

KODAK ULTRA MAX 800 Film

Kodak

TECHNICAL DATA / COLOR PRINT FILM

December 2007 • E-7024

KODAK ULTRA MAX 800 Film brings picture quality to a new level by combining the color quality, fine detail, and picture clarity of lower-speed films with the benefits of higher speed films. This film delivers extra sharpness and unsurpassed fine grain (among 800-speed films) for crisper, clearer pictures—even when enlarged. KODAK ULTRA MAX 800 Film produces consistently bright, vibrant colors across a wide range of lighting conditions. It provides accurate skin-tone reproduction for natural-looking "people pictures."

FEATURES	BENEFITS
<ul style="list-style-type: none">ISO 800 speed	<ul style="list-style-type: none">Ideal for zoom camerasGreat pictures in sunlight, low light, action, and stillFewer under-exposed pictures2x longer flash range (compared to Kodak 200-speed film)Improved depth of fieldReduced impact of "camera shake"Reduced blur with moving objects
<ul style="list-style-type: none">Excellent film latitude	<ul style="list-style-type: none">Maximum versatility allows for better pictures in more lighting conditions
<ul style="list-style-type: none">Superior sharpness	<ul style="list-style-type: none">Improved picture detailCrisper pictures
<ul style="list-style-type: none">Fine grain structure	<ul style="list-style-type: none">Pictures that are very clearImproved enlargement quality
<ul style="list-style-type: none">Outstanding color reproduction, improved color consistency	<ul style="list-style-type: none">Brighter, more vibrant printsImproved color consistency across a wider range of picture-taking situationsOptimized performance with KODAK EKTACOLOR EDGE Paper
<ul style="list-style-type: none">Optimized skin tones	<ul style="list-style-type: none">Natural skin tones for better "people pictures"
<ul style="list-style-type: none">Scan ready	<ul style="list-style-type: none">High-quality results from digital output systems
<ul style="list-style-type: none">Photofinishing compatibility	<ul style="list-style-type: none">Compatibility with KODAK GOLD FilmSimplifies workflowFewer makeovers means less waste

DARKROOM RECOMMENDATIONS

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

STORAGE AND HANDLING

Store unexposed film at 21°C (70°F) or lower in the original sealed package. Always store film (exposed or unexposed) in a cool, dry place. Process film as soon as possible after exposure.

Because of the high speed of this film, be especially careful to load and unload the camera in subdued light.

Request visual inspection at airport or other security x-ray inspection stations. Some x-ray screening equipment may fog this film.

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

EXPOSURE

Film Speed: ISO/DIN 800/30°

Use these speed numbers in the table below with cameras or meters marked for ISO, ASA, or DIN speeds or exposure indexes. Do not change the film-speed setting when you use a filter if your camera has through-the-lens metering. For critical work, make a series of test exposures.

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 (seconds)	Lens Opening
Bright/Hazy Sun on Light Sand or Snow	1/1000	f/16
Bright or Hazy Sun (Distinct Shadows)	1/1000	f/11*
Weak, Hazy Sun (Soft Shadows)	1/1000	f/8
Cloudy Bright (No Shadows)	1/1000	f/5.6
Heavy Overcast (Open Shade)†	1/1000	f/4

* Use f/5.6 for backlit close-up subjects.

† Subject shaded from the sun but lighted by a large area of sky.

Electronic Flash

Use the appropriate guide number in the table below as a starting point for your equipment. Select the unit output closest to the number given by your flash manufacturer. Then find the guide number for feet or meters.

To determine the lens opening, divide the guide number by the flash-to-subject distance. If negatives are too dark (overexposed), use a higher guide number; if they are too light (underexposed), use a lower number.

Unit Output (BCPS)*	Guide Number	
	Distance in Feet	Distance in Meters
350	120	36
500	140	42
700	170	50
1000	200	60
1400	240	70
2000	280	85
2800	340	100
4000	400	120
5600	470	140
8000	560	170

*BCPS = beam candlepower seconds

Fluorescent and High-Intensity Discharge Lights

For best results without special printing, use the color-correction filters in the table below as starting points when you expose these films under fluorescent and high-intensity discharge lamps. Use exposure times of 1/60 second or longer to avoid the brightness and color variations that occur during a single alternating-current cycle.

Actual filtration may vary between lamps and lamp manufacturers. Depending on the specific source, additional filtration or special printing may be required to achieve best results.

