EASTMAN Fine Grain Duplicating Panchromatic Negative Film 2234, 3234, 5234, 7234

EASTMAN Fine Grain Duplicating Panchromatic Negative Film 5234/7234 and EASTMAN Fine Grain Duplicating Panchromatic Negative Film 2234/3234, ESTAR Base, are characterized by very high sharpness. They have panchromatic sensitivity. These low-speed, black-and-white films are designed for making duplicate negatives from master positives, or internegatives from reversal originals. When used with EASTMAN Fine Grain Duplicating Positive Film 5366/7366, they produce negatives nearly equal to the original negative in tone rendering and printing detail.

BASE

5234/7234 Film has a gray acetate safety base. The back side of the base contains an anti-static layer with a carnauba wax lubricant.

2234/3234 Film has a gray ESTAR (polyester) base. The backside of the base contains a process-surviving anti-static layer.

DARKROOM RECOMMENDATIONS

Use a KODAK No. 3 Safelight Filter / dark green, with a 15-watt bulb, no closer to the film than 1.2 metres (4 feet).

STORAGE

Store unexposed film at 13°C (55°F) or lower. For extended storage, store at -18°C (0°F) or lower. Process exposed film promptly. Store processed film according to the recommendations in ANSI/PIMA IT9.11-1998: for medium-term storage (minimum of ten years), store at 25°C (77°F) or lower at a relative humidity of 20 to 50 percent; for extended-term storage (for preservation of material having permanent value), store at 21°C (70°F) or lower at a relative humidity of 20 to 30 percent. For active use, store at 25°C (77°F) or lower, at a relative humidity of 50 +/- 5 percent. This relates to optimized film handling rather than preservation; static, dust-attraction and curl-related problems are generally minimized at the higher relative humidity. After usage, the film should be returned to the appropriate medium- or long-term storage conditions as soon as possible.

For more information about medium- and long-term storage, see ANSI/PIMA IT9.11-1998, SMPTE RP131-1998, and KODAK Publications No. H-1, *KODAK Motion Picture Film*, and No. H-23, *The Book of Film Care*.

PROCESSING

The following process recommendations should be used as starting points for most conventional continuous-immersion processors with solutions prepared according to the formulas in KODAK Publication No.H-24.15, *Manual for Processing KODAK Motion Picture Films, Module 15*. The processing times may require modification for a particular machine.

Note: Observe precautionary information on product labels and on the Material Safety Data Sheets.

Processing Step	Temperature	Time	Replenishment Rate (mL per 100 ft)	
			35 mm	16 mm
KODAK Developer D-96[1]	70 +-1/2 F (21 +-0.3 C)	-[2]	1250 (D-96R)	625 (D-96R)
Stop Rinse[3]	70 +-2 F (21 +-1 C)	50 sec	12,000	6000
KODAK Fixing Bath F-5[1]	70 +-2 F (21 +-1 C)	6 min	850	425
Wash (counter-current)	70 +-2 F (21 +-1 C)	10 min	12,000	6000
Dry	95 F (35 C)	-[4]		

[1] Agitation in the developer and fixing bath should be by recirculation through submerged spray jets that impinge on the film strands.
[2] Develop to recommended control gamma.
[3] Countercurrent flow of fixer-laden water overflow from the wash tank, pH about 6.
[4] Many factors affect the drying: air temperature, relative humidity (RH); volume, rate and distribution of the air flow; final squeegeeing, etc.

In a conventional convection-type drying cabinet with air at about 95°F (35°C) and 40 to 50 percent RH, drying will take 15 to 20 minutes. With an impingement-type drying cabinet, however, with a higher temperature and lower RH, drying time is greatly reduced. With either type of dryer, the film should be dry without tackiness 1/2 to 2/3 of the way through. Upon cooling to room temperature after leaving the dryer, the film should be in equilibrium with the room air at approximately 50 percent RH.

IDENTIFICATION

After processing, the product code numbers 2234, 3234, 5234, or 7234; emulsion and roll identification; and KEYKODE number (KD) are visible along the length of the film.

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IMAGE STRUCTURE

MTF

The modulation-transfer curves, the diffuse rms granularity, and the resolving-power data were generated from samples of 5234 Film exposed with tungsten light and processed as recommended in Process D-96 at 70°F (21°C) to the recommended control gamma. For more information on image-structure characteristics, see KODAK Publication No. H-1, *KODAK Motion Picture Film*.

rms Granularity

Refer to curve.

Read with a microdensitometer using a 48-micrometer aperture.

