

EASTMAN EXR 200T Film / 5293, 7293



EASTMAN EXR 200T Film / 5293 (35 mm), 7293 (16 mm) is a medium- to high-speed tungsten-balanced color negative camera film with microfine grain and very high sharpness. It features wide exposure latitude and accurate tone reproduction. The emulsion contains a colored-coupler mask for good color reproduction in release prints.

BASE

EASTMAN EXR 200T Film / 5293, 7293 has a clear acetate safety base with rem-jet backing.

DARKROOM RECOMMENDATIONS

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

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 10°C (50°F) or lower at a relative humidity of 20 to 30 percent; for extended-term storage (for preservation of material having permanent value), store at 2°C (35°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 RP131-2002, and KODAK Publications No. H-1, *KODAK Motion Picture Film* available online at <http://www.kodak.com/US/en/motion/support/h1>, and No. H-23, *The Book of Film Care*.

EXPOSURE INDEXES

Tungsten (3200K)—200 Daylight¹—125

Use these indexes with incident- or reflected-light exposure meters and cameras marked for ISO or ASA speeds or exposure indexes. These indexes apply for meter readings of average subjects made from the camera position or for readings made from a gray card of 18-percent reflectance held close to and in front of the subject. For unusually light- or dark-colored subjects, decrease or increase the exposure indicated by the meter accordingly.

COLOR BALANCE

These films are balanced for exposure with tungsten illumination (3200K). You can also expose them with tungsten lamps that have slightly higher or lower color temperatures (+/- 150K) without correction filters, since final color balancing can be done in printing. For other light sources, use the correction filters in the table below.

Light Source	KODAK Filters on Camera ¹	Exposure Index
Tungsten (3000 K)	WRATTEN Gelatin No. 82B	125
Tungsten (3200 K)	None	200
Tungsten photoflood(3400 K)	None	200
Daylight (5500 K)	WRATTEN Gelatin No. 85	125
Yellow-Flame Arcs	Color Compensating 20Y	125
White-Flame Arcs	WRATTEN Gelatin No. 85B	80
OPTIMA 32	None	200
VITALITE	WRATTEN Gelatin No. 85	125
Fluorescent, Cool White ²	Color Compensating 40R	64
Fluorescent, Deluxe Cool White ²	WRATTEN Gelatin No. 85C	125
Metal Halide	WRATTEN Gelatin No. 85	125

¹ These are approximate corrections only. Make final corrections during printing.

² These are starting-point recommendations for trial exposures. If the kind of lamp is unknown, a KODAK Color Compensating Filter 40R can be used with an exposure index (EI) of 100.

Note: Consult the manufacturer of high-intensity ultraviolet lamps for safety information on ultraviolet radiation and ozone generation.

1. With a KODAK WRATTEN Gelatin Filter No. 85

EXPOSURE TABLE - TUNGSTEN LIGHT

At 24 frames per second (fps), 170-degree shutter opening:

Use this table for average subjects that contain a combination of light, medium, and dark colors. When a subject includes only pastels, use at least 1/2 stop less exposure; dark colors require 1/2 stop more exposure.

Lighting Contrast -

The recommended ratio of key-light-plus-fill-light to fill light is 2:1 or 3:1. However, you may use 4:1 or greater when a particular look is desired.

RECIPROCITY CHARACTERISTICS

You do not need to make any filter corrections or exposure adjustments for exposure times from 1/1000 to 1 second.

PROCESSING

Process in Process ECN-2.

Most commercial motion-picture laboratories provide a processing service for these films. See KODAK Publication No. H-24.07, *Processing KODAK Color Negative Motion Picture Films, Module 7* available online at <http://www.kodak.com/US/en/motion/support/processing/h24m7.shtml>, for more information on the solution formulas and the procedure for machine processing these films. There are also pre-packaged kits available for preparing the processing solutions. For more information on the EASTMAN ECN-2 Kit Chemicals, check Kodak's Motion Picture Films for Professional Use price catalog.

IDENTIFICATION

After processing, the product code numbers 5293 (35 mm) or 7293 (16 mm), emulsion and roll number identification,

KEYCODE numbers, and internal pc(tirmatyb4.7.5.8(c(tirmatyb4.7Toor pr(KL) a(posure))TJ T* 0.0005 Tc 0.0025 visibnd ro)-4.6(m)[(a4.6(

IMAGE STRUCTURE

The modulation-transfer and diffuse rms granularity curves were generated from samples of 5293 Film exposed with tungsten light and processed as recommended in Process ECN-2 chemicals. For more information on image-structure characteristics, see KODAK Publication No. H-1, *KODAK Motion Picture Film* available online at <http://www.kodak.com/US/en/motion/support/h1>.

