

KODAK VISION2 50D Color Negative Film 5201 / 7201



Get true color, fine detail, and incredibly sharp images—even in high contrast daylight.

KODAK VISION2 50D Color Negative Film 5201 / 7201 is a low-speed daylight film with an expansive dynamic range that delivers more detail in shadow areas—even in high contrast situations. Advances in grain and sharpness—found in all VISION2 Films—make it ideal for recorder output and provide an ultra-clean, detailed image in any lighting condition.

KODAK VISION2 50D is the latest addition to the VISION2 Film family—a lineup of films created specifically for both film and digital postproduction. All VISION2 Films offer excellent tone scale and flesh-to-neutral reproduction while maintaining neutrality through the full range of exposures.

BASE

KODAK VISION2 50D Film 5201 / 7201 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

Daylight (5500 K)—50 Tungsten (3200 K)—12 (with a KODAK WRATTEN Gelatin Filter No. 80A)

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 daylight illumination (5500 K). For other light sources, use the correction filters in the table below.

Light Source	KODAK Filters on Camera ¹	Exposure Index
Daylight (5500 K)	None	50
Tungsten (3000 K)	WRATTEN Gelatin No. 80A	12
Tungsten (3200 K)	WRATTEN Gelatin No. 80A	12
Tungsten photoflood (3400 K)	WRATTEN Gelatin No. 80A	12
White-Flame Arcs	Color Compensating 20C + 40Y	32
Yellow-Flame Arcs	Color Compensating 40C	12
OPTIMA 32	WRATTEN Gelatin No. 80A	12
VITALITE	None	50
Fluorescent, Cool White ²	Color Compensating 10M + 05B	32
Fluorescent, Deluxe Cool White ²	Color Compensating 10B + 20C	32
Metal Halide	None	50

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 20M can be used with an exposure index (EI) of 32.

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

EXPOSURE TABLE - DAYLIGHT ILLUMINATION

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

Lens Aperture	f/1.4	f/2	f/2.8	f/4	f/5.6	f/8	f/11	f/16
Footcandles Required	50	100	200	400	800	1600	3200	6400

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. For exposures in the 10 second range, it is recommended that you increase exposure by 1/3 of a stop and use a KODAK Color Compensating Filter CC 10R.

PROCESSING

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/plugins/acrobat/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 KODAK ECN-2 Kit Chemicals, check Kodak's Motion Picture Films price catalog.

IDENTIFICATION

After processing, the product code numbers 5201 (35 mm and 65 mm) or 7201 (16 mm), emulsion and roll number identification, KEYCODE numbers, and internal product symbol (EK) are visible along the length of the film.

LABORATORY AIM DENSITIES (LAD)

To maintain optimum quality and consistency in the final prints, the laboratory must carefully control the color timing, printing, and duplicating procedures. To aid in color timing and curve placement, negative originals should be timed relative to Laboratory Aim Density (LAD) Control Film supplied by Eastman Kodak Company.¹ The LAD Control Film provides both objective sensitometric control and subjective verification of the duplicating procedures use by the laboratory.

In the LAD Control Method,² the electronic color analyzer used for color timing is set-up with the LAD Control Film to produce a gray video display of the LAD patch, corresponding to 1.0 neutral density (gray) on the print. The negative printing original is then scene-to-scene timed. There are specific LAD values for each type of print or duplicating film that the original can be printed on. For print films, the LAD patch is printed to a neutral gray of 1.0 visual density. For duplicating films, the specified aims are at the center of the usable straight-line portion of the sensitometric curve of the film.

1. Direct any inquiries to one of the regional sales offices.

2. Use of the LAD Control Method is described in the paper, "A Simplified Motion-Picture Laboratory Control Method for Improved Color Duplication," by John P. Pytlak and Alfred W. Fleischer in the October 1976 SMPTE Journal.

FILM-TO-VIDEO TRANSFERS

When you transfer the film directly to video, you can set up the telecine using the negative Telecine Analysis Film (TAF) supplied by Eastman Kodak Company. The TAF consists of a neutral density scale and an eight-bar color test pattern with a LAD gray surround.

The TAF gray scale provides the telecine operator (colorist) with an effective way to adjust subcarrier balance and to center the telecine controls before timing and transferring a film. The TAF color bars provide the utility of electronic color bars, even though they do not precisely match the electronically generated color bars. Using the TAF will help obtain optimum quality and consistency in the film-to-video transfer. For more information regarding TAF, see KODAK Publication No. H-9, *TAF User's Guide*.

IMAGE STRUCTURE

The modulation-transfer curves, and the diffuse rms granularity data were generated from samples of 5201 Film exposed with daylight illumination 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*.

