

KODAK EKTACHROME 160T

Professional Film / EPT



KODAK EKTACHROME 160T Professional Film is a medium-speed color-transparency film featuring very fine grain and high sharpness. It is designed for exposure with tungsten illumination (3200 K). You can also expose it with photolamps (3400 K), daylight, or electronic flash using filters.

The film is well-suited for photojournalism, theater, fashion, editorial portraiture, architectural interiors, and motion-picture still photography where there is tungsten illumination. It has an intended exposure range of 1/10,000 to 1/10 second with no filter or exposure adjustment.

Use this film to produce color transparencies for projection or viewing with 5000 K illumination. You can also make duplicate transparencies by direct printing. To make color prints, you can print transparencies directly 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	BENEFITS
• Bright, bold colors	• Good color reproduction even in dimly lighted conditions
• Very fine grain at 160 speed	• Ideal for theater performances, fashion, and motion-picture still photography
• Balanced for tungsten illumination	

SIZES AVAILABLE

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

Rolls	Code	Acetate Base	CAT No.
135-36	EPT	5-mil (0.13 mm)	118 3144
120 (5-roll pro-pack)	EPT	3.9-mil (0.10 mm)	122 9178
35 mm x 100 ft perf	EPT Spec 404*	5-mil (0.13 mm)	160 2259

*Perforated on both edges.

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 the film as soon as possible after exposure.

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

DARKROOM RECOMMENDATIONS

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

EXPOSURE

Exposure Index Numbers

Use the exposure index (EI) 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
Tungsten (3200 K)	None	160
Photolamp (3400 K)	81A	125
Daylight or Electronic Flash	85B	100

Tungsten Light

For best color rendition, use tungsten photolamps (3200 K) at their rated voltage. If voltage varies significantly, the color of the lamp will change. Other light sources may not give equally good results, even with filters. Unless you want a special effect, do not mix light sources of different color qualities, particularly tungsten light and daylight.

These exposure recommendations are based on two tungsten (3200 K) reflector-type photolamps at 45 degrees from the camera-subject axis. Use one lamp as a fill-in light close to the camera at lens level, the other lamp as the main light 2 to 4 feet higher.

Use these exposure settings as guides. They give a lighting ratio of about 3 to 1. For a 2 to 1 ratio, move the fill-in light to the same distance as the main light and use a 1/2-stop smaller lens opening.

Lamp-to-Subject Distance in Feet

	Lens Opening at 1/60 Second				
	f/8	f/5.6	f/4	f/2.8	f/2
EAL R-40 Lamps (General Electric)					
Main Light	4	5.5	8	11	16
Fill Light	5.5	8	11	16	22
DXH R-32 Lamps (Sylvania)					
Main Light	5	7	10	14	20
Fill Light	7	10	14	20	28

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. Vary the recommended filtration by at least $\pm$ CC10, and increase or decrease exposure accordingly.

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 Lamps	KODAK Color Compensating Filters	Exposure Adjustment
Daylight	No. 85B + 40M + 30Y	+1 2/3 stops
White	50R + 10M	+1 1/3 stops
Warm White	50M + 40Y	+1 stop
Warm White Deluxe	10R	+1/3 stop
Cool White	60R	+1 1/3 stops
Cool White Deluxe	20M + 40Y	+2/3 stop
Unknown Fluorescent*	50R	+1 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*	50M + 20C	+1 stop
General Electric Multi-Vapor	60R + 20Y	+1 2/3 stops
Deluxe White Mercury	70R + 10Y	+1 2/3 stops
Clear Mercury	90R + 40Y	+2 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.

Daylight

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

Lens opening with a KODAK WRATTEN Gelatin Filter No. 85B.

Lighting Conditions	Shutter Speed (second)	Lens Opening
Bright hazy sun on light 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 a KODAK WRATTEN Gelatin Filter No. 85B, or equivalent. Calculate the guide number based on the film speed for daylight, ISO 100.

