KODAK ADVANTiX Films

Welcome to the innovative world of the Advanced Photo System and KODAK ADVANTiX Films!

At the heart of the Advanced Photo System, KODAK ADVANTiX Films are truly hybrid products. They use breakthrough photographic emulsion and coating technologies to deliver excellent image quality in the smaller film format.

At the same time, Kodak's magnetics technology enables coating the entire surface of the film with a transparent magnetic layer. This layer records digital information that links all Advanced Photo System components through information exchange (IX). IX permits communication between you, the camera, the film, and the photofinishing equipment in the lab that processes and prints your film.

ADVANTiX Films come in a unique elliptical film cassette called a KODAK Film Safe Cassette. A code number is assigned to each cassette and the film inside. The number enables automatic rematching of the cassette and film in photofinishing operations. The cassette ID number is recorded on each print and on the index print that accompanies the processed film. The negatives are returned in the original film cassette, so you can store them and order reprints and enlargements easily without ever removing the negatives.

Kodak offers three color negative films for the Advanced Photo System. These films share the following features:

Features	Benefits
• KODAK Film Safe Cassette	• Worry-free, drop-in loading • Automatic film threading and rewinding • Safe storage of negatives • Index print of all exposures
• Choice of picture formats on the same roll	• "Classic," similar to 35 mm prints • "Group," for slightly wider shots • "Pan," for panoramic scenes
• Film Status Indicator (FSI) on cassette	• Easy identification of status of film inside the cassette—unexposed, partially exposed, exposed, or processed
• Choice of film speed	• Selection of 100-, 200-, or 400-speed film
• Information Exchange (IX)	• Exposure and print format data recorded on the film to optimize print quality
• Enhanced backprinting	• Easy photo identification with frame number, cassette ID, and date printed automatically • Printing of optional information (time, title, lighting conditions, ISO speed, exposure data, and titles or greetings) with many cameras

USING THIS ADVANTIX FILM

Choosing a *KODAK ADVANTiX* Film

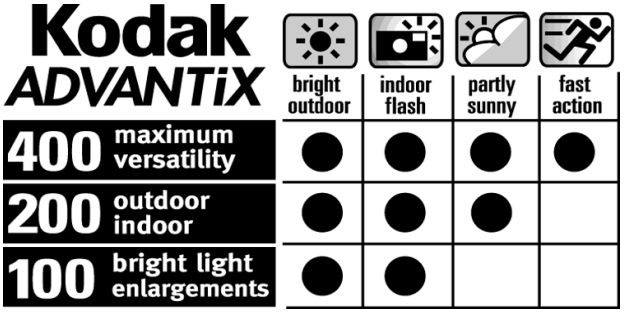
Kodak offers color negative films for Advanced Photo System cameras to suit different picture-taking situations:

KODAK ADVANTiX 100 Film—Designed to deliver superior performance under bright daylight conditions. It is ideal for outdoor panoramas and for shooting scenes from which you plan to make big enlargements. It's an excellent choice for use in Advanced Photo System cameras with sophisticated features that give the user great control over exposure. It incorporates KODAK T-GRAIN® Emulsions for fine grain and sharpness.

KODAK ADVANTiX Bright Sun & Flash Film and KODAK ADVANTiX High Definition 200 Film—Offers a superlative balance of speed, sharpness, grain, and rich, saturated colors. It is intended for everyday shooting under a variety of lighting conditions. It incorporates T-GRAIN Emulsions.

KODAK ADVANTiX Versatility Film— This multi-purpose film is the right choice for use in low light, for fast action, for zoom photography, and for extending your flash distance range. This improved high-speed film delivers more accurate color rendition, with more vibrant, saturated colors—an enhancement that's particularly noticeable in film that's been accidentally overexposed. Its improved fine grain means outstanding panoramic shots—even when film is underexposed. Optimized skin-tone rendition means great people pictures. And better printing compatibility with other films in the lab means consistent, high-quality prints for you. Like ADVANTiX 100, ADVANTiX Bright Sun & Flash Film, and ADVANTiX High Definition 200 Film, this film incorporates T-GRAIN Emulsions to provide the sharpness usually associated with lower-speed films.

