Kodak Professional SUPRA

color negative films

This new family of commercial color negative print films offers superior image structure, bold/dynamic color, and natural skin tones. They are an excellent choice when negatives will be electronically scanned. KODAK PROFESSIONAL SUPRA Films are designed for exposure with daylight or electronic flash.

KODAK PROFESSIONAL SUPRA 100 Film features extremely fine grain and excellent sharpness, allowing for a high degree of enlargement. This film is an excellent choice for fashion, landscape, nature, product, lifestyle, and medical photography.

KODAK PROFESSIONAL SUPRA 400 Film offers the finest grain of any color negative film in its speed class, plus vibrant colors without oversaturated skin tones. In addition, a new emulsion overcoat makes the negatives more scratch resistant for improved scans and prints. Suggested applications include fashion, wildlife, sports, news, lifestyle, and product photography. This film can also be push-processed one stop with good results.

KODAK PROFESSIONAL SUPRA 800 Film is the sharpest high-speed color negative film available today. It also delivers superior color saturation, even when underexposed. SUPRA 800 Film can be push-processed up to EI3200 with minimal impact on grain, contrast, color, and shadow detail. Use this film to capture sports, action, news, and runway fashion events.

KODAK PROFESSIONAL SUPRA 100 Film

FEATURE	ADVANTAGE	BENEFIT
• Enhanced Cubic Grain Technologies	• Unsurpassed in fineness of grain in this speed class	• Make bigger enlargements. Obtain higher quality scans and prints.
• Aspect Ratio Optimized T-GRAIN™ Emulsions	• Exceptional sharpness	• Capture precise outlines and fine detail
• DIR, DIAR, Solid Particle Filter Dye, and Interlayer Technologies	• Bold, dynamic, yet true-to-life colors	• Great images from scans or prints!

KODAK PROFESSIONAL SUPRA 400 Film

FEATURE	ADVANTAGE	BENEFIT
• Kodak's proprietary Advanced Development Accelerator™	• Finest grain of any color negative film in this speed class	• Make bigger enlargements. Obtain higher quality scans and prints.
• Color Precision Technology	• More accurate interaction between individual red, green, and blue color records	• Vibrant color without over-saturated skin tones
• New emulsion overcoat	• A more durable negative reduces the risk of handling damage	• Less negative scratching for higher quality scans and prints
• One stop push process capability	• Minimal impact on grain, contrast, color, and shadow detail	• Added versatility for low-light conditions or outdoor sports

KODAK PROFESSIONAL SUPRA 800 Film

FEATURE	ADVANTAGE	BENEFIT
• New High-Efficiency T-GRAIN Emulsions	• Sharpest high speed color negative film available	• Capture precise outlines and fine details
• Kodak's proprietary Advanced Development Accelerator	• Exceptionally fine grain	• Make bigger enlargements. Obtain higher quality scans and prints.
• Improved DIR, Universal DIR, and DIAR Chemistries	• Superior color saturation, even when underexposed	• Great images from scans or prints!
• Two stop push process capability	• Minimal impact on grain, contrast, color, and shadow detail	• Added versatility for low-light conditions or sporting events

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SIZES AVAILABLE

Sizes and catalog (CAT) numbers may differ from country to country. See your Kodak dealer who supplies KODAK PROFESSIONAL Products.

KODAK PROFESSIONAL SUPRA 100 Film

Film Size	Base	CAT No.	Availability
135-36 (5-roll pro-pack)	0.13 mm (0.005 inch) acetate	842 2826	Export
		152 7092	US&C
135-36 (20-roll pro-pack)	0.13 mm (0.005 inch) acetate	193 6772	Export
		122 4393	US&C
135-36 (50-roll pack)	0.13 mm (0.005 inch) acetate	160 5575	Canada

KODAK PROFESSIONAL SUPRA 400 Film

Film Size	Base	CAT No.	Availability
135-36 (5-roll pro-pack)	0.13 mm (0.005 inch) acetate	861 0800	Export
		170 2257	US&C
135-36 (20-roll pro-pack)	0.13 mm (0.005 inch) acetate	846 7599	Export
		884 7980	US&C
135-36 (50-roll pack)	0.13 mm (0.005 inch) acetate	845 0322	Canada

KODAK PROFESSIONAL SUPRA 800 Film

Film Size	Base	CAT No.	Availability
135-36 (5-roll pro-pack)	0.13 mm (0.005 inch) acetate	134 3888	Export
		127 6732	US&C
135-36 (20-roll pro-pack)	0.13 mm (0.005 inch) acetate	190 2683	Export
		102 2623	US&C
135-36 (50-roll pack)	0.13 mm (0.005 inch) acetate	149 2172	Canada

STORAGE AND HANDLING

Load and unload film in subdued light.