MTF:

Refer to curve.

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.

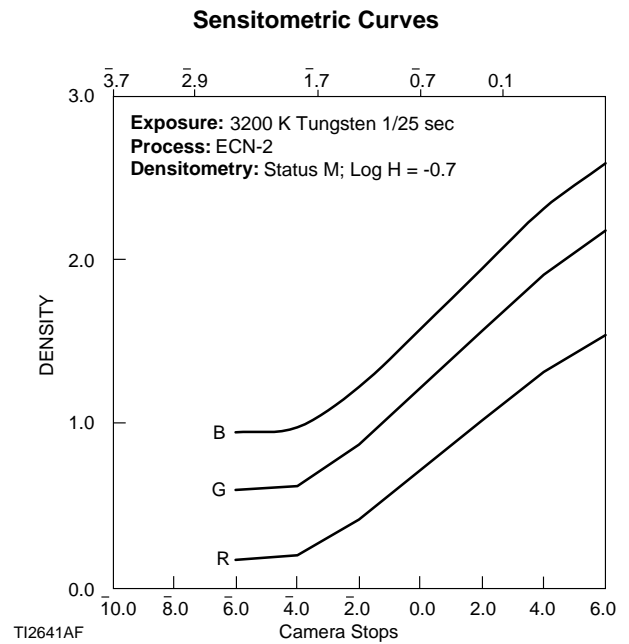
rms Granularity:

Refer to curve.

Read with a microdensitometer, (red, green, blue) using a 48-micrometer aperture.

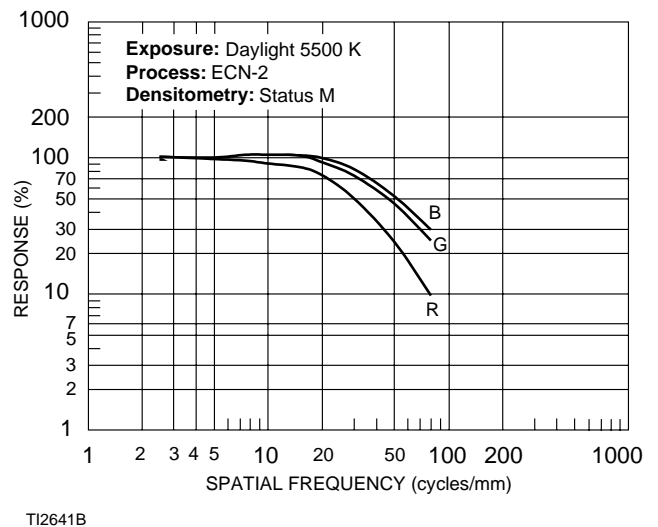
The "perception" of the graininess of any film is highly dependent on scene content, complexity, color, and density. Other factors, such as film age, processing, exposure conditions, and telecine transfer may also have significant effects.

CURVES



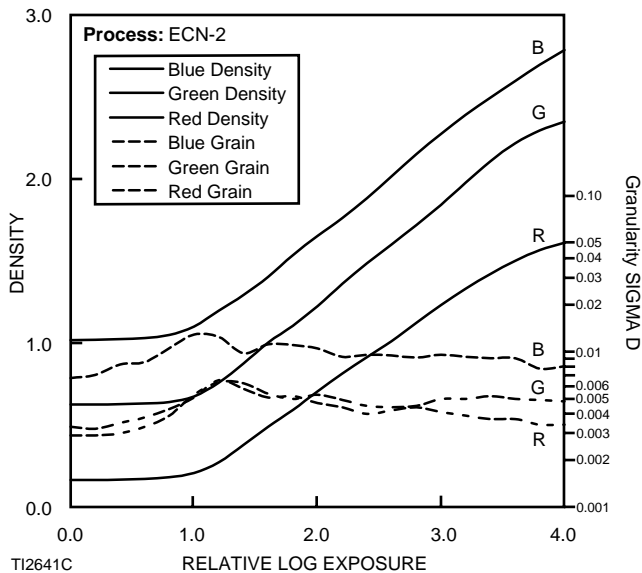
The curves describe this film's response to red, green, and blue light. Sensitometric curves determine the change in density on the film for a given change in log exposure.³

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.