Note: Kodak also offers KODAK ADVANTiX Black & White + 400 Print Film for the Advanced Photo System. It provides an easy way to explore the world of black-and-white photography with all the convenience of color negative film. Photofinishers that process color negative films for the Advanced Photo System can process and print this film in the same processing and printing equipment. For more information, see KODAK Publication No. F-28, *KODAK ADVANTiX Black & White + 400 Print Film.*



SIZES AVAILABLE

KODAK ADVANTiX 100 Film

Exposures	APS Format
25 and 40*	IX 240

*Available in some regions only.

KODAK ADVANTiX Bright Sun & Flash Film and KODAK ADVANTiX High Definition 200 Film

Exposures	APS Format
15*, 25, and 40	IX 240

*Available in some regions only.

KODAK ADVANTiX Versatility Film

Exposures	APS Format
15*, 25, and 40	IX 240

*Available in some regions only.

Note: The number of exposures per roll is **not** dependent on the format you select. See "PRINT FORMATS" for more information.

STORAGE AND HANDLING

Store unexposed film at 21°C (70°F) or lower. Always store film (exposed or unexposed) in a cool, dry place. Process film as soon as possible after exposure.

Handling

Important

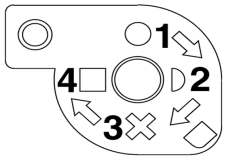
Do not disassemble the cassette.

The digital data stored on the magnetic layer of ADVANTiX Films should not be affected by airport x-ray inspection stations.

For further information on the effects of airport x-ray inspection on film, see our Technical Information Bulletin TIB5201, "Baggage X-ray Scanning Effects on Films."

Film Status Indicator

There are four symbols on one end of the film cassette. A gray indicator identifies the status of the film inside the cassette:
(1) ● = unexposed; (2) ◗= partially exposed;
(3) ✕= exposed (unprocessed); and (4) ▮ = processed (negatives).



Camera Loading

When the FSI is at ●, the cassette is ready to load into a camera designed for the Advanced Photo System; this type of camera features drop-in loading. It is not necessary to "feed" or thread the film to load it—the camera will thread the film automatically. *Do not* open the cassette; unprocessed film will be fogged if you open it.) For more information, see your camera manual.

Mid-Roll Change: If your camera offers this feature, you can change cassettes before you completely expose the current cassette. This feature helps ensure that you have the right film type in your camera for every picture-taking situation. It also allows you to separate your cassettes by photo subject.

If you use this feature, the FSI will be at ◗when you remove the cassette from your camera. The information exchange (IX) between your camera and the film will keep track of the number of exposures remaining. As a reference, you can write the number of exposures left in the area on the cassette marked "NOTES." Reload the cassette at any time to finish exposing the film.

Rewind Button: If your camera has a rewind button and you don't want to take all the pictures available on the film, you can press the rewind button on the camera and send the cassette for processing. Once you've used this feature, you *cannot* reload the same film cassette into the camera.

EXPOSURE

Film Speed—Automatic Cameras

In automatic cameras designed for the Advanced Photo System, the film speed is set automatically when film is loaded into the camera.

Film Speed—Manual Cameras

For Advanced Photo System cameras that allow manual adjustments (marked for ISO, ASA, or DIN speeds or exposure indexes), use the speed numbers in the table below. ADVANTiX Films are specially sensitized to be tolerant of mixed lighting conditions; the filter recommendations are suggested for uniform illumination.

Do not change the film-speed setting when you use a filter if your camera has through-the-lens metering.