Store unexposed film at 70°F (21°C) or lower in the *original sealed package*. Process film as soon as possible after exposure. Protect negatives from strong light. For more information about storing negatives, see KODAK Publication No. E-30, *Storage and Care of KODAK Photographic Materials—Before and After Processing*.

Note: High speed films, such as SUPRA 800 Film, are sensitive to environmental radiation. Expose and process this film promptly. As exposure to radiation is cumulative, you may also want to request *visual* inspection of SUPRA 800 Film at airport and other security x-ray inspection stations.

DARKROOM RECOMMENDATIONS

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

EXPOSURE

Exposure Compensation

For light sources other than daylight, use the filtration and exposure compensation in the table below.

Light Source	KODAK WRATTEN Gelatin Filter	Exposure Compensation* (lens stops)
Photolamp (3400 K)	No. 80B	+ 1 2/3
Tungsten (3200 K)	No. 80A	+ 2

* SLR cameras will automatically adjust when metering through the filter.

Daylight

Recommended exposures in the table below are for frontlit subjects from 2 hours after sunrise to 2 hours before sunset when you expose each of these films at its *nominal speed*.

Lighting Conditions	Shutter Speed (second) and Lens Opening—SUPRA Film		
	100	400	800
Bright or Hazy Sun on Light Sand or Snow	1/125 f/16	1/500 f/16	1/1000 f/16
Bright or Hazy Sun (Distinct Shadows)	1/125 f/11*	1/500 f/11*	1/1000 f/11*
Weak, Hazy Sun (Soft Shadows)	1/125 f/8	1/500 f/8	1/1000 f/8
Cloudy Bright (No Shadows)	1/125 f/5.6	1/500 f/5.6	1/1000 f/5.6
Heavy Overcast or Open Shade†	1/125 f/4	1/500 f/4	1/1000 f/4

* Use f/5.6 for backlit close-up subjects.
† Subject shaded from the sun but lighted by a large area of sky.

Fluorescent and High Intensity Discharge Light:

Use the color-compensating filters and exposure adjustments in the tables below as starting points to expose SUPRA Films under fluorescent or high-intensity discharge lamps. For critical applications, make a series of test exposures under your actual conditions.

To avoid the brightness and color variations that occur during a single alternating-current cycle, use exposure times of 1/60 second or longer with fluorescent lamps; with high-intensity lamps, use exposure times of 1/125 second or longer.

Type of Fluorescent Lamp	KODAK Color Compensating Filter(s)	Exposure Adjustment
KODAK PROFESSIONAL SUPRA 100 Film		
"Daylight"	40R	+ 1 1/3 stop
White	30B + 10M	+ 1 2/3 stop
Warm White	50B	+ 2 stops
Warm White Deluxe	40B + 40C	+ 2 stops
Cool White	5B + 20M	+ 1 stop
Cool White Deluxe	20B + 20C	+ 1 stop
T8 741	30B + 10M	+ 1 2/3 stop
T8 830	55B + 20C	+ 2 1/3 stops
T8 835	40B	+ 1 1/3 stop
T8 841	20B + 10M	+ 1 1/3 stop
KODAK PROFESSIONAL SUPRA 400 Film		
"Daylight"	30R + 5M	+ 1 1/3 stop
White	30C + 40M	+ 1 2/3 stop
Warm White	60B	+ 2 1/3 stops
Warm White Deluxe	55B + 40C	+ 2 2/3 stops
Cool White	5C + 30M	+ 1 1/3 stop
Cool White Deluxe	20B + 20C	+ 1 1/3 stop
T8 741	30C + 40M	+ 1 2/3 stop
T8 830	70B + 20C	+ 3 stops
T8 835	50C + 40M	+ 2 stops
T8 841	20C + 30M	+ 1 1/3 stop
KODAK PROFESSIONAL SUPRA 800 Film		
"Daylight"	40R	+ 1 1/3 stop
White	30C + 40M	+ 1 2/3 stop
Warm White	50B + 5C	+ 2 stops
Warm White Deluxe	40B + 40C	+ 2 stops
Cool White	30M	+ 1 stop
Cool White Deluxe	20B + 20C	+ 1 stop
T8 741	20B + 20M	+ 1 2/3 stop
T8 830	55B + 20C	+ 2 1/3 stops
T8 835	40B	+ 1 2/3 stop
T8 841	20B + 10C	+ 1 1/3 stop