MTF

The "perceived" sharpness of any film depends on various components of the motion picture production system. The camera and projector lenses and film printers, among other factors, all play a role. But the specific sharpness of a film can be measured and charted in the Modulation Transfer Curve.

rms Granularity:

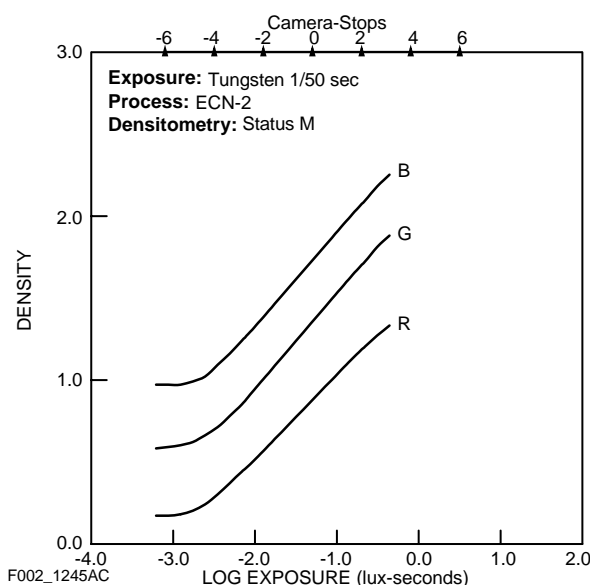
Refer to curve.

Read with a microdensitometer, (red, green, blue) 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.

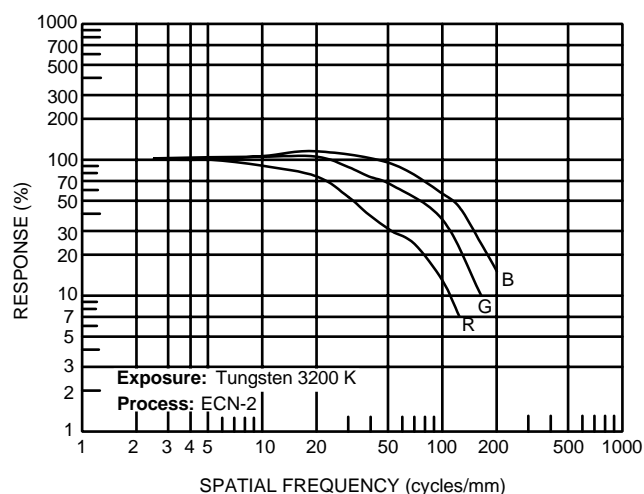
CURVES

Characteristic Curves



The curves describe this film's response to red, green, and blue light. Sensitometric curves determine the change in density on the film for a given change in log exposure.⁴

Modulation Transfer Curves

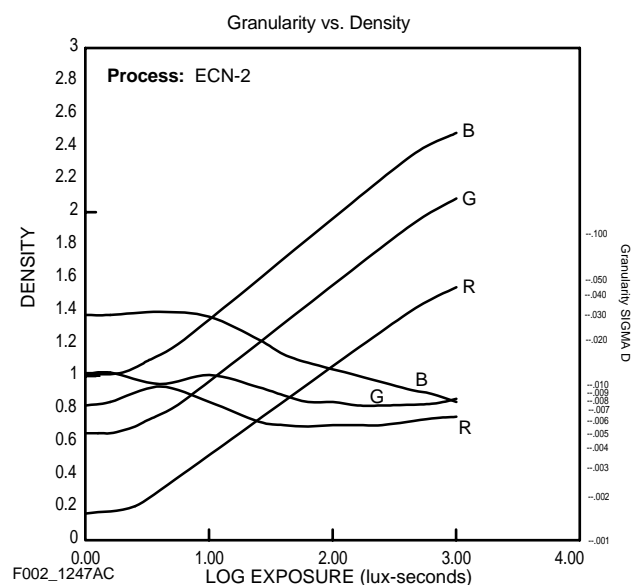


F002_1246AC

This graph shows a measure of the visual sharpness of this film. The x-axis, "Spatial Frequency," refers to the number of sine waves per millimeter that can be resolved. The y-axis, "Response," corresponds to film sharpness. The longer and flatter the line, the more sine waves per millimeter that can be resolved with a high degree of sharpness—and, the sharper the film.

