

## FUJICOLOR SUPERIA REALA [CS]

### 1. FEATURES AND USES

FUJICOLOR SUPERIA REALA [CS] is a daylight type color negative film with an ISO speed rating of 100. This film yields the best results when prints and enlargements are made on FUJICOLOR Papers.

Features	Results
<ul style="list-style-type: none"> <li>• <b>Superb Granularity and Sharpness</b></li> </ul>	<ul style="list-style-type: none"> <li>• Smooth, detailed images even in enlargements</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Fourth Sensitized Layer</b></li> </ul>	<ul style="list-style-type: none"> <li>• Faithful, natural color reproduction</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Soft Gradations</b></li> </ul>	<ul style="list-style-type: none"> <li>• Rich highlight-to-shadow tone reproduction</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Greater Underexposure Latitude</b></li> </ul>	<ul style="list-style-type: none"> <li>• Wider choice of exposure</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Optimum Spectral Sensitivity Balance</b></li> </ul>	<ul style="list-style-type: none"> <li>• Superb color reproduction under tungsten, fluorescent, and other light sources</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Excellent Results even under Fluorescent Light</b></li> </ul>	<ul style="list-style-type: none"> <li>• Minimal loss of color balance even under mixed light sources that include fluorescent light</li> </ul>

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

### 2. SPEED

Light Source	Speed	Filter
Daylight	ISO 100/21°	None
Tungsten Lamps (3200K)	ISO 25/15° *	LBB-12 ** (or Wratten 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 ..... 24 and 36 exp.	J51 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.

(Shutter speed: 1/250 second)

Light Conditions	Seashore or Snow Scenes Under Bright Sun	Bright Sunlight	Hazy Sunlight	Cloudy Bright	Cloudy Day or Open Shade
Lens Aperture	f/16	f/11	f/8	f/5.6	f/4

- 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.

#### Daylight

Even when exposed under morning or evening twilight conditions or when color temperatures are low, no special filter use is needed as color balancing can 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. Test exposures are recommended.
- 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.

$$\text{Lens Aperture (f-number)} = \frac{\text{Electronic Flash Guide Number (at ISO 100)}}{\text{Electronic Flash-to-Subject Distance (meters or feet)}}$$

- Set the film speed at ISO 100. 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 may 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 the 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 (CW)	White (W)	Warm White (WW)	Deluxe White Mercury	Clear Mercury
Color Compensating Filters*	10M +10Y	—	20C	40C +30M	10C	30M +30Y
Exposure Corrections**	+1/3	—	+2/3	+1 1/3	+1/3	+1

\* Fuji Color Compensating Filters (or Wratten CC Filters)

\*\* Exposure correction values include filter exposure factors. These values are added to unfiltered exposure meter readings. A "+" followed by a number indicates the 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**

A Fuji Light Balancing Filter LBB-12 (or Wratten filter No. 80A) is recommended along with a 2-stop increase in lens opening, when using 3200 K tungsten lighting. In the case of cameras with TTL metering, there is no need for additional exposure compensation.

**5. LIGHTING EQUIPMENT**

The conditions of umbrellas, reflectors, diffusers and like devices, could 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 1 second shutter speed range. However, for exposures of 4 seconds or longer, provide the compensations indicated below.

Exposure Time (sec)	1/4000 – 1	4	16	64
Exposure Corrections*	Unnecessary	+1/3	+1	Not recommended

\* A "+" followed by a number indicates the 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 as soon as possible 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. Both exposed and unexposed films should be removed for manual inspection. As checked-in baggage is also X-rayed, film should be part of your hand-carried baggage.
- 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 hot and humid conditions may adversely affect 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, paints 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 materials.
- 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 humid conditions can cause color changes in processed films. Therefore, place such films in sleeves and store them 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.

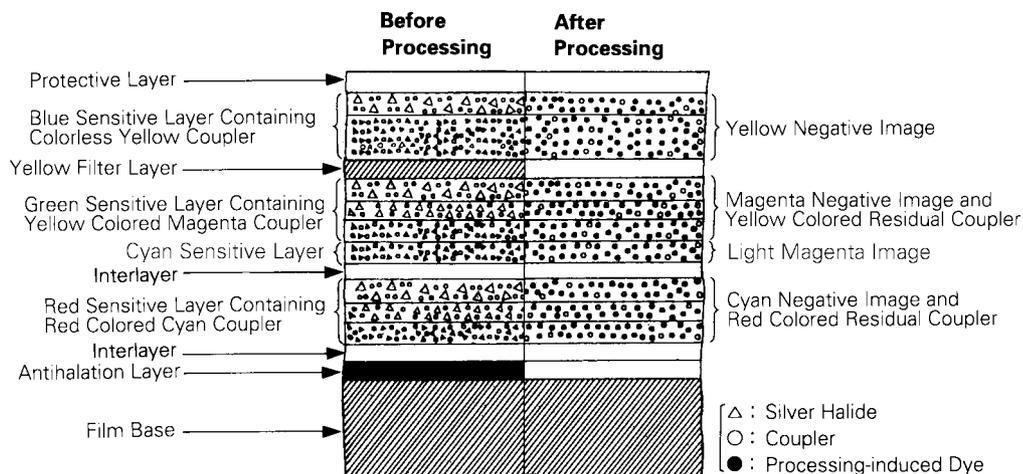
**9. PROCESSING**

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

**10. JUDGING EXPOSURE RESULTS**

SUPERIA REALA exposure results 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 1.02 and 1.20 (for exposures under recommended lighting and with optimal film processing).

