

KODAK EKTACHROME 100D

COLOR REVERSAL FILM 5294 / 7294



TECHNICAL DATA / COLOR REVERSAL FILM

MARCH 2022 H-1-5294

KODAK EKTACHROME 100D Color Reversal Film 5294 / 7294 is a 100-speed, color reversal motion picture camera film intended for photography under daylight illumination (5500K). It offers a moderately enhanced color saturation performance while maintaining a neutral gray scale and accurate flesh reproduction. 5294 / 7294 Film has exceptional sharpness that is unsurpassed by any other 100-speed reversal film, and its grain performance is excellent. This film also offers very strong reciprocity uniformity and keeping stability.

5294 / 7294 Film offers outstanding results in outdoor and studio applications where moderate color saturation is desired. It is excellent for advertising, nature cinematography, documentaries, music videos, and is especially good for telecine transfers and television filming.

Base

KODAK EKTACHROME 100D Color Reversal Film 5294 / 7294 has an acetate safety base.

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 ISO 18911:2010, Imaging Materials - Processed Safety Photographic Films - Storage Practices.

	Short Term (less than 6 months)	Long Term (more than 6 months)
Unexposed film in original, sealed package	13 C (55 F) RH below 60%	-18 C (0 F) RH below 50%
Exposed film, unprocessed	-18 C (0 F) RH below 20%	Not recommended. Process film promptly.
Process film	21 C (70 F) RH 20 to 50%	2 C (36 F) RH 20 to 30%

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.

Warm-up Times

To prevent film telescoping, moisture condensation, and spotting, allow your film to warm to room temperature (21C/70F) before use:

Film Package	Recommended Warm-up Time (Hours)	
	8 C (15 F) Rise	39 C (70 F) Rise
8 mm	1	1 ½
16 mm	1	1 ½
35 mm	3	5

For more information about film storage and handling, see ANSI/PIMA ISO-18911, SMPTE RP131-2002, and KODAK Publication No. H-845, The Essential Reference Guide for Filmmakers, available online at www.kodak.com/go/referenceguide.

Darkroom Recommendations

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

Exposure

Exposure Indexes

Daylight (5500K) – 100

Tungsten (3200K) – 25 (with 80A filter)

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 (5500K). You can also expose them with tungsten lamps with the appropriate correction filters.

Light Source	KODAK Filters on Camera ¹	Exposure Index
Daylight (5500 K)	None	100
Metal Halide	None	100
H.M.I.	None	100
KINO FLO KF55	None	100
Tungsten (3000 K)	WRATTEN2 Optical No. 80A	25
Tungsten (3200 K)	WRATTEN2 Optical No. 80A	25
KINO FLO KF29	WRATTEN2 Optical No. 80A	25
KINO FLO KF32	WRATTEN2 Optical No. 80A	25
Fluorescent, Warm White	WRATTEN2 CC40B & CC05C	40
Fluorescent, Cool White	WRATTEN2 CC20M	80

¹These are approximate corrections only.

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.

EXPOSURE TABLE FOR TUNGSTEN LIGHT							
Lens Aperture	f/1.4	f/2	f/2.8	f/4	f/5.6	f/8	f/11
Footcandles Required	25	50	100	200	400	800	1600

Based on 24 frames per second (fps), 170-degree shutter opening. At 18 frames per second (fps), use 3/4 of the footcandles (fc) shown.

Reciprocity Characteristics

You do not need to make any filter corrections or exposure adjustments for exposure times from 1/10,000 to 1 second.

Processing

Process this film in E-6 Chemicals, cine machine only.

Note: KODAK EKTACHROME 100D Color Reversal Film 5294 / 7294 contains special sensitizing and filter dyes that improve color reproduction. Because these dyes are designed to rinse out of the film during processing, they will change the color of the first developer, the reversal bath, the final wash, and the final rinse. This solution discoloration is only cosmetic. It will not affect sensitometry or the quality of any Process E-6 film or control material. However, the solutions will cause splicing tape and processing equipment (rollers, racks, etc.) to have a pinkish color. The pink dye residue can easily be washed off processing equipment by following the normal maintenance procedures.

Duplication

Making Duplicates

To make color positive duplicates, scan the film images and output them KODAK VISION Color Print Film / 2383.