KODAK Film	ISO/DIN Speed and KODAK WRATTEN Gelatin Filter*		
	Daylight	Photolamp (3400 K)	Tungsten (3200 K)
ADVANTiX 100 Film	100	32/16° No. 80B	25/15° No. 80A
ADVANTiX Bright Sun & Flash Film ADVANTiX High Definition 200 Film	200	64/19° No. 80B	50/18° No. 80A
ADVANTiX Versatility Film	400	125/22° No. 80A	100/21° No. 80A

*For best results without special printing.

Daylight:

Use the exposures in the table below for average frontlit subjects from 2 hours after sunrise to 2 hours before sunset.

Lighting Conditions	Shutter Speed (second) and Lens Opening		
	ADVANTiX 100 Film	ADVANTIX Bright Sun & Flash and ADVANTiX High Definition 200 Films	KODAK Versatility Film
Bright or Hazy Sun on Light Sand or Snow	1/125 *f*/16	1/250 *f*/16	1/500 *f*/16
Bright or Hazy Sun (Distinct Shadows)*	1/125 *f*/11	1/250 *f*/11	1/500 *f*/11
Weak, Hazy Sun (Soft Shadows)	1/125 *f*/8	1/250 *f*/8	1/500 *f*/8
Cloudy Bright (No shadows)	1/125 *f*/5.6	1/250 *f*/5.6	1/500 *f*/5.6
Heavy Overcast or Open Shade†	1/125 *f*/4	1/250 *f*/4	1/500 *f*/4

*Use *f*/4 for backlit close-up subjects.
†Subjects shaded from the sun but lighted by a large area of clear sky.

Electronic Flash:

Whenever possible, it's a good idea to use a flash—even outdoors. In daylight, flash can lighten facial shadows and brighten dark shadows. Flash can also be useful for action photography to stop the action.

Use the appropriate guide number in the table below as a starting point for your equipment. Select the unit output closest to the number given by your flash manufacturer. Then find the guide number for feet or metres.

To determine the lens opening, divide the guide number by the flash-to-subject distance. If negatives are too dark (overexposed), use a higher guide number; if they're too light (underexposed), use a lower number.

Unit Output (BCPS)*	Guide Number Distances in Feet/Metres		
	ADVANTiX 100 Film	ADVANTiX Bright Sun & Flash Film and ADVANTiX High Definition 200 Film	ADVANTiX Versatility Film
350	40/12	60/18	85/26
500	50/15	70/21	100/30
700	60/18	85/26	120/36
1000	70/21	100/30	140/42
1400	85/26	120/36	170/50
2000	100/30	140/42	200/60
2800	120/36	170/50	240/70
4000	140/42	200/60	280/85
5600	170/50	240/70	340/100
8000	200/60	280/85	400/120

*BCPS = beam candlepower seconds

Fluorescent and High-Intensity Discharge Lights

For best results without special printing, use the color-correction filters in the table below as starting points when you expose these films under fluorescent and high-intensity discharge lamps. Use exposure times of 1/60 second or longer to avoid the brightness and color variations that occur during a single alternating-current cycle.

Fluorescent Light Source

Fluorescent Lamp Type	KODAK Color Compensating Filter(s)	Exposure Adjustment
"Daylight"	20R + 5M	+ 1 stop
White	50C + 30M	+ 1 ⅔ stop
Warm White	40B + 50C	+ 2 stops
Warm White Deluxe	90C + 30M	+ 2 stops
Cool White	30B	+ 1 stop
Cool White Deluxe	40C + 10M	+ 1 stop

High-Intensity Discharge Lamp Source

High-Intensity Discharge Lamp Type	KODAK Color Compensating Filter(s)	Exposure Adjustment
High-Pressure Sodium Vapor (2700 K)	50B + 70C	+ 2 ⅔ stops
High-Pressure Sodium Vapor (2200 K)	50B + 90C	+ 3 stops
High-Pressure Sodium Vapor (2100 K)	20M + 200C	+ 4 stops
Metal Halide (4300 K)	10M	+ ⅔ stop
Metal Halide (3200 K)	80C + 10M	+ 1 ⅔ stops
Mercury Vapor (3700 K)	20B + 10C	+ 1 stop

Adjustments for Long and Short Exposures

No filter correction or exposure compensation is required for exposures from 1/10,000 second to 1 second.