Adjustments for Long and Short Exposures

No filter correction or exposure adjustment is normally required for EKTACHROME 160T Professional Film at exposure times from 1/10,000 second to 1/10 second. For a 1 second exposure, increase exposure by 1/3 stop and add a CC10R filter. Longer exposures are not recommended.

Note: This information applies only when the film is exposed to tungsten illumination. The data are based on average emulsions and assume normal, recommended processing. Use the data only as a guide. For critical applications, make tests under your conditions.

PROCESSING

Process EKTACHROME 160T Professional Film in KODAK Chemicals, Process E-6. For best quality, use the normal speed rating of EI 160 and normal processing.

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.

RETOUCHING

Use KODAK E-6 Transparency Retouching Dyes. You can chemically retouch the 120 format on both the base side and the emulsion side. Retouch only the emulsion side of 35 mm formats.

For information on retouching equipment, supplies, and techniques, see KODAK Publication E-68, *Retouching Color Transparencies on KODAK EKTACHROME Film*.

SCANNING TRANSPARENCIES

For Graphic Arts Applications

The KODAK EKTACHROME Film family is characterized by sets of image dyes that perform 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 meet 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.

PRINTING TRANSPARENCIES

You can reproduce images made on EKTACHROME 160T Professional Film by using a variety of Kodak materials.

Duplicate Color Transparencies

For direct printing, use—

KODAK PROFESSIONAL EKTACHROME
Duplicating Film EDUPE

Or make internegatives on KODAK Commercial

Internegative Film, and print them on—

KODAK PROFESSIONAL DURATRANS® Display
Material

KODAK PROFESSIONAL DURACLEAR™ 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 ENDURA Paper

KODAK PROFESSIONAL SUPRA ENDURA Paper

KODAK PROFESSIONAL ULTRA ENDURA Paper

KODAK PROFESSIONAL DURAFLEX® Plus Digital
Display Material

KODAK PROFESSIONAL ENDURA Metallic Paper

Digital Files

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

KODAK PROFESSIONAL DURATRANS® Plus
Digital Display Material

KODAK PROFESSIONAL DURACLEAR™ Plus
Digital Display Material

KODAK PROFESSIONAL DURAFLEX® Plus Digital
Display Material

KODAK PROFESSIONAL Color Metallic Paper

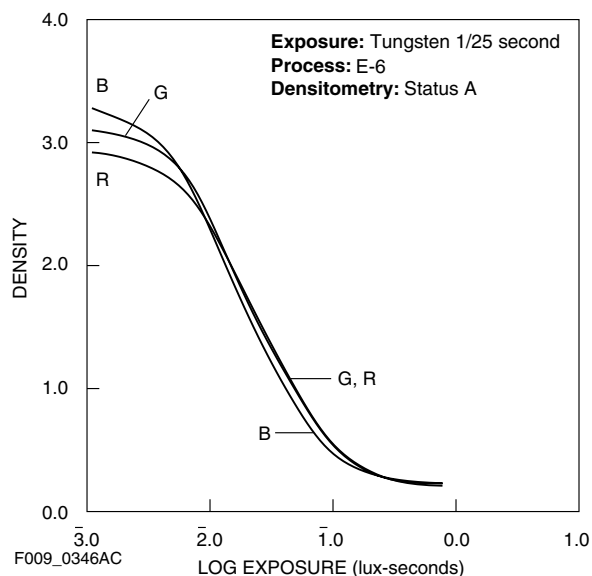
KODAK PROFESSIONAL Day/Night Digital Display
Material