High-Intensity Discharge Lamp (CCT)*	KODAK Color Compensating Filter(s)	Exposure Adjustment
KODAK PROFESSIONAL SUPRA 100 Film		
High-Pressure Sodium Vapor (2700 K)	55B + 50C	+ 2 2/3 stops
High-Pressure Sodium Vapor (2200 K)	60B + 55C	+ 3 1/3 stops
High-Pressure Sodium Vapor (2100 K)	50B + 100C	+ 3 2/3 stops
Metal Halide (4300 K)	5R + 20M	+ 1 stop
Metal Halide (3200 K)	50C + 20M	+ 1 2/3 stop
Mercury Vapor (3700 K)	30M	+ 1 stop
KODAK PROFESSIONAL SUPRA 400 Film		
High-Pressure Sodium Vapor (2700 K)	55B + 50C	+ 2 2/3 stops
High-Pressure Sodium Vapor (2200 K)	60B + 55C	+ 3 1/3 stop
High-Pressure Sodium Vapor (2100 K)	55B + 80C	+ 4 stops
Metal Halide (4300 K)	30M + 5Y	+ 1 1/3 stop
Metal Halide (3200 K)	30B + 5C	+ 1 2/3 stop
Mercury Vapor (3700 K)	20B + 30M	+ 1 2/3 stop
KODAK PROFESSIONAL SUPRA 800 Film		
High-Pressure Sodium Vapor (2700 K)	60B + 50C	+ 2 2/3 stops
High-Pressure Sodium Vapor (2200 K)	120C + 50M	+ 3 1/3 stops
High-Pressure Sodium Vapor (2100 K)	55B + 100C	+ 4 stops
Metal Halide (4300 K)	5R + 20M	+ 1 stop
Metal Halide (3200 K)	20B + 30C	+ 1 2/3 stop
Mercury Vapor (3700 K)	30M	+ 1 stop

* CCT = Correlated Color Temperature. Phosphor emission emulates the color temperature of a continuous spectrum lamp, such as tungsten.

Electronic Flash:

Use the guide numbers in the table below as starting-point recommendations for your equipment when you expose these films at its *nominal speed*. 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.

Unit Output (BCPS)*	Guide Number Distances in Feet/Metres SUPRA Film		
	100	400	800
350	40/12	85/26	120/36
500	50/15	100/30	140/42
700	60/18	120/36	170/50
1000	70/21	140/42	200/60
1400	85/26	170/50	240/70
2000	100/30	200/60	280/85
2800	120/36	240/70	340/100
4000	140/42	280/85	400/120
5600	170/50	340/100	470/140
8000	200/60	400/120	560/170

* BCPS = beam candlepower seconds

Adjustments for Long and Short Exposures

For SUPRA 100 and SUPRA 800 Films, no filter corrections or exposure adjustments are required for exposure times of 1⁄10,000 to 1 second; for SUPRA 400 Film, no adjustments are required for exposures from 1⁄10,000 second to 10 seconds. At longer exposure times, exposure compensation is required.

PROCESSING

Process these films in KODAK FLEXICOLOR Chemicals for Process C-41.

SUPRA 100 Film

Exposure Index	100
Development Time (minutes:seconds)	3:15

SUPRA 400 Film

Exposure Index	400	800 Push 1
Development Time (minutes:seconds)	3:15	3:45

SUPRA 800 Film

Exposure Index	800	1600 Push 1	3200 Push 2
Development Time (minutes:seconds)	3:15	3:45	4:15

JUDGING NEGATIVE EXPOSURES

You can check the exposure level with a suitable electronic densitometer equipped with a filter such as a KODAK WRATTEN Gelatin No. 92 or the red filter for Status M densitometry. Depending on the subject and the light source used for exposure, a normally exposed and processed color negative measured through the red filter should have the approximate densities listed below.