PRINTING

Print Formats

With your Advanced Photo System camera, you can expose any combination of three formats—Classic (C), HDTV/ Group (H), and Panoramic (P)—on each cassette of film; for more information, see your camera manual. For print sizes, see the following table.

Important

Your photo-processing cost will be based on the format(s) you select.

Paper Width	Print Sizes* from Format Selected		
	Classic (C)	HDTV/ Group (H)	Panoramic (P)
3.5 in. (8.9 cm)	3.5 x 5 in. (8.9 x 12.7 cm) or 3.5 x 5.25 in. (8.9 x 13.3 cm)	3.5 x 6 in. (8.9 x 15.2 cm)	3.5 x 10 in. (8.9 x 25.4 cm)
4 in. (10.2 cm)	4 x 6 in. (10.2 x 15.2 cm)	4 x 7 in. (10.2 x 17.8 cm)	4 x 10 in. (10.2 x 25.4 cm) or 4 x 11.5 in. (10.2 x 29.2 cm)

*Final print size depends on your photofinisher.

PROCESSING

When the FSI is at ✕, have your film processed promptly by a photofinisher that displays the logo shown above.

The photofinisher will return the film cassette with your prints; your negatives will be inside the cassette and the FSI will be at ▮. You will receive an index print that shows the images of the negatives inside the cassette. *Do not disassemble the cassette.* Store the cassette in a cool, dry place with the index print. You can use the KODAK ADVANTiX Organizer to store 12 cassettes and index prints.

Note: Photofinishers that provide a certified service are required to produce the following features of the Advanced Photo System:

- Interspersed aspect ratio prints
- Print personalization via backprinting
- Print quality improvement from camera data
- Negatives returned in cassette
- Index print

Reprints and Enlargements:

To order reprints or enlargements, refer to your index print or the information on the back of your photos, and return the cassette to your dealer.

IMAGE STRUCTURE

Print Grain Index Magnification Table

- This is a method which replaces rms granularity. It is on a different scale, which cannot be compared to rms granularity.
- The scale is a uniform perceptual scale, with a change of 4 units representing a Just Noticeable Difference for 90% of observers.
- Index value representing the approximate visual threshold for graininess: 25.
- Standardized inspection distance for all print sizes: 35.6 cm (14 inches).
- In practice, prints larger than 10.2 x 15.2 cm (4x6 inches) will likely be viewed from distances greater than 35.6 cm (14 inches), thereby reducing overall graininess that is perceived.
- These Grain Index numbers may not represent graininess observed from more specular printing illuminants, such as condenser enlargers.

KODAK ADVANTiX 100 Film

Print Format	C Classic Format	H HDTV Format	P Panorama Format
Print Size in inches	4 x 6	4 x 7	4 x 11.5
Print Size in centimeters	10.2 x 15.2	10.2 x 17.8	10.2 x 29.2
Magnification	6.5X	6.5X	10.6X
Print Grain Index number:	38	38	56

KODAK ADVANTiX Bright Sun & Flash Film and KODAK ADVANTiX High Definition 200 Film

Print Format	C Classic Format	H HDTV Format	P Panorama Format
Print Size in inches	4 x 6	4 x 7	4 x 11.5
Print Size in centimeters	10.2 x 15.2	10.2 x 17.8	10.2 x 29.2
Magnification	6.5X	6.5X	10.6X
Print Grain Index number:	45	45	64

