

NEW

FUJICOLOR SUPERIA 400 [CH]

(E)

1. FEATURES AND USES

FUJICOLOR SUPERIA 400 [CH] is a daylight color negative film with an ISO speed rating of 400. This film yields the best results when used in conjunction with FUJICOLOR papers.

Features	Results
<ul style="list-style-type: none"> • Color Reproduction of Great Vividness 	<ul style="list-style-type: none"> • Great vividness across the entire spectrum, including brilliant reds, blues and clear yellows
<ul style="list-style-type: none"> • Accurate Color Reproduction 	<ul style="list-style-type: none"> • Enhanced realism in the reproduction of difficult-to-create colors, including violet and various greens
<ul style="list-style-type: none"> • Improved Sharpness 	<ul style="list-style-type: none"> • Extremely sharp depiction of all aspects of the subject, from over-all form to textural details
<ul style="list-style-type: none"> • Excellent Skin Tone Reproduction 	<ul style="list-style-type: none"> • Beautiful, natural skin tone rendition
<ul style="list-style-type: none"> • Excellent Grain Quality 	<ul style="list-style-type: none"> • Very fine grain for a high-speed film, providing consistently high image quality even in enlargements
<ul style="list-style-type: none"> • Excellent Exposure Suitability even under Fluorescent Lighting 	<ul style="list-style-type: none"> • Accurate color reproduction even under fluorescent lights

It requires no color-compensating filters when used under daylight conditions or with an electronic flash.

NOTE The current product will continue to be marketed in the 120 size.

2. SPEED

Light Source	Speed	Filter
Daylight	ISO 400/27°	None
Tungsten Lamps (3200K)	ISO 100/21**	LBB-12** (or Kodak No. 80A)

* Indicates the effective speed resulting from designated filter use.

** Fuji Light Balancing Filter

3. FILM SIZES, PRODUCTION NUMBER AND BASE MATERIAL

Sizes		Production Number
Rolls	• 135 12, 24 and 36 exp.	G01 and above
	• 120 12 exp. (6 × 6)	V51 and above

Base Material Cellulose Triacetate

4. EXPOSURE GUIDE AND EXPOSURE UNDER VARIOUS LIGHT CONDITIONS

Use an exposure meter for exposure determination. If a meter is not available, refer to the following table.

Daylight Exposure Guide Table

Light Conditions	Seashore or Snow Scenes Under Bright Sun	Bright Sunlight	Hazy Sunlight	Cloudy Bright	Cloudy Day or Open Shade
Lens Aperture	f/22	f/16	f/16	f/11	f/8
Shutter Speed (sec.)	1/500		1/250		

- The foregoing settings are for 2 hours after sunrise and 2 hours before sunset.
- Provide lens openings 1/2 stop smaller during the summer and 1/2 stop larger during the winter.
- Excessively bright (or dark) or backlighted subjects may require plus or minus 1 stop lens opening adjustments.

Low Light Exposure Guide Table

Light Conditions	Fine Weather Daytime Indoor Scenes	Nighttime Indoor Scenes (under Fluorescent Light)	Evening Scenes	Night Scenes
Lens Aperture	f/2.8 to 4	f/2 to 2.8	f/2.8 to 4	f/2 to 2.8
Shutter Speed (sec.)	1/60	1/30	1/60	1/30

NOTE Since light intensities for indoor and night scenes vary widely from location to location, the data above should be used only as a guide.

Daylight

Even when exposed under morning or evening twilight conditions or when color temperatures are low, no special filter use is needed color balancing will be done during printing.

Electronic Flash

- Electronic flash produces light similar to daylight, so filters are not needed. However, the possibility of undesirable effects on color balance, due to various factors (differences in equipment, amount of use, etc.) should be taken into consideration and test exposure made.
- If shutter speeds slower than 1/60 second are used, light from non-flash sources, such as room lighting, may cause color imbalances. Make test exposures.
- The use of a flash meter is advisable, but the following formula can also be used to obtain satisfactory lens opening.

$$\text{Lens Aperture (f-number)} = \frac{\text{ISO 400 Electronic Flash Guide Number}}{\text{Electronic Flash-to-Subject Distance (meters or feet)}}$$

- Set the film speed at ISO 400. Since the amount of light reflected onto subjects from surrounding surfaces will differ with the conditions, refer to the flash unit instructions.

Daylight Photoflood/Photo-Reflector Lamps

- Daylight-type photoflood or photo-reflector lamp output tends to be lower than that indicated by an exposure meter, so it is advisable to compensate for this by increasing exposure time or the lens opening. Whenever possible, test exposures are recommended.
- Other factors requiring consideration when determining the exposure time, are lamp configuration, use duration and line voltage, as they may affect lamp output and color balance.

Fluorescent Lamps & High-Intensity Discharge Lamps

- For best results, the following combinations of color compensating filters are recommended. However, for exacting work, test exposures are advisable.

