# **KODAK EKTAPAN Film**



#### DESCRIPTION

KODAK EKTAPAN Film / EKP is a medium-speed (ISO 100/21°) panchromatic film that features very fine grain. It is well suited for portraiture and close-up work with electronic flash. It is also an excellent choice for commercial, industrial, and scientific applications with daylight or tungsten light.

FEATURES	BENEFITS
• Very fine grain	• Excellent for producing high-quality images
• Retouching surface on base and emulsion sides	• Can be retouched on either side
<ul> <li>High resolving power</li> </ul>	• Good rendition of detail

# SIZES AVAILABLE

Sheets Per Package	Size (inches)	Film Code Notch	Base	CAT No.
25	4 x 5			168 9850
100	4 x 5		7-mil	168 9777
100	5 x 7		ESTAR	168 9090
50	8 x 10		Thick	168 9058
10	11 x 14			168 9017

Roll	Base	CAT No.
70 mm x 75 ft (Sp 473)	7-mil ESTAR Thick	152 6797
3½ in. x 75 ft (Sp 825)		154 1317

#### STORAGE AND HANDLING

Store unexposed film at  $75^{\circ}$ F (24°C) or lower in the original package. Always store film (exposed or unexposed) in a cool, dry place. For best results, 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 negatives, see KODAK Publication No. E-30, *Storage and Care of Photographic Materials*—*Before and After Processing.* 

#### EXPOSURE

#### Daylight

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

Lighting Conditions	Shutter Speed (second)	Lens Opening
Bright or Hazy Sun on Light Sand or Snow	1/250	<i>f</i> /16
Bright or Hazy Sun (Distinct Shadows)	1/250	<i>f</i> /11*
Weak, Hazy Sun (Soft Shadows)	1/250	f/8
Cloudy Bright (No Shadows)	1/250	f/5.6
Heavy Overcast or Open Shade†	1/250	f/4

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

† Subject shaded from the sun, but lit by a large area of clear sky.

#### **Electronic Flash**

Use the guide numbers 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 metres. To determine the lens opening, divide the guide number by the flash-to-subject distance.

Unit Outrout	Guide	Number
Unit Output BCPS*	For Distances in Feet	For Distances 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

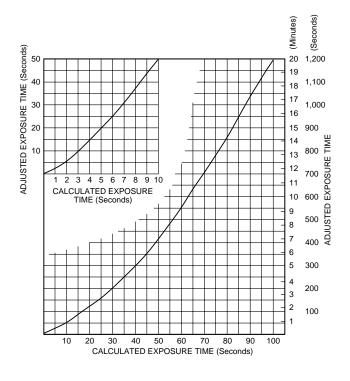
\* BCPS = beam candlepower seconds.

#### Exposure and Development Adjustments for Long And Short Exposures

At the exposure times in the table below, compensate for the reciprocity characteristics of this film by increasing exposure and adjusting the development as shown.

If Indicated Exposure Time is (seconds)	Use This Lens- Aperture Adjustment	OR	This Adjusted Exposure Time (seconds)	AND Use this Development Adjustment
1/1,000	None		None	None
1/100	None		None	None
1/10	None		None	None
1	+1 stop		2	-10%
10	+2 stops		50	-20%
100	+3 stops		1,200	-30%

It may be difficult to use the table to estimate the adjusted times for calculated exposure times between 1 and 100 seconds. The following graphs will help you find the adjusted times for calculated exposure times between those given in the table above.



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## Filter Corrections

Multiply the normal exposure time by the filter factor.

	Daylight	Tungsten
KODAK WRATTEN Gelatin Filter	Multiply Exposure By (filter factor)	Multiply Exposure By (filter factor)
No. 8 (yellow)	2	1.5
No. 11 (yellowish green)	4	3
No. 15 (deep yellow)	3	2
No. 25 (red)	8	4
No. 47 (blue)	5	10
No. 58 (green)	8	8
Polarizing Filter	2.5	2.5

# DARKROOM RECOMMENDATIONS

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

Using a safelight *will* affect your results. *If absolutely necessary*, after development is half complete, you can use a safelight equipped with a KODAK 3 Safelight Filter (dark green) with a 15-watt bulb for a few seconds. Keep the safelight at least 4 feet (1.2 metres) from the film. Run tests to determine that safelight use gives acceptable results for your application.

For information on safelight testing, see KODAK Publication No. K-4, *How Safe is Your Safelight?* 

## PROCESSING

Handle unprocessed film in total darkness.

These starting-point recommendations are intended to produce a contrast index of 0.56. Make tests to determine the best development time for your application.

#### **Tray Processing**

Provide continuous agitation. Prewetting sheet film may improve uniformity in tray processing.