Because of the extreme range in skin color, use the red density values for a normally lit forehead only as a guide. For best results, use a *KODAK Gray Card* (gray side), KODAK Publication No. R-27.

Area Measured	SUPRA 100 Film Density Reading
KODAK Gray Card (gray side) receiving same illumination as subject	0.80 to 1.00
Lightest step (darkest in the negative) of a *KODAK Paper Gray Scale* receiving same illumination as subject	1.20 to 1.40
Highest diffuse density on normally lighted forehead —light complexion —dark complexion	 1.05 to 1.35 0.90 to 1.25

Area Measured	SUPRA 400 Film Density Reading	
	EI 400	(EI 800) Push 1
KODAK Gray Card (gray side) receiving same illumination as subject	0.90 to 1.10	0.90 to 1.10
Lightest step (darkest in the negative) of a *KODAK Paper Gray Scale* receiving same illumination as subject	1.20 to 1.40	1.20 to 1.40
Highest diffuse density on normally lighted forehead —light complexion —dark complexion	 0.95 to 1.30 0.70 to 1.05	 0.95 to 1.30 0.70 to 1.05

Area Measured	SUPRA 800 Film Density Reading		
	EI 800	(EI 1600) Push 1	(EI 3200) Push 2
KODAK Gray Card (gray side) receiving same illumination as subject	0.80 to 1.00	0.75 to 0.95	0.70 to 0.90
Lightest step (darkest in the negative) of a *KODAK Paper Gray Scale* receiving same illumination as subject	1.15 to 1.35	1.15 to 1.35	1.15 to 1.35
Highest diffuse density on normally lighted forehead —light complexion —dark complexion	 0.85 to 1.20 0.65 to 1.00	 0.85 to 1.20 0.60 to 0.95	 0.80 to 1.15 0.55 to 0.90

RETOUCHING

Retouch only the emulsion side; apply KODAK Retouching Fluid before using KODAK Retouching Pencils.

For information on retouching equipment, supplies, and techniques, see KODAK Publication No. E-71, *Retouching Color Negatives*.

SCANNING NEGATIVES

You can easily scan SUPRA Film negatives with a variety of linear-array-CCD, area-array-CCD, and PMT film scanners. You can scan negatives on desk-top scanners as well as high-end drum scanners.

Because no standards exist to define the colored filter sets that film scanners use to capture the red, green, and blue information of the film image, each manufacturer's scanner has its own characteristic output. The output depends on the scanner's sensitivity to the dyes in the film. This sensitivity is determined by the spectral distribution of the colored filter sets and/or the spectral sensitivity of the charge-coupled-device (CCD). In addition to these spectral specifications, scanner output depends on the look-up tables or matrices that the scanner uses to output information for CRT monitors, transmission, etc. These tables or matrices are part of either "plug-in" programs used with specific software packages designed for image manipulation, updateable ROMs included with the equipment, or fixed algorithms for calibrating and balancing, similar to those used in photographic color printing equipment.

The generic "color negative film" channel designation available with scanner software is only a starting point. You can adjust the final color balance and the scene-dependent contrast and brightness of an image by using the scanner's controls during pre-scan, or by using an image-manipulation software program or workstation after acquisition. Some scanners allow you to use "plug-in" programs to customize scanner setups.

For more information, visit the following web sites.

To access	Go to
Film Terms for KODAK PHOTO CD Imaging Workstations	www.kodak.com/go/pcdFilmTerms
Drivers for KODAK Film Scanners	www.kodak.com/go/scannerDrivers

PRINTING NEGATIVES

This film is optimized for printing on KODAK PROFESSIONAL SUPRA III and ULTRA III Papers, and on KODAK PROFESSIONAL DURAFLEX Print Material.

Make color slides and transparencies by printing the negatives on KODAK VERICOLOR Slide Film, VERICOLOR Print Film or on KODAK PROFESSIONAL DURATRANS Display Material, or KODAK PROFESSIONAL DURACLEAR Display Material.

Make black-and-white prints on KODAK PANALURE SELECT RC Paper for conventional black and white processing, or on KODAK EKTAMAX RA Professional Paper for Process RA-4.