Lamp Type	Fluorescent				High-intensity Discharge	
	Day-light (D)	Cool White (C.W)	White (W)	Warm White (W.W)	Deluxe White Mercury	Clear Mercury
Color Compensating Filters*	10M +10Y	—	10C	30C +30M	+10C	40M +40Y
Exposure Corrections**	+1/3	—	+1/3	+1	+1/3	+1 1/3

* Fuji Color Compensating Filters (or Kodack CC Filters)

** Exposure Correction values include filter exposure factors. These values are added to unfiltered exposure meter readings. "+" followed by number = required increase in lens opening.

- When the fluorescent lamp characteristics are unknown, to obtain generally acceptable results, use a 30M compensating filter and open the lens one stop (+1).

NOTE Different compensation may be required according to special lamp types and length of use, so test exposures are recommended, whenever possible.

- Shutter speeds of 1/125 second for high-intensity discharge lamps and 1/30 second or larger, for fluorescent lamps, will avoid AC power-induced changes in brightness and color being recorded on the film.

Tungsten Lamps

Fuji Light Balancing Filter LBB-12 (or Kodak No. 80A) is recommended along with a 2 lens stop increase, when using 3200 K tungsten lighting.

5. LIGHTING EQUIPMENT

The conditions of umbrellas, reflectors, diffusers and like devices, may influence photographic light quality. Periodically check lighting equipment for deterioration.

6. LONG EXPOSURE COMPENSATION

No exposure or color balance compensation is required for exposures within a 1/4000 to 2 second shutter speed range. However, for exposures of 4 seconds or longer, provide the compensations indicated below.

Exposure Time (sec.)	1/4000 – 2	4	16	64
Exposure Corrections*	Unnecessary	+1/3	+2/3	+1

* "+" followed by number = required increase in lens opening.

Except for special effects, the normal intensity ratio for main-to-fill subject lighting should remain within 1:4 limits.

7. FILM HANDLING

- Expose film before the expiration date indicated on the film package and process promptly after exposure.
- When loading and unloading roll film, avoid direct sunlight. If there is no shade, turning one's back toward the sun will shade the film.
- Camera-loaded film should be exposed and processed immediately.
- X-ray equipment, used to inspect carry-on baggage at airport terminals, can cause film fogging. Repeated inspections increase this possibility, so both exposed and unexposed films should be removed for manual inspection.
- Film fogging may occur near X-ray equipment used in hospitals, factories, laboratories and other locations. Always keep film away from possible sources of radiation.

8. FILM STORAGE

Unprocessed Film

- Storing exposed or unexposed film under high temperature and humidity conditions will cause adverse speed, color balance and physical property changes. Store film under the following conditions.
 - Ordinary Storage: Protect from heat.
 - Long-term Storage: Below 0°C (32°F)
- Building materials, finishes used on newly-manufactured furniture and bonding agents may produce gases which affect photographic film. Do

not store film, lightproof boxes of film, loaded cameras or film holders under these conditions.

- Before use, allow films to stand at room-temperature over 1 hour. Opening the package/box while film is cold may cause harmful condensation.

Processed Film

Exposure to light, high temperature and humidity can cause color changes in processed films. Therefore, place such films in sleeves and store in dark, dry, cool and well ventilated locations under the following conditions.

- General Storage
25°C (77°F) at 30 to 60% RH
- Long-term Storage
10°C (50°F) at 30 to 50% RH

NOTE As with all color dyes, those used in this film will discolor or fade with time.

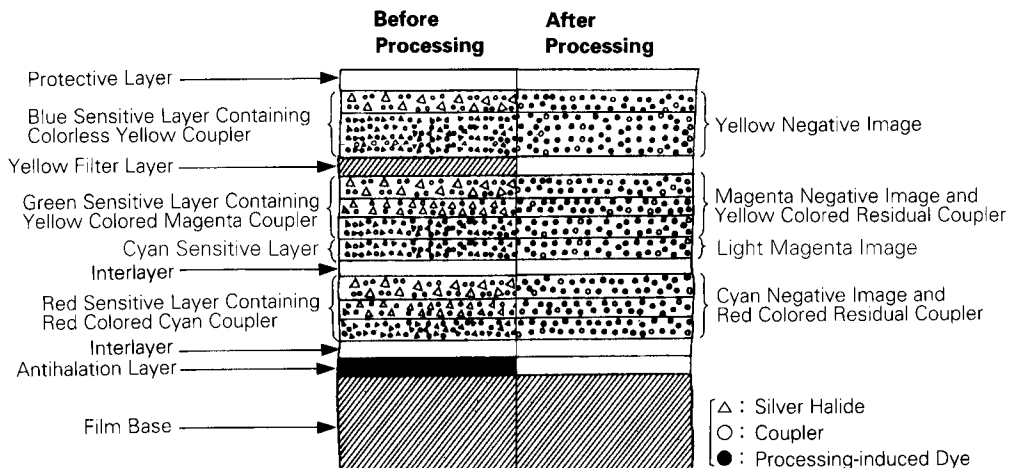
9. PROCESSING

This film is intended for processing in Fujifilm Processes CN-16, CN-16Q, CN-16FA, CN-16L, CN-16S or Kodak Process C-41.