Fluorescent Lamp Type	KODAK Color Compensating Filter(s)	Exposure Adjustment
"Daylight"	40R	+ 2/3 stop
White	20C + 30M	+ 1 stop
Warm White	40B	+ 1 stop
Warm White Deluxe	30B + 30C	+ 1 1/3 stops
Cool White	30M	+ 2/3 stop
Cool White Deluxe	10C + 10M	+ 2/3 stop

Note: When you don't know the type of fluorescent lamps, try a 10C + 20M filter combination and increase exposure by 2/3 stop; color rendition may be less than optimum.

High-Intensity Discharge Lamp Type	KODAK Color Compensating Filter(s)	Exposure Adjustment
High Pressure Sodium Vapor	70B + 50C	+ 3 stops
Metal Halide	10R + 20M	+ 2/3 stop
Mercury Vapor with Phosphor	20R + 20M	+ 2/3 stop
Mercury Vapor without Phosphor	80R	+ 1 2/3 stops

Note: Some primary color filters were used in the tables above to reduce the number of filters and/or to 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

You do not need to make any exposure or filter adjustments for exposure times of 1/10,000 second to 1 second.

Exposures longer than 1 second may require exposure compensation and/or filtration. For critical applications make tests under your conditions.

PROCESSING

Process in KODAK FLEXICOLOR Chemicals for Process C-41.

JUDGING NEGATIVE EXPOSURES

Expose this film properly for optimum results.

You can check the exposure level of the color negative with a suitable electronic densitometer equipped with a filter such as the red filter for Status M Densitometry, or a KODAK WRATTEN Gelatin Filter No. 92. Depending on the subject and the light source used for exposure, a normally exposed color negative measured through the red filter should have the approximate densities listed below. These densities apply for the recommended light sources and correct processing of the negative.

Area on the Negative:	Densities:	
	EI 800	EI 1600 (Push 1)
The KODAK Gray Card (gray side) receiving the same illumination as the subject	0.75 to 0.95	0.85 to 1.05
The lightest step (darkest in the negative) of a KODAK Paper Gray Scale receiving the same illumination as the subject	1.00 to 1.20	1.20 to 1.40
Normally lighted forehead of person with light complexion*	0.95 to 1.25	1.10 to 1.40
Normally lighted forehead of person with dark complexion*	0.75 to 1.10	0.90 to 1.25

*Because of the extreme range in skin color, use these values only as a guide. For best results, use a KODAK Gray Card (gray side).

PRINTING NEGATIVES

This film is optimized for printing on KODAK EKTACOLOR EDGE Paper, KODAK ROYAL Digital Color Paper, and KODAK PROFESSIONAL ENDURA Metallic Paper.

Make color slides and transparencies by printing the negatives on KODAK PROFESSIONAL ENDURA Transparency Display Material or KODAK PROFESSIONAL ENDURA Clear Display Material.

You can scan an image to a file and print digitally to KODAK EKTACOLOR EDGE Paper, KODAK ROYAL Digital Color Paper, KODAK PROFESSIONAL ENDURA Papers, KODAK PROFESSIONAL ENDURA Metallic Paper, KODAK PROFESSIONAL ENDURA Transparency Display Material, or KODAK PROFESSIONAL ENDURA Clear Display Material.

Make black-and-white prints on any of the materials mentioned above using the recommendations in KODAK Publication CIS-274, *Printing Black-and-White Images Without KODAK Black-and-White Papers*.

IMAGE STRUCTURE

Print Grain Index

The Print Grain Index number refers to a method of defining graininess in a print made with diffuse-printing illumination. It replaces rms granularity and has a different scale which cannot be compared to rms granularity.

- The method uses a uniform perceptual scale, with a change of four units equaling a *just noticeable difference* in graininess to 90 percent of observers.
- A Print Grain Index rating of 25 on the scale represents the approximate visual threshold for graininess. A higher number indicates an increase in the amount of graininess observed.
- The standardized inspection (print-to-viewer) distance for all print sizes is 14 inches, the typical viewing distance for a 4 x 6-inch print.
- In practice, larger prints will likely be viewed from distances greater than 14 inches, which reduces apparent graininess.
- Print Grain Index numbers may not represent graininess observed from more specular printing illuminants, such as condenser enlargers.