These films are similar in aim printing density to the family of KODAK PROFESSIONAL PORTRA Films. To set up a color printer or negative analyzer, use the following control negatives.

KODAK PROFESSIONAL PORTRA Printer Control Negative	CAT No.
Set / Size 135*	179 8511

* This set includes one each: very under, under, normal, over and very over negatives.

Digital Files

You can scan your image to a file and print digitally to—

KODAK PROFESSIONAL Digital III Color Paper

KODAK PROFESSIONAL DURATRANS Digital Display Material

KODAK PROFESSIONAL DURACLEAR Digital Display Material

KODAK PROFESSIONAL DURAFLEX Digital Print Material

IMAGE STRUCTURE

Print Grain Index

The Print Grain Index number refers to a method of defining graininess in a print made with diffuse-printing illumination. It replaces rms granularity and has a different scale which cannot be compared to rms granularity.

- The method uses a uniform perceptual scale, with a change of four units equaling a just noticeable difference in graininess to 90 percent of observers.
- A Print Grain Index rating of 25 on the scale represents the approximate visual threshold for graininess. A higher number indicates an increase in the amount of graininess observed.
- The standardized inspection (print-to-viewer) distance for all print sizes is 14 inches, the typical viewing distance for a 4 x 6-inch print.
- In practice, larger prints will likely be viewed from distances greater than 14 inches, which reduces apparent graininess.
- Print Grain Index numbers may not represent graininess observed from more specular printing illuminants, such as condenser enlargers.

Negative Size: 24 x 36 mm (Size 135)

Print Size in inches	4x6	8x10	16x20
Magnification	4.4X	8.8X	17.8X
Print Grain Index for—			
SUPRA 100 Film	27	49	78
SUPRA 400 Film	36	58	87
SUPRA 800 Film	50	72	101

For more information, see KODAK Publication No. E-58, *Print Grain Index—An Assessment of Print Graininess from Color Negative Films*.

KODAK PROFESSIONAL SUPRA 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 PROFESSIONAL SUPRA 400 Film

Characteristic Curves

Spectral Sensitivity Curves

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

Characteristic Curves / Push 1

Spectral Dye Density Curves

KODAK PROFESSIONAL SUPRA 800 Film

Characteristic Curves

Characteristic Curves / Push 1

Characteristic Curves / Push 2

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 and through the U.S.A./Canada faxback system.

The following publications are available from Kodak Customer Service, from dealers who sell Kodak products, or you can contact Kodak in your country for more information.

E-30	*Storage and Care of KODAK Photographic Materials—Before and After Processing*
E-58	*Print Grain Index—An Assessment of Print Graininess from Color Negative Films*
E-71	*Retouching Color Negatives*
E-140	*KODAK PROFESSIONAL PORTRA III Paper*
E-141	*KODAK PROFESSIONAL SUPRA III Paper*
E-142	*KODAK PROFESSIONAL ULTRA III Paper*
E-143	*KODAK Display and Print Materials for Process RA-4*
G-22	*KODAK EKTAMAX RA Professional Paper*
G-27	*KODAK PANALURE SELECT RC Paper*
J-38	*Using KODAK FLEXICOLOR Chemicals in Sink-Line, Batch, and Rotary-Tube Processors*
Z-131	*Using KODAK FLEXICOLOR Chemicals*

For the latest version of technical support publications for KODAK PROFESSIONAL Products, visit Kodak on-line at:
http://www.kodak.com/go/professional

Many technical support publications for KODAK PROFESSIONAL Products can be sent to your fax machine from the Kodak Information Center. Call:
U.S. 1-800-242-2424, Ext. 33 / Canada 1-800-295-5531
—Available 24 hours a day, 7 days a week—

If you have questions about KODAK PROFESSIONAL Products, call Kodak.
In the U.S.A.:
1-800-242-2424, Ext. 19, 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)

Note: The Kodak materials described in this publication for use with KODAK PROFESSIONAL SUPRA Films are available from dealers who supply KODAK PROFESSIONAL Products. You can use other materials, but you may not obtain similar results.

Kodak Professional Division
EASTMAN KODAK COMPANY

Kodak Professional

KODAK PROFESSIONAL SUPRA Films
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CAT 145 0246

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