10. JUDGING EXPOSURE RESULT

SUPERIA 400 exposure result can be accurately predicted by using an electronic densitometer equipped with Status M filters. An 18% gray card, receiving the same illumination as the subject, when read through the RED filter should render density readings between 0.80 and 1.00 (for exposures under recommended lighting and with optimal film processing).

11. FILM STRUCTURE



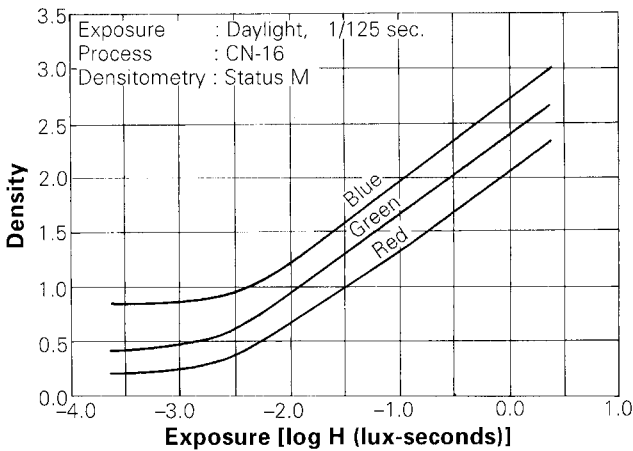
12. DIFFUSE RMS GRANULARITY VALUE 4

Micro-Densitometer Measurement Aperture: 48 μm in diameter
 Magnification: 12X
 Sample Density: 1.0 above minimum density

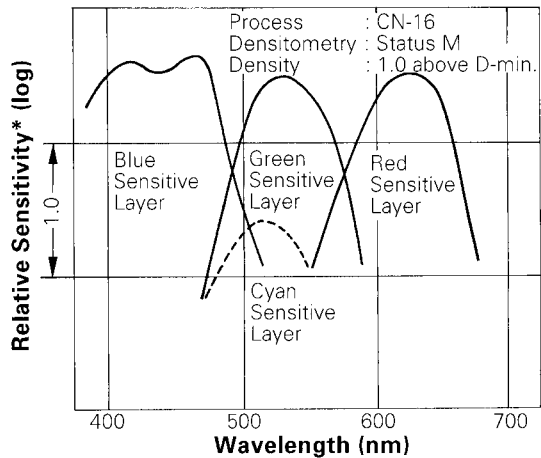
13. RESOLVING POWER

Chart Contrast 1.6 : 1 50 lines/mm
 Chart Contrast 1000 : 1 125 lines/mm

14. CHARACTERISTIC CURVES

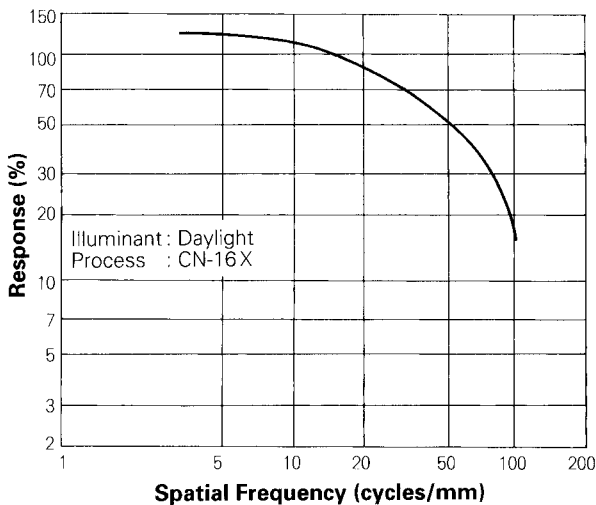


15. SPECTRAL SENSITIVITY CURVES

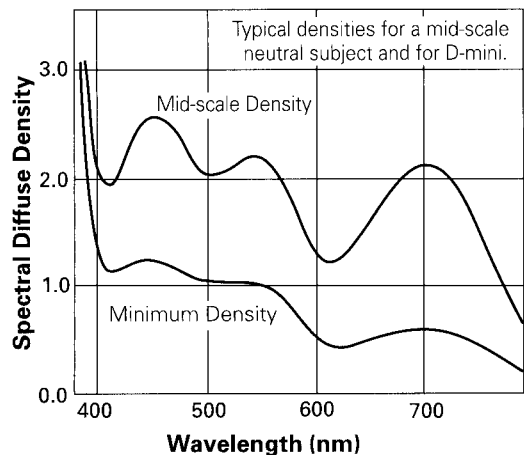


* Sensitivity equals the reciprocal of the exposure (ergs/cm²) required to produce a specified density.

16. MTF CURVE



17. SPECTRAL DYE DENSITY CURVES



NOTICE The data herein published were derived from materials taken from general production runs. However, as Fujifilm is constantly upgrading the quality of its products, changes in specifications may occur without notice.