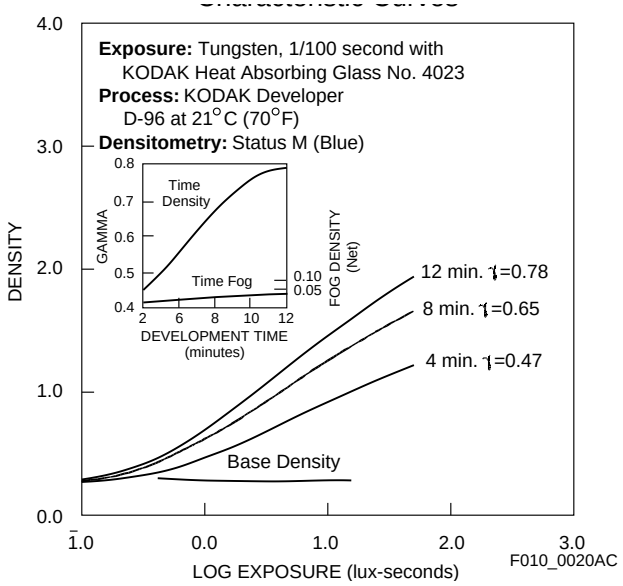
The "perception" of the graininess of any film is highly dependent on scene content, complexity, color, and density. Other factors, such as film age, processing, exposure conditions, and telecine transfer may also have significant effects.

AVAILABLE ROLL LENGTHS

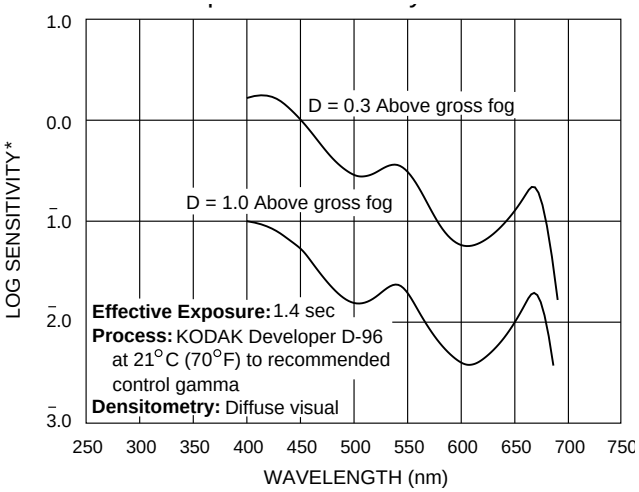
For information on film roll lengths, check *KODAK Motion Picture Film Price Catalog* or see a Kodak sales representative in your country.

CURVES

Characteristic Curves



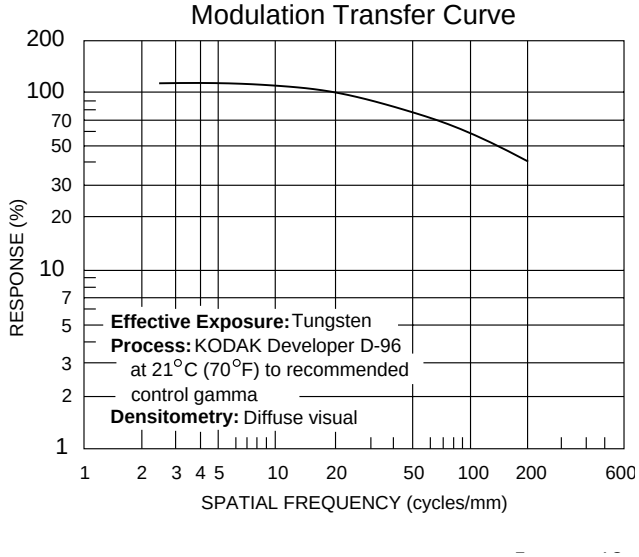
Spectral Sensitivity Curves



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

F010_0021AC

Modulation Transfer Curve



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

Outside the United States and Canada, please contact your Kodak representative.

You can also visit our web site at **www.kodak.com/go/motion** for further information. You may want to bookmark our location so you can find us easily the next time.

Films	*Cinematographer's Field Guide* KODAK Publication No. H-2
Image Structure	*KODAK Motion Picture Film* KODAK Publication No. H-1
Specification Numbers	*Cinematographer's Field Guide* KODAK Publication No. H-2
Storage	*KODAK Motion Picture Film* KODAK Publication No. H-1 *The Book of Film Care* KODAK Publication No. H-23
LAD	*LAD—Laboratory Aim Density* KODAK Publication No. H-61
Transfer	*KODAK Telecine Analysis Film User's Guide* KODAK Publication No. H-822 *KODAK Telecine Exposure Calibration Film User's Guide* KODAK Publication No. H-807

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Kodak Locations

FOR DIRECT ORDERING IN THE UNITED STATES AND CANADA: **1-800-621-FILM**

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