Identification

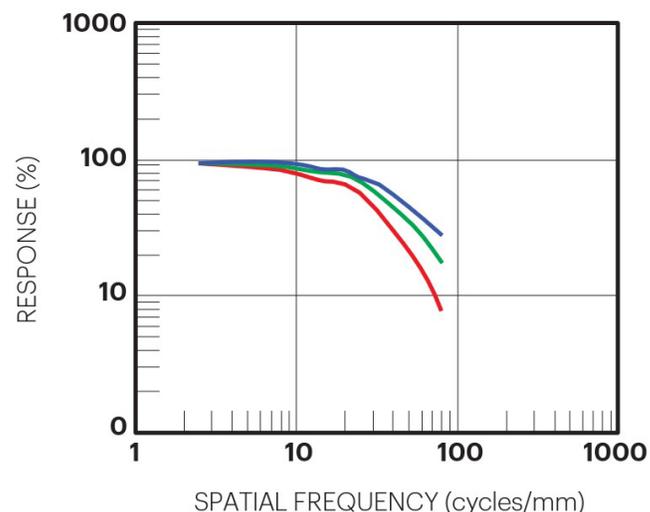
After processing, the product code numbers 5294 (35mm) or 7294 (16mm), emulsion and roll number information, KEYCODE numbers, and internal product symbol (EA) are visible along the length of the film, but when processed in a reversal process, the KEYCODE barcode will not read in barcode reading equipment. If the film is cross-processed in an ECN process, the KEYCODE barcodes should read properly.

Image Structure

For more information on image-structure characteristics, see KODAK Publication No. H-845, The Essential Reference Guide for Filmmakers available online at www.kodak.com/go/referenceguide.

Modulation Transfer Function

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.

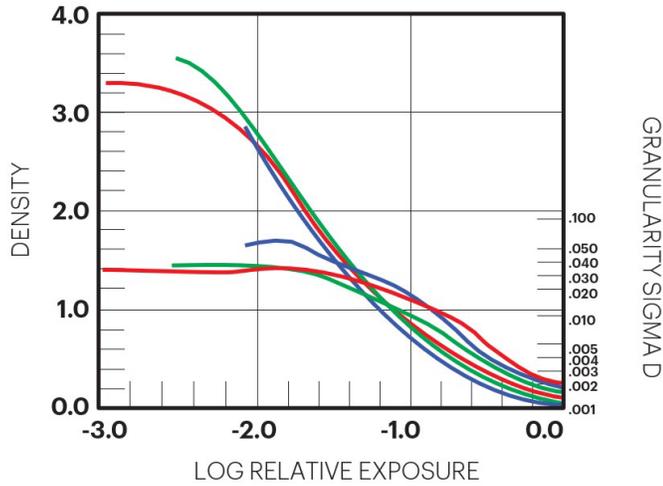


This graph shows a measure of the visual sharpness of this film. The x-axis, “Spatial Frequency,” refers to the number of sine waves per millimeter that can be resolved. The y-axis, “Response,” corresponds to film sharpness. The longer and flatter the line, the more sine waves per millimeter that can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

Note: These photographic modulation-transfer values were determined by using a method similar to the one described in ANSI Standard PH2.39-1977(R1992). The film was exposed with the specified illuminant to spatially varying sinusoidal test patterns having an aerial image modulation of a nominal 60 percent at the image plane, with processing as indicated. In most cases, the photographic modulation-transfer values are influenced by development-adjacency effects and are not equivalent to the true optical modulation-transfer curve of the emulsion layer in the photographic product.

rms Granularity

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.



Read with a microdensitometer, using a 48-micrometre aperture.

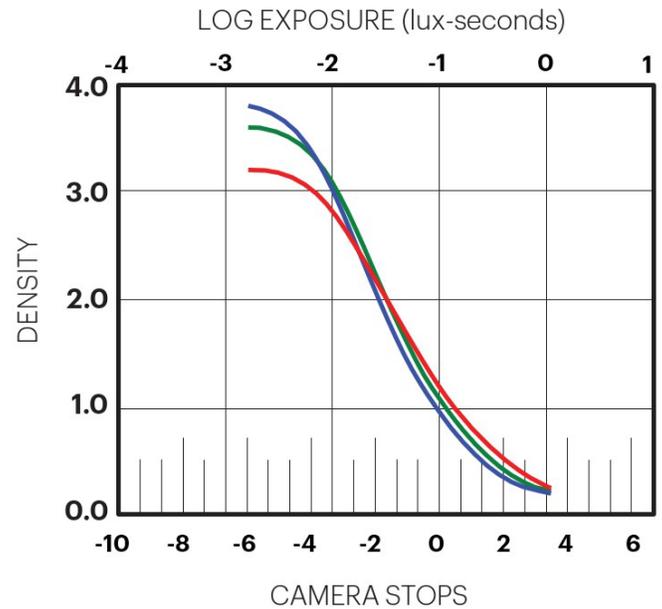
To find the rms Granularity value for a given density, find the density on the left vertical scale and follow horizontally to the characteristic curve and then go vertically (up or down) to the granularity curve. At that point, follow horizontally to the Granularity Sigma D scale on the right. Read the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

Note: This curve represents granularity based on modified measuring techniques. Sensitometric and Diffuse RMS Granularity curves are produced on different equipment. A slight variation in curve shape may be noticed.