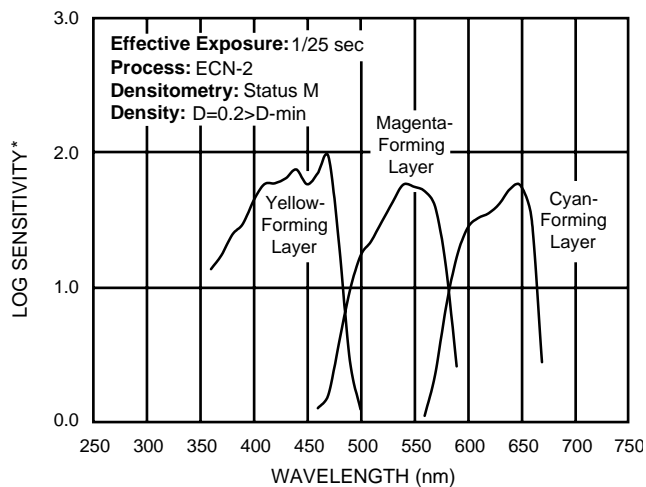
Diffuse rms Granularity Curves



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.³

Spectral Sensitivity Curves



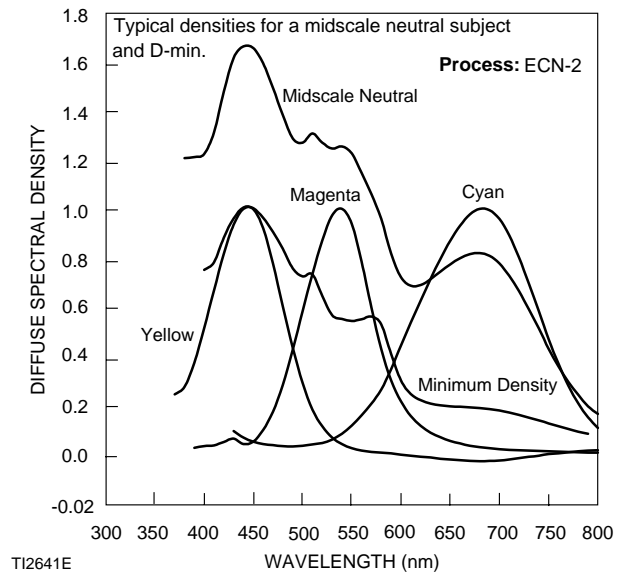
*Sensitivity = reciprocal of exposure (erg/cm²) required to produce specified density

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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.

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

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

Note: Availability may vary by location.

Products are also available as Finish-to-Order in various other standard roll lengths and formats. Sold only in specific minimum order quantities or multiples of the minimum order quantities; non-returnable; US and Canada delivery time is 3 weeks from receipt of purchase order. Other restrictions may apply. Contact your local Kodak representative for additional information.

Format and Specification No.	Length Meters (Feet)	Core	Description	Perforation/Pitch Metric (Imperial)
35 mm SP718	61 (200)	U		BH-4740 (BH-1866)
35 mm SP718	122 (400)	U		BH-4740 (BH-1866)
35 mm SP718	305 (1000)	U		BH-4740 (BH-1866)
16 mm SP455	30 (100)	R-90 100-ft. spool	Winding B	1R-7605 (1R-2994)
16 mm SP445 *	61 (200)	A	Winding A	1R-7605 (1R-2994)
16 mm SP457	122 (400)	T	Winding B	1R-7605 (1R-2994)

*Spec 445 can only be used in the AATON A-MINIMA Camera.

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 50D Color Negative Film 5201 / 7201

Kodak Locations

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

HOLLYWOOD, CALIFORNIA

6700 Santa Monica Boulevard
Los Angeles, California
90038-1203
Orders: 1-800-621-FILM (3456)
Information: 323-464-6131

NEW YORK, NEW YORK

360 West 31st Street
New York, New York
10001-2727
Orders: 1-800-621-FILM (3456)
Information: 212-631-3400

LATIN AMERICA REGION

Entertainment Imaging
1900 NW 97th Avenue
Miami, Florida 33172
Phone: 305-378-0566
305-229-0422

TORONTO, ONTARIO

Kodak Canada Inc.
3500 Eglinton Avenue West
Toronto, Ontario
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Phone: 416-761-4922
Orders: 1-800-621-FILM (3456)
Fax Orders: 1-866-211-6311
Toll Free Fax: 1-866-211-6311

VERDUN, QUEBEC

Kodak Canada, Inc.
4 Place du Commerce, Suite 100
Ile des Soeurs
Verdun, Quebec
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Fax: 514-768-1563
Orders: 1-800-621-FILM (3456)

BURNABY, BRITISH COLUMBIA

Kodak Canada, Inc.
4185 Still Creek Drive
Suite C150
Burnaby, British Columbia
Canada V5C 6G9
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603-7957-2722

NEW ZEALAND

649-302-8665

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