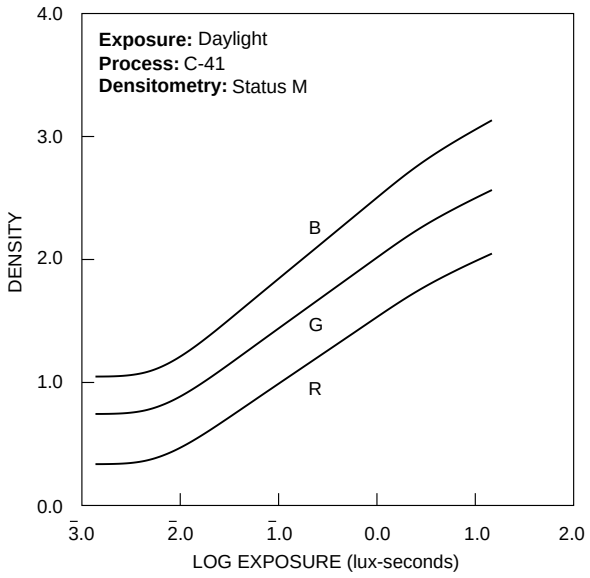
KODAK ADVANTiX Versatility Film

Print Format	C Classic Format	H HDTV Format	P Panorama Format
Print Size in inches	4 x 6	4 x 7	4 x 11.5
Print Size in centimeters	10.2 x 15.2	10.2 x 17.8	10.2 x 29.2
Magnification	6.5X	6.5X	13X
Print Grain Index number:	53	53	72