The modulation-transfer curves, and the diffuse rms granularity data were generated from samples of 5294 / 7294 Film exposed with tungsten light filtered to 5500K and processed as recommended in Process E-6 chemicals.

Sensitometry

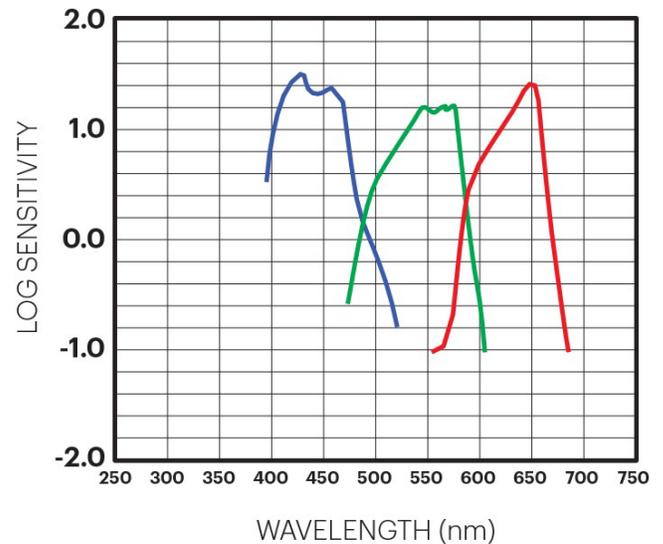
The curves describe this film's response to red, green, and blue light. Sensitometric curves determine the change in density on the film for a given change in log exposure.



"0" on the x-axis represents normal exposure of an 18-percent gray card in the red, green, and blue layers of this film. A white card is $2\frac{1}{3}$ stops higher than normal exposure. A 3-percent black card is $2\frac{1}{3}$ stops below normal exposure.

Spectral Sensitivity

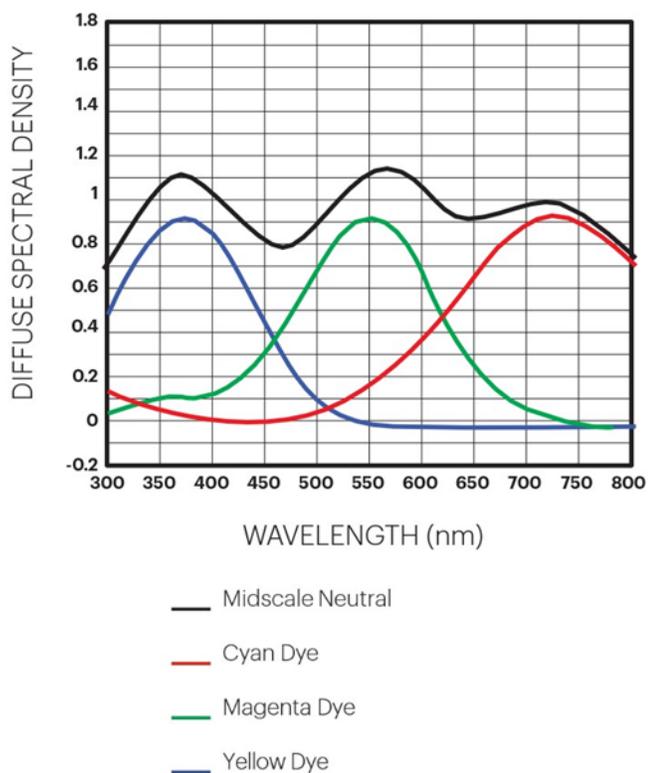
These curves depict the sensitivity of this film to the spectrum of light. They are useful for determining, modifying, and optimizing exposure for blue- and green-screen special-effects work.



- Sensitivity of the yellow dye forming layer
- Sensitivity of the magenta dye forming layer
- Sensitivity of the cyan dye forming layer

Spectral Dye-Density Curves

These curves depict the spectral absorption 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.

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.

Available Roll Lengths and Formats

See Kodak Motion Picture Products Catalog at www.kodak.com/go/mpcatalog

To order film in the United States and Canada, call 1- 800-356-3259, prompt 3.

Worldwide customers can find the nearest sales office at <http://www.kodak.com/go/salesoffices>

