

KODAK VISION2 HD Color Scan Film 7299



KODAK VISION2 HD Color Scan Film 7299 is a high-speed color negative motion picture film designed for use with the KODAK VISION2 HD System. When transferred to video via telecine and used in conjunction with image processing available in the KODAK VISION2 HD Digital Processor, 7299 Film can be automatically manipulated to reproduce the tone and color characteristics of other Kodak color negative films. 7299 Film, itself, has been optimized specifically for scanning applications to provide superior light capture and image rendition for transfer to digital data.

When used correctly in the KODAK VISION2 HD System, 7299 Film can be properly exposed at an exposure index of either 500 for high-speed applications or 320 for lower-speed applications. It can also be exposed properly in either daylight or tungsten shooting conditions without the use of corrective filters. Image processing used in the KODAK VISION2 HD Digital Processor will automatically compensate for these different exposure conditions to produce properly balanced video images.

BASE

KODAK VISION2 HD Color Scan Film 7299 has an 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

High-Speed Application: Tungsten (3200 K) - 500

Lower-Speed Application: Tungsten (3200 K) - 320

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.

KODAK VISION2 HD Color Scan Film 7299 has been designed for optimum performance at an exposure index of both 500 and 320. EI500 can be chosen in low-light situations where speed is required with no degradation in image quality, shadow detail, or black level. EI320 can be chosen if light is sufficient or if improved shadow rendition is desired. When properly used with the KODAK VISION2 HD Digital Processor, 7299 Film is also capable of being shot without correction in either tungsten or daylight sources. It should be noted, however, that the designed color balance of the film is 3200 K tungsten, and a KODAK WRATTEN Filter No. 85 can be used to balance daylight exposures on the camera if desired (though the exposure index must be adjusted by $\frac{2}{3}$ stops accordingly).

COLOR BALANCE

When correctly used in the KODAK VISION2 HD System with the KODAK VISION2 HD Digital Processor, this film can be properly exposed in either tungsten (3200 K) or daylight (5500 K) sources. Natively, however, the film is balanced for exposure with tungsten illumination (3200 K) and filtration can be used for other illuminant sources if desired. For tungsten shooting, you can also expose this film with lamps that have slightly higher or lower color temperatures (+/- 150 K) without correction filters, since final color balancing can be done in telecine transfer. For other light sources, use the correction filters in the table below. Separate tables are listed for shooting 7299 Film at a nominal speed of EI500 and EI320.

KODAK VISION2 HD Color Scan Film at nominal speed of EI500

Light Source	KODAK Filters on Camera ¹	Exposure Index
Tungsten (3000 K)	WRATTEN Gelatin No. 82B	320
Tungsten (3200 K)	None	500
Tungsten photoflood (3400 K)	None	500
Daylight (5500 K) but using digital correction in KODAK VISION2 HD System	None	500
Daylight (5500 K) without digital correction in KODAK VISION2 HD System	WRATTEN Gelatin No. 85	320
White-Flame Arcs	WRATTEN Gelatin No. 85B	200
Yellow-Flame Arcs	Color Compensating 20Y	320
OPTIMA 32	None	500
VITALITE	WRATTEN Gelatin No. 85	320
Fluorescent, Cool White ²	WRATTEN Gelatin No. 85 + 10M	200
Fluorescent, Deluxe Cool White ²	WRATTEN Gelatin No. 85C + 10R	320
Metal Halide	WRATTEN Gelatin No. 85	320

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 CC 40R can be used with an exposure index (EI) of 250.

KODAK VISION2 HD Color Scan Film at nominal speed of EI320

Light Source	KODAK Filters on Camera ¹	Exposure Index
Tungsten (3000 K)	WRATTEN Gelatin No. 82B	200
Tungsten (3200 K)	None	320
Tungsten photoflood (3400 K)	None	320
Daylight (5500 K) but using digital correction in KODAK VISION2 HD System	None	320
Daylight (5500 K) without digital correction in KODAK VISION2 HD System	WRATTEN Gelatin No. 85	200
White-Flame Arcs	WRATTEN Gelatin No. 85B	125
Yellow-Flame Arcs	Color Compensating 20Y	200
OPTIMA 32	None	320
VITALITE	WRATTEN Gelatin No. 85	200
Fluorescent, Cool White ²	WRATTEN Gelatin No. 85 + 10M	125
Fluorescent, Deluxe Cool White ²	WRATTEN Gelatin No. 85C + 10R	200
Metal Halide	WRATTEN Gelatin No. 85	200

¹ These are approximate corrections only. Make final corrections with telecine color correction.