CURVES

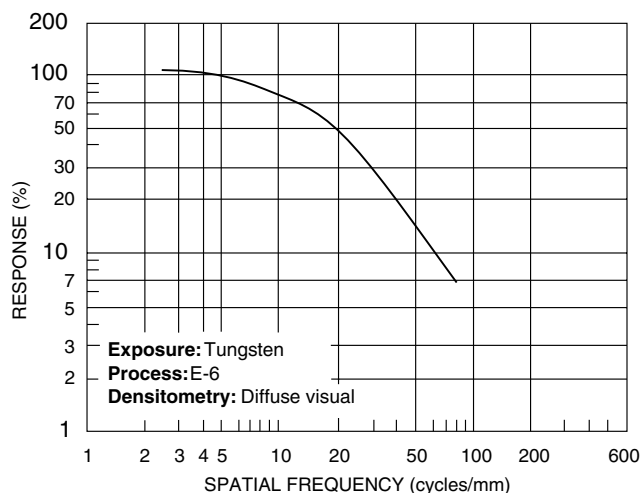
Diffuse rms Granularity* 13 (very fine)

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

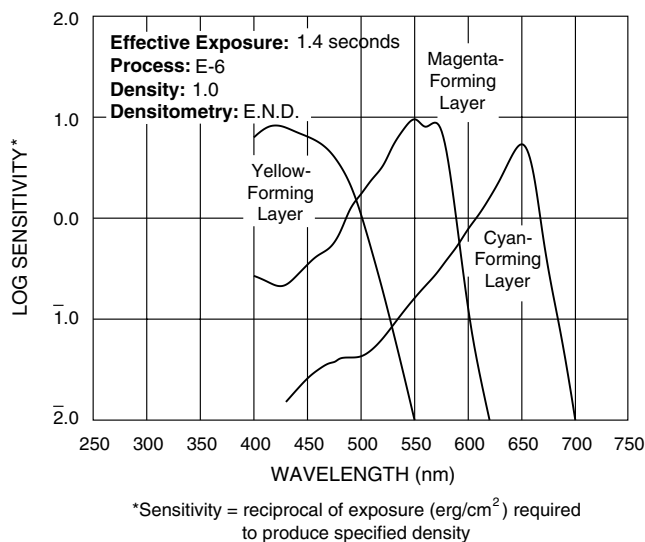
Characteristic Curves



Modulation-Transfer Curve

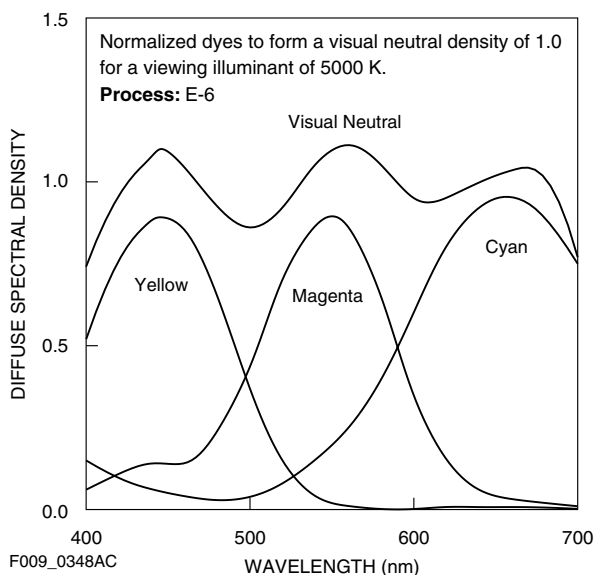


Spectral-Sensitivity Curves



F009_0347AC

Spectral-Dye-Density Curves



F009_0348AC

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 you country for more information.

- E-8 *KODAK EKTACHROME 64 Professional Film*
- E-27 *KODAK EKTACHROME 100 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-113 *KODAK EKTACHROME 100 Plus Professional Film*
- E-130 *KODAK EKTACHROME 64T Professional Film*
- E-145 *KODAK EKTACHROME 320T Professional Film*
- E-147 *KODAK EKTACHROME 1600 Professional Film*
- E-161 *KODAK EKTACHROME 400X Professional Film*
- E-163 *KODAK PROFESSIONAL EKTACHROME Film E100VS*
- E-4024 *KODAK PROFESSIONAL EKTACHROME Films E100G and E100GX*
- 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 EKTACHROME 160T Professional Film 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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