KODAK	Development Time in Minutes				
Developer or Developer and Replenisher	65°F (18°C)	68°F (20°C)	70°F (21°C)	72°F (22°C)	75°F (24°C)
T-MAX RS	6	5	4	4	3
XTOL	81⁄2	71⁄4	61⁄4	5½	5
HC-110 (Dil B)	5	4 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> ⁄4	4	3½
D-76	9	8	7	6 <sup>1</sup> /2	5½
DK-50 (1:1)	5	41⁄2	41⁄4	4	31⁄2
MICRODOL-X	12	10	91⁄2	8	7
HC-110 (Dil A)	31⁄4	3	23⁄4	2 <sup>1</sup> /2	2¼

**Note:** You can also use these times for large-tank processing with gaseous-burst agitation (1 second every 10 seconds) that provides pressure to raise the solution level 5% inch (16 mm). Development times shorter than 5 minutes may produce unsatisfactory uniformity.

#### Large-Tank Processing

Agitate once per minute.

KODAK	Development Time in Minutes				
Developer or Developer and Replenisher	65°F (18°C)	68°F (20°C)	70°F (21°C)	72°F (22°C)	75°F (24°C)
T-MAX RS	6	5	4	<b>3</b> <sup>1</sup> / <sub>2</sub>	3
HC-110 (Dil B)	7	6	5½	5	<b>4</b> <sup>1</sup> / <sub>4</sub>
D-76	11	10	9	<b>8</b> <sup>1</sup> /2	<b>7</b> <sup>1</sup> /2
DK-50 (1:1)	7	6	5 <sup>1</sup> /2	5	<b>4</b> <sup>1</sup> / <sub>4</sub>
XTOL	9 <sup>1</sup> /2	8	6 <sup>3</sup> ⁄4	6 <sup>1</sup> ⁄4	5½
MICRODOL-X	16	13	12	10	9
HC-110 (Dil A)	4	<b>3</b> <sup>3</sup> /4	<b>3</b> <sup>1</sup> /4	3	<b>2</b> <sup>3</sup> /4

**Note:** Development times shorter than 5 minutes may produce unsatisfactory uniformity.

#### **Processing Long Rolls**

Use *only* KODAK HC-110 Developer (Dilution B) to process long rolls on spiral reels.

	Development Time in Minutes				
KODAK Developer	65°F (18°C)	68°F (20°C)	70°F (21°C)	72°F (22°C)	75°F (24°C)
HC-110 (Dil B)	8	7	6 <sup>1</sup> ⁄2	6	5 <sup>1</sup> ⁄4

# Final Steps in Processing—65 to 75°F (18 to 24°C)

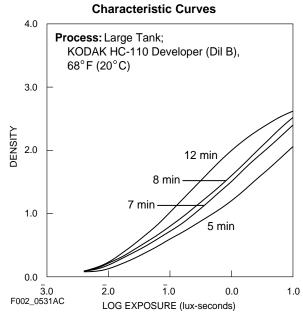
Step / Solution	Time (min:sec)
Rinse—with agitation:	
KODAK Indicator Stop Bath	0:30
Fix—with frequent agitation:	
KODAK Fixer	5:00 to 10:00
KODAK Rapid Fixer	2:00 to 4:00
Wash:	
Running water —OR—	20:00 to 30:00
Rinse with water	0:30
KODAK Hypo Clearing Agent	1:00 to 2:00
Running water	5:00
Final rinse:	
KODAK PHOTO-FLO Solution	0:30
Dry-in a dust-free environment	

#### **IMAGE-STRUCTURE CHARACTERISTICS**

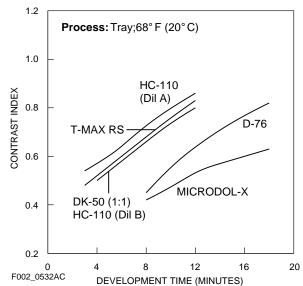
The data in this section is based on development at 68°F (20°C) in KODAK Developer HC-110 Developer (Dilution B) for 6 minutes in a large tank.

#### Diffuse rms Granularity\* 12 Extremely Fine

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



**Contrast-Index Curves** 



**Note:** 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 dealers who sell Kodak products, or you can order them directly from Kodak through the order form in KODAK Publication No. L-1, *KODAK Index to Photographic Information*. To obtain a copy of L-1, send your request with \$1 to Eastman Kodak Company, Department 412-L, Rochester, New York 14650-0532.

E-30	Storage and Care of KODAK Photographic Materials—Before and After Processing
J-24	KODAK HC-110 Developer
E103BF	KODAK PROFESSSIONAL Black-and-White Films (Matrix)
E103CF	Chemicals for KODAK PROFESSIONAL Black- and-White FIlms (Matrix)
J-78	KODAK Developer D-76
J-86	KODAK T-MAX Developers
J-107	KODAK XTOL Developer for Small Tank and Tray Processing

K-4 How Safe Is Your Safelight?

#### Kodak Information Center's Faxback System

#### -Available 24 hours a day, 7 days a week-

Many technical support publications for Kodak products can be sent to your **fax** machine from the Kodak Information Center. Call:

#### .U.S.A.: 1-800-242-2424, Ext. 33 Canada: 1-800-295-5531

If you have questions about Kodak 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)

Or contact Kodak on-line at: http://www.kodak.com/go/professional/

**Note:** The Kodak materials described in this publication for use with KODAK VERICHROME Pan 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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