² These are starting-point recommendations for trial exposures. If the kind of lamp is unknown, a KODAK Color Compensating Filter CC 40R can be used with an exposure index (EI) of 160.

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

EXPOSURE TABLE - TUNGSTEN LIGHT

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

KODAK VISION2 HD Color Scan Film at nominal speed of EI500

Lens Aperture	f/1.4	f/2	f/2.8	f/4	f/5.6	f/8	f/11	f/16
Footcandles Required	5	10	20	40	80	160	320	640

KODAK VISION2 HD Color Scan Film at nominal speed of EI320

Lens Aperture	f/1.4	f/2	f/2.8	f/4	f/5.6	f/8	f/11	f/16
Footcandles Required	8	16	32	64	125	250	500	1000

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 ½ stop less exposure; dark colors require ½ stop more exposure.

RECIPROCITY CHARACTERISTICS

You do not need to make any filter corrections or exposure adjustments for exposure times from 1/1000 to 1 second. If your exposure is in the 10 second range, it is recommended that you increase your exposure by 1 stop and use a KODAK Color Compensating Filter CC 10R.

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/h247/h2407.pdf>, 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 7299 (16 mm), emulsion, roll, and strip number identification, KEYCODE Numbers, and manufacturer/film identification code (EI) are visible along the length of the film.

FILM-TO-VIDEO TRANSFERS

KODAK VISION2 HD Color Scan Film 7299 is intended exclusively for telecine transfer using the KODAK VISION2 HD Digital Processor. With the telecine set to the nominal starting conditions as recommended for the KODAK VISION2 HD System, color and tone characteristics can be automatically set to match the baseline technical starting point of any other Kodak color negative film. Once set to this starting condition, normal color correction can be applied as with any other typical motion picture negative film.

For more information on the KODAK VISION2 HD System, please refer to the *KODAK VISION2 HD Digital Processor User Guide*, Part No. 4F2310.

IMAGE STRUCTURE

The modulation-transfer and diffuse rms granularity curves were generated from samples of 7299 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:

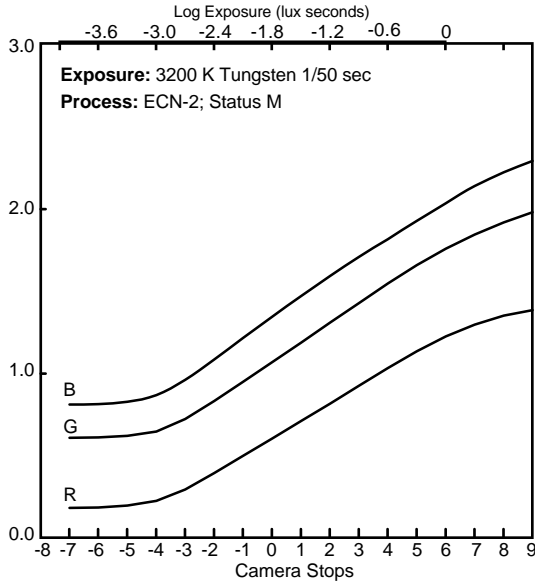
Refer to curve.

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.