**11. FILM STRUCTURE**



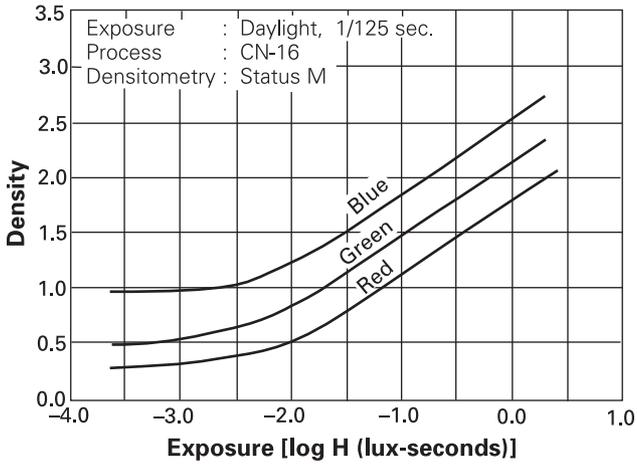
**12. DIFFUSE RMS GRANULARITY VALUE** ..... 4

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

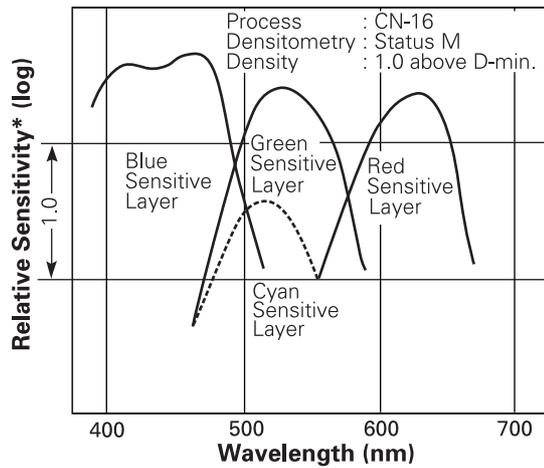
**13. RESOLVING POWER**

Chart Contrast 1.6 : 1 ..... 63 lines/mm  
Chart Contrast 1000 : 1 ..... 125 lines/mm

14. CHARACTERISTIC CURVES

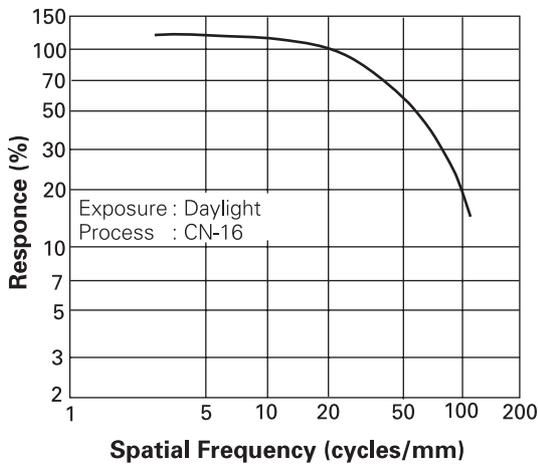


15. SPECTRAL SENSITIVITY CURVES

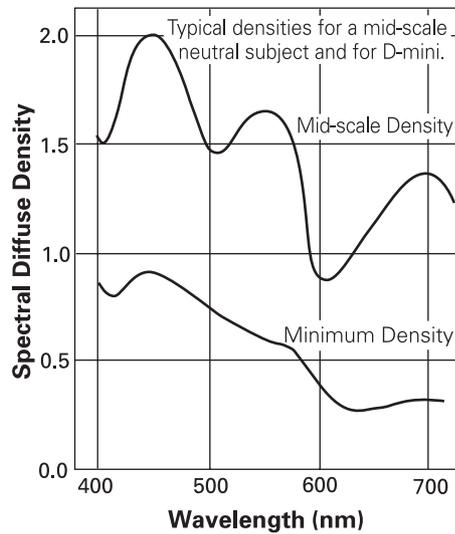


\* Sensitivity equals the reciprocal of the exposure (J/cm<sup>2</sup>) required to produce a specified density.

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 prior notice.