The Print Grain Index number printed in this publication applies to the following standards:

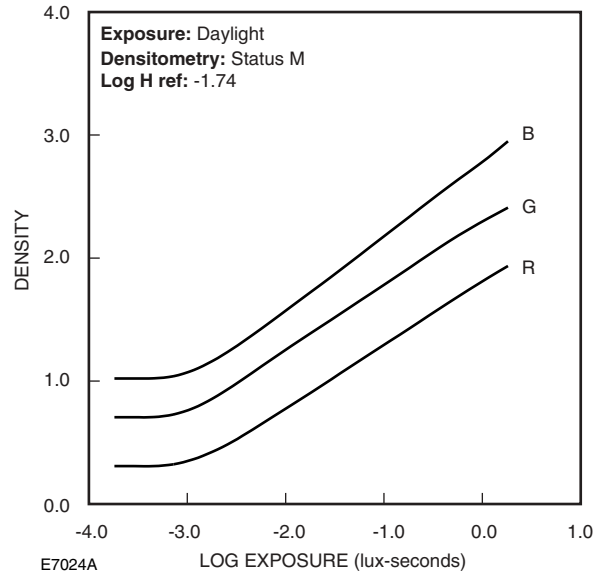
Negative size:	24 x 36 mm (135 size standard format)
Print Size:	4 x 6 inches (10.2 x 15.2 cm)
Magnification:	4.4X
Print Grain Index:	48

RETOUCHING

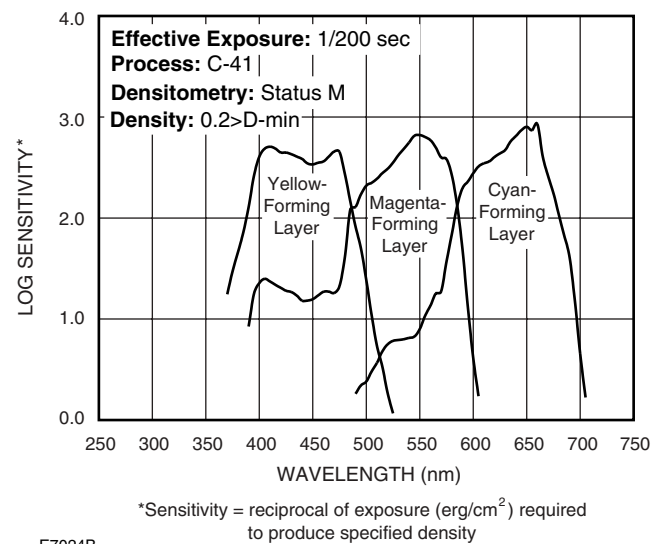
Negatives on this film can be retouched on the emulsion side with retouching pencils, after applying a retouching fluid, such as KODAK Retouching Fluid.

CURVES

Characteristic Curves

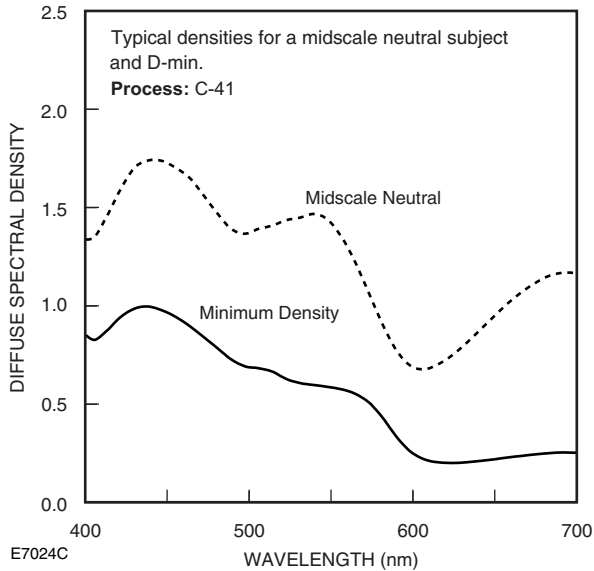


Spectral Sensitivity Curves



KODAK ULTRA MAX 800 Film

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

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.

The following publications are available from Kodak Customer Service and 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-7023 *KODAK ULTRA MAX 400 Film*
- E-7022 *KODAK GOLD 100 and 200 Films*
- E-4035 *KODAK PROFESSIONAL ULTRA COLOR Films*
- E-4040 *KODAK PROFESSIONAL PORTRA Films*
- E-7020 *KODAK EKTACOLOR EDGE Paper*
- E-7021 *KODAK ROYAL Digital Color Paper*
- E-4020 *KODAK PROFESSIONAL ULTRA ENDURA Paper*
- E-4021 *KODAK PROFESSIONAL PORTRA and SUPRA ENDURA Papers*
- E-4038 *KODAK PROFESSIONAL ENDURA Transparency and Clear Display Materials*

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

If you have questions about KODAK Products, call Kodak.
In the U.S.A.:
1-800-242-2424, 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 are available from dealers who supply Kodak products. You can use other materials, but you may not obtain similar results.

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