4. Sensitometric and Diffuse RMS Granularity curves are produced on different equipment. A slight variation in curve shape may be noticed.

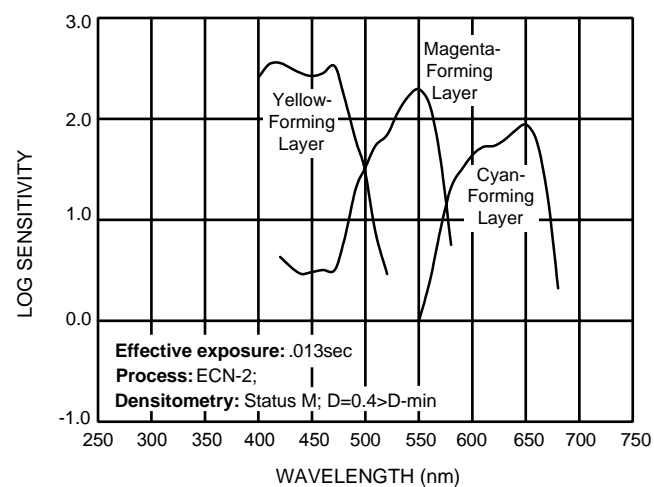
Diffuse RMS Granularity Curves



To find the rms Granularity value for a given density, find the density on the left vertical scale and follow horizontally to the characteristic curve and then go vertically (up or down) to the granularity curve. At that point, follow horizontally to the Granularity Sigma D scale on the right. Read the number and multiply by 1000 for the rms value.

Note: This curve represents granularity based on modified measuring techniques.⁴

Spectral Sensitivity Curves

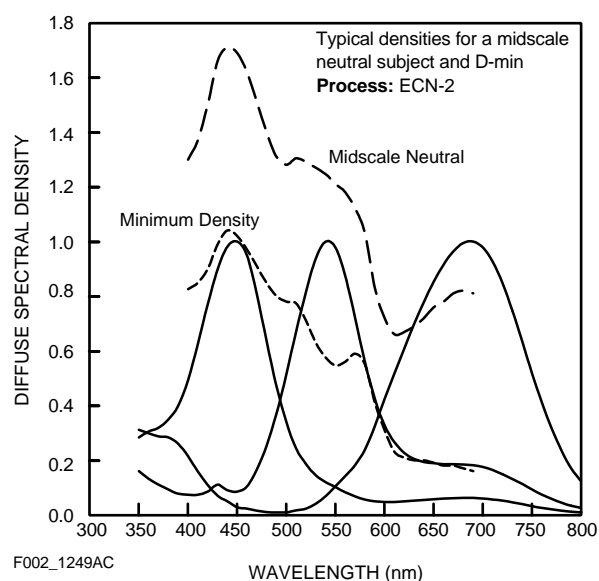


*Sensitivity = reciprocal of exposure (erg/cm²) required to produce specified density

F002_1248AC

These curves depict the sensitivity of this film to the spectrum of light. They are useful for determining, modifying, and optimizing exposure for blue- and green-screen special-effects work.

Spectral Dye Density Curves



These curves depict the spectral absorptions of the dyes formed when the film is processed. They are useful for adjusting or optimizing any device that scans or prints the film.

Note: Cyan, Magenta, and Yellow Dye Curves are peak-normalized.

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.

STANDARD PRODUCTS AVAILABLE

Format and Specification No.	Length Meters (Feet)	Core	Description	Perforation/Pitch Metric (Imperial)
35 mm EXT718	122 (400)	U		BH-4740 (BH-1866)
35 mm EXT718	305 (1000)	U		BH-4740 (BH-1866)
35 mm EXT239	610 (2000)	Y		BH-4740 (BH-1866)
16 mm EXT449	30 (100)	R-90 100-ft. spool		2R-7605 (2R-2994)
16 mm EXT451	122 (400)	T		2R-7605 (2R-2994)
16 mm EXT455	30 (100)	R-90 100-ft. spool	Winding B	1R-7605 (1R-2994)
16 mm EXT457	122 (400)	T	Winding B	1R-7605 (1R-2994)

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

EASTMAN EXR 200T Film / 5293, 7293

Kodak Locations

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