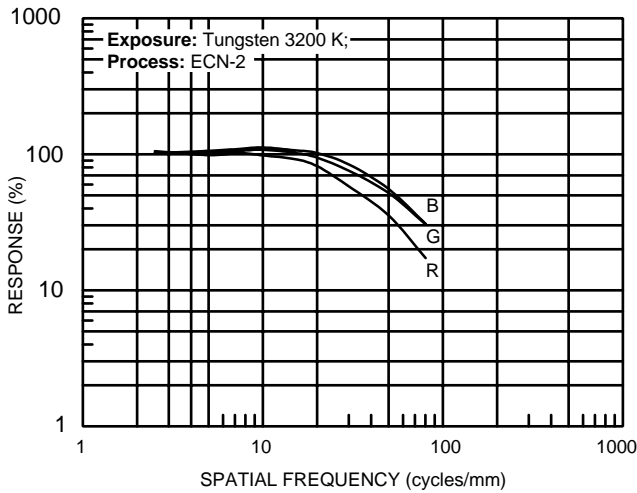
CURVES

Sensitometric Curves



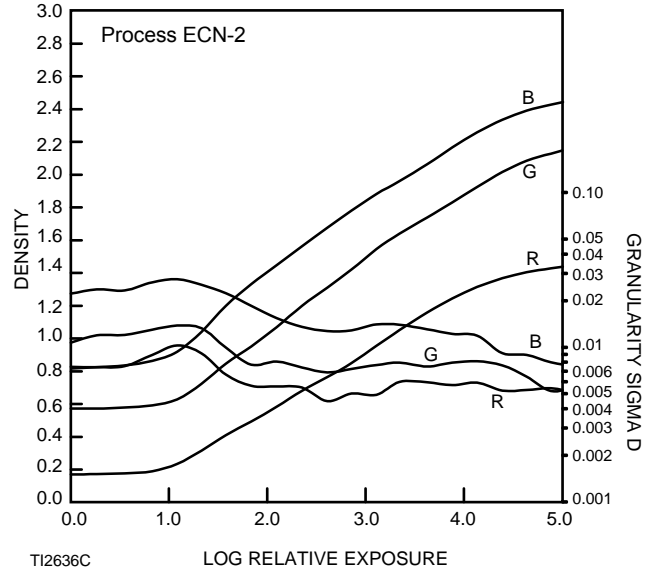
The curves describe this film's response to red, green, and blue light. Sensitometric curves determine the change in density on the film for a given change in log exposure.¹

Modulation-Transfer Function Curves



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.

Diffuse rms Granularity Curves

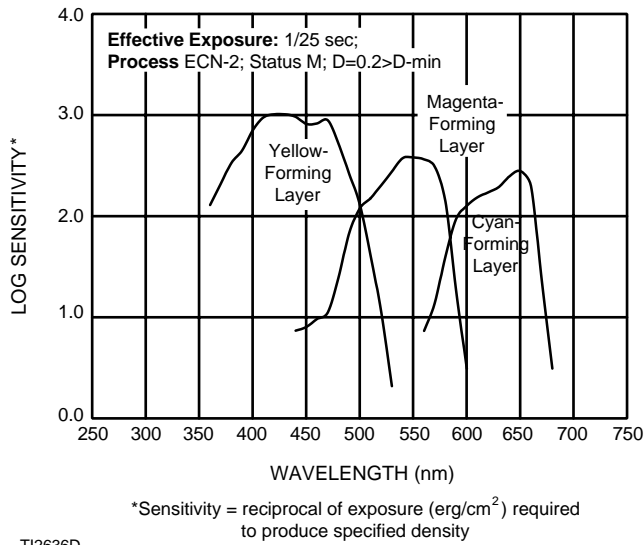


To find the rms Granularity value for a given density, find the density on the left vertical scale and follow horizontally to the characteristic curve and then go vertically (up or down) to the granularity curve. At that point, follow horizontally to the Granularity Sigma D scale on the right. Read the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

Note: This curve represents granularity based on modified measuring techniques.¹

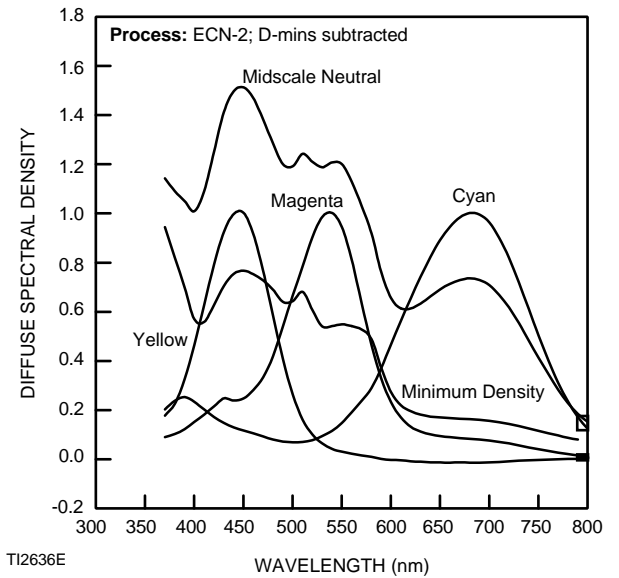
1.NOTE: Sensitometric and Diffuse RMS Granularity curves are produced on different equipment. A slight variation in curve shape may be noticed.

Spectral Sensitivity Curves



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.

SIZES AVAILABLE

Standard Products Available

Identification No.	Length in Metres (Feet)	Core	Description	Perforations
16 mm SP457	122 (400)	T	Winding B	1R-7605 (1R-2994)
16 mm SP458	244 (800)	Z	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

KODAK VISION2 HD Color Scan Film 7299

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