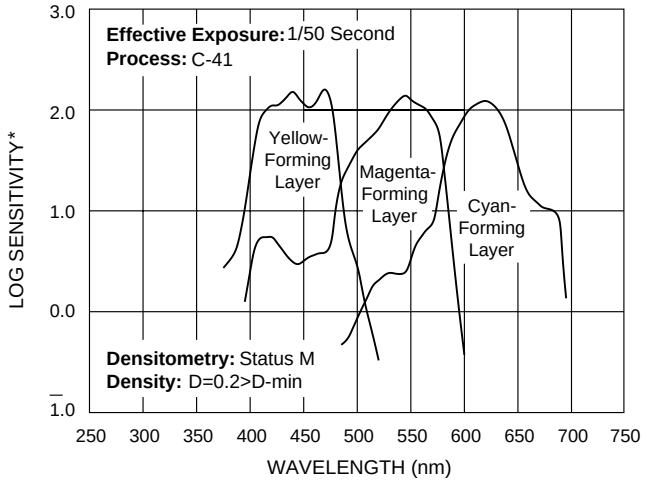
CURVES

KODAK ADVANTiX 100 Film

Characteristic Curves

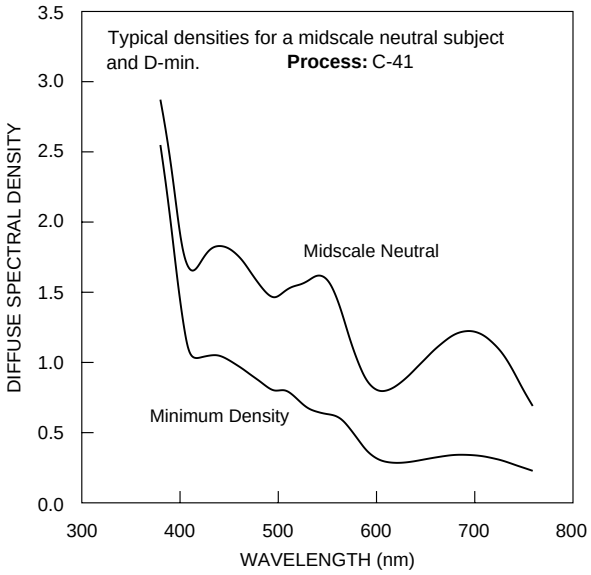


Spectral Sensitivity Curves



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

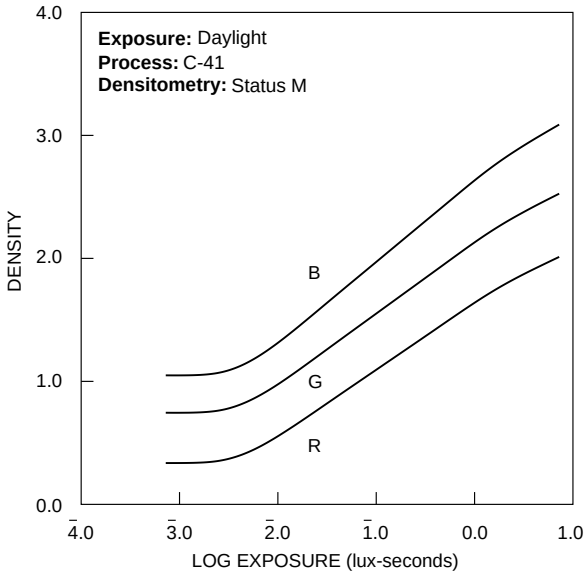
Spectral Dye Density Curves



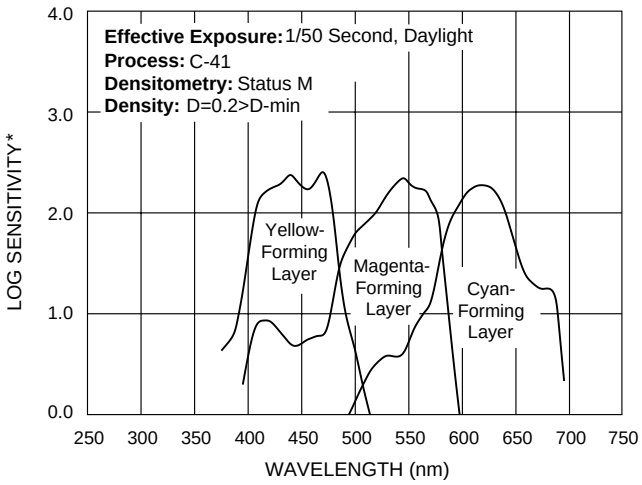
NOTICE: The sensitometric curves and data in this publication represent product tested under the conditions of exposure and processing specified. They are representative of production coatings, and therefore do not apply directly to a particular box or roll of photographic material. They do not represent 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.

KODAK ADVANTiX Bright Sun & Flash Film and KODAK ADVANTiX High Definition 200 Film

