge Lamps

Use the color-compensating filters and exposure adjustments below as starting points to expose these films 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 exposure times of 1/125 second or longer.

| 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 |
| Unknown Fluorescent* | 30M | + 2/3 stop |

* When the type of fluorescent lamp is unknown, try this filter and exposure adjustment; color rendition may be less than optimum.

| High-Intensity Discharge Lamps | KODAK Color Compensating Filters | Exposure Adjustment |
|---|---|---|
| General Electric Lucalox* | 80B + 20C | + 2 1/3 stop |
| 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 |

* This is a high-pressure sodium-vapor lamp. The information in the table may not apply to other manufacturers' high-pressure sodium-vapor lamps due to 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.

## PROCESSING

### Chemicals

Process E100G and E100GX Films in KODAK Chemicals, Process E-6.

For consistent processing of these 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 E100G and E100GX Films by adjusting the first developer time. 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. You can also use a short push to slightly increase contrast, sharpen highlights, or compensate for underexposure. By understanding these effects in advance, you can use pushing creatively and reliably.

### Exposure for Push Processing

Labs that provide push processing usually offer the service for fixed time increases (i.e. push 1/2 or push 1) in the first developer. It is a good idea to make a series of test exposures and then work with your lab to determine optimum exposure settings. A recommended starting point for E100G or E100GX Films is to underexpose by 1 stop (EI 200) for a push 1 process (8 minutes in the first developer).

## RETOUCHING

Use KODAK E-6 Transparency Retouching Dyes. You can chemically retouch sheet and 120/220 formats of these films 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

You can reproduce images made on E100G and E100GX Films by using a variety of Kodak materials.

### Duplicate Color Transparencies

For direct printing, use—

KODAK PROFESSIONAL EKTACHROME Duplicating Film EDUPE

### Color Prints

You can scan your image to a file and print digitally to—

KODAK PROFESSIONAL PORTRA, SUPRA, and ULTRA ENDURA Papers

KODAK PROFESSIONAL ENDURA Clear Digital Display Material

KODAK PROFESSIONAL ENDURA Transparency Display Material

KODAK PROFESSIONAL ENDURA Metallic Paper

## SCANNING TRANSPARENCIES

### For Graphic Arts Applications

The KODAK EKTACHROME Film family is characterized by sets of image dyes that perform very similarly when scanned. The scanner operator can set up one basic tone scale and color-correction channel for all 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 (4 x 5–inch transparency) or Q-60E3 (35 mm slide) to establish the setup for KODAK EKTACHROME Films on all scanners. These targets are manufactured to ANSI standards and represent 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 Photo CD 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 transparency in density, tone scale, and overall color balance when viewed on a player.

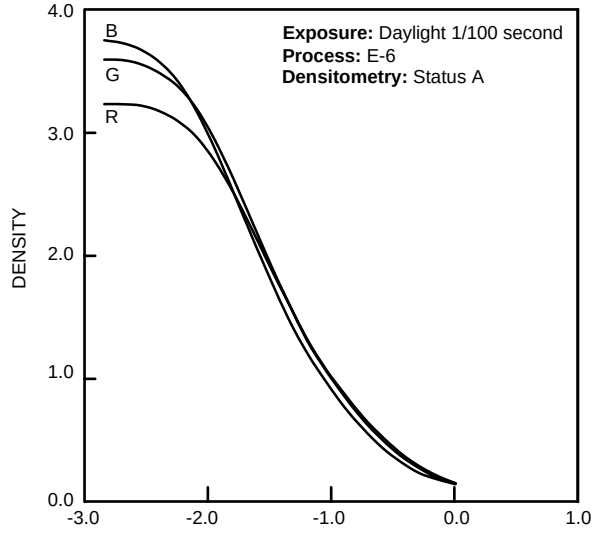
For output to Devices Other than Photo CD Players: The YCC data that results when using the Universal E-6 Film Term is capable of producing a high-quality duplicate of your original transparency in terms of density, tone scale, and color reproduction. Final quality of your reproduced image depends on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

## CURVES

**Diffuse rms Granularity*** **8 (extremely fine)**

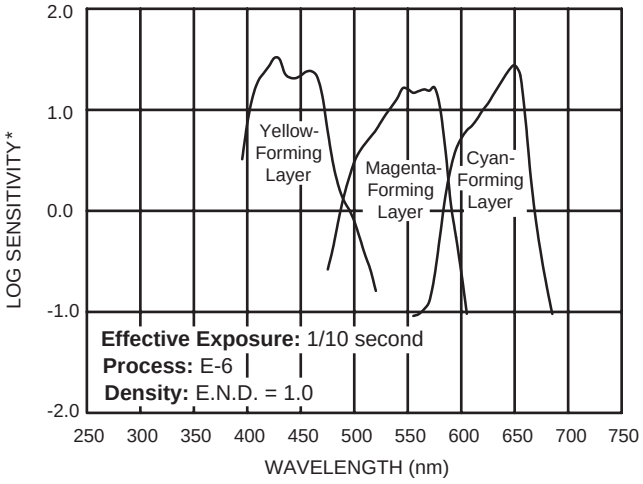
*Read at a gross diffuse visual density of 1.0, using a 48-micrometre aperture.