Characteristic Curves

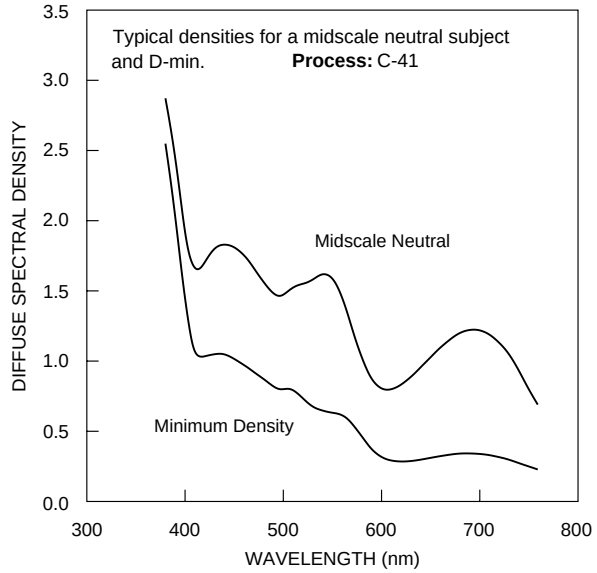


Spectral Sensitivity Curves



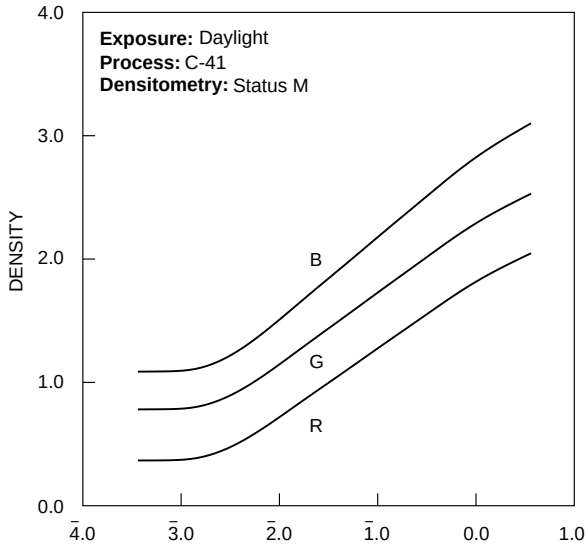
*Sensitivity = reciprocal of exposure (erg/cm^2) required to produce specified density

Spectral Dye Density Curves

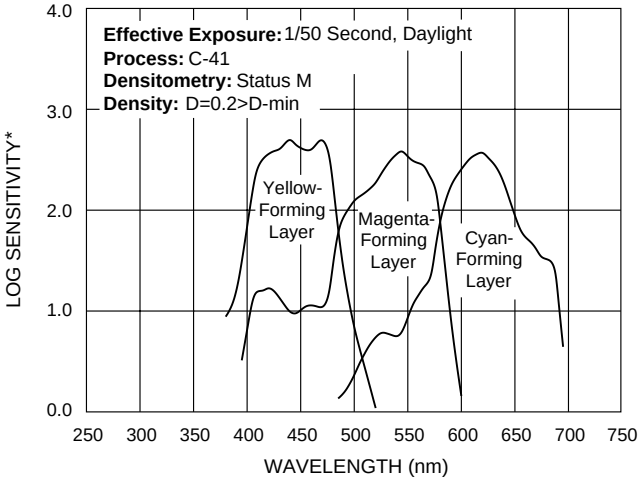


KODAK ADVANTiX Versatility Film

Characteristic Curves

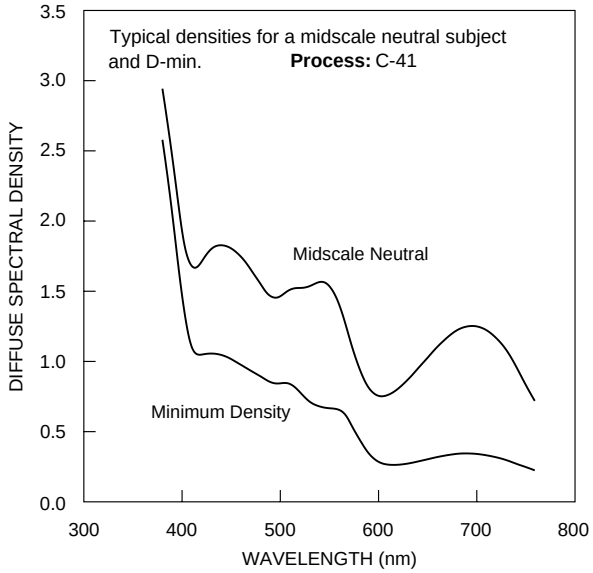


Spectral Sensitivity Curves



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

Spectral Dye Density Curves



MORE INFORMATION

Kodak has many publications to assist you with information on Kodak products, equipment and materials.

Additional information is available on the Kodak website at www.kodak.com.

Many publications are available online, or you can contact Kodak in your country for more information.

For the latest version of technical support publications for KODAK Products, visit Kodak on-line at: **http://www.kodak.com**
If you have questions about KODAK Products, call Kodak. In the U.S.A.: 1-800-242-2424, Monday–Friday 9 a.m.–7 p.m. (Eastern time) In Canada: 1-800-465-6325, Monday–Friday 8 a.m.–5 p.m. (Eastern time)

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