**Characteristic Curves**
**E100G Film**




F009_0525AC

**Spectral-Sensitivity Curves**
**E100G and E100GX Films**




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

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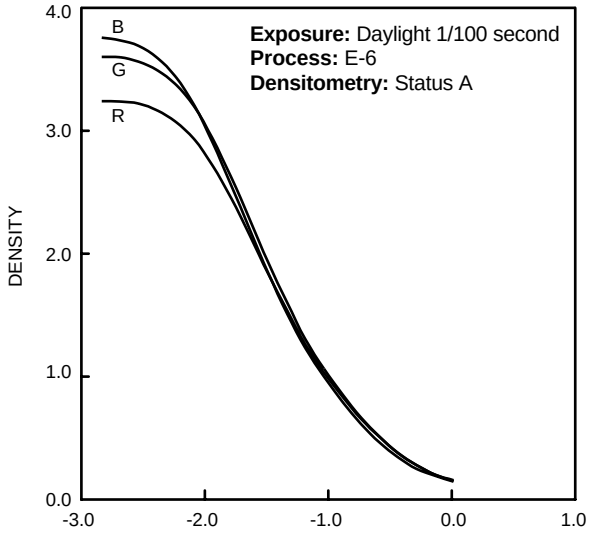
**Characteristic Curves**
**E100GX Film**

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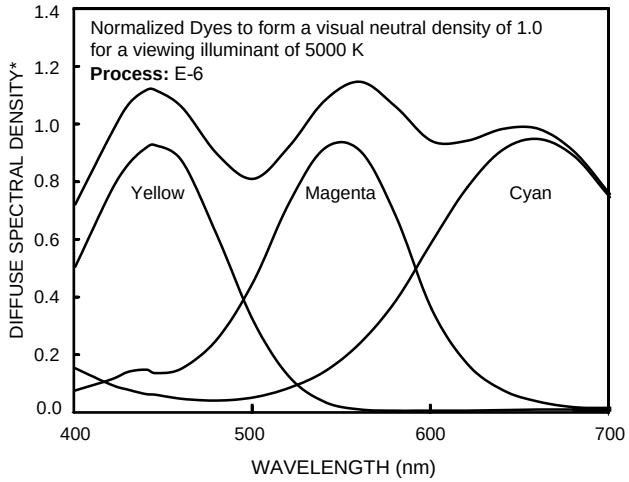
**Spectral-Dye-Density Curves**
**E100G and E100GX Films**

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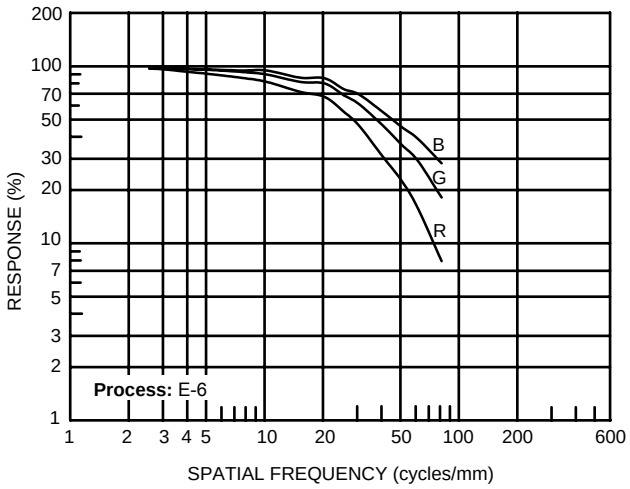
**NOTICE**: The sensitometric curves and data in this publication represent product tested under the conditions of exposure and processing specified. They are representative of production coatings, and therefore do not apply directly to a particular box or roll of photographic material. They do not represent 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 EKTACHROME Films E100G and E100GX

**Modulation-Transfer Curves**
**E100G and E100GX Films**

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

| | |
|---|---|
| E-8 | *KODAK EKTACHROME 64 Professional Film* |
| E-130 | *KODAK EKTACHROME 64T Professional Film* |
| E-27 | *KODAK EKTACHROME 100 Professional Film* |
| E-163 | *KODAK PROFESSIONAL EKTACHROME Film E100VS* |
| E-113 | *KODAK EKTACHROME 100 Plus Professional Film* |
| E-28 | *KODAK PROFESSIONAL EKTACHROME Film E200* |
| E-30 | *Storage and Care of KODAK Photographic Materials—Before and After Processing* |
| E103RF | *KODAK PROFESSIONAL Color Reversal Films* |
| E-144 | *KODAK EKTACHROME 160T Professional Film* |
| E-145 | *KODAK EKTACHROME 320T Professional Film* |
| E-147 | *KODAK EKTACHROME 1600 Professional Film* |
| E-161 | *KODAK EKTACHROME 400X Professional Film* |
| E-2529 | *KODAK PROFESSIONAL EKTACHROME Duplicating Film EDUPE* |
| Z-119 | *Using KODAK Chemicals, Process E-6* |

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 EKTACHROME Films E100G and E100GX are available from dealers who supply KODAK PROFESSIONAL Products. You can use other materials, but you may not obtain similar results.


**EASTMAN KODAK COMPANY**

Kodak Professional
Imaging Solutions

KODAK PROFESSIONAL
EKTACHROME Films E100G and
E100GX
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