

**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. The use of color compensating filters is not required when exposures are made either under daylight conditions or with electronic flash.

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>

**2. SPEED**

Light Source	Speed	Filter
Daylight	ISO 100/21°	None
Tungsten Lamps (3200K)	ISO 25/15° *	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 ..... 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.

(Exposure time: 1/250th of a 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 because printing-related color compensation will result in color balanced prints.

**Electronic Flash**

- Since electronic flash characteristics are similar to daylight, no filters are required. Effective light output and color balance will differ with equipment type, age and other factors, requiring thereby initial exposure tests.
- With shutter speeds slower than 1/60th of a second, the influence of non-flash light source such as modeling lamps and room illumination may cause undesirable color balance shifts. Make test exposures.

- Adjust the lens opening for electronic flash according to the following formula.

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

- 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.

**Photo-Reflector Lamps  
(Daylight Photoflood Lamps)**

- Daylight photoflood lamps tend to result in under-exposure, so it is sometimes essential to increase exposure light output beyond that indicated by an exposure meter.
- Color balance and light output will differ with lamp configuration, use duration and applied voltage. It is essential that exposure conditions be determined in relation to the particular lighting equipment employed.

**Fluorescent Lamps & High-Intensity Discharge Lamps**

- Basically, exposure-related filter compensation is unnecessary.
- The best results will be obtained when exposures are made under the following filter use conditions. In order to overcome the changes in brightness and color associated with alternating current lighting equipment, use shutter speeds of 1/125th of a second for high-intensity discharge lamps and 1/30th of a second or longer for fluorescent lamps.
- For exacting work, test exposures are recommended.

Lamp Type	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 Kodack CC Filters)

\*\* Exposure Correction values include filter exposure factors. These values are added to unfiltered exposure meter readings. "+" = Lens Opening.

- When the fluorescent lamp type is unknown, use a 30M color compensating filter and a +1 stop lens opening. Under most conditions this will provide acceptable results. Since lamp color temperatures will vary with manufacture and use duration, the above designated filters are for initial lamp use conditions.

**Tungsten Lamps**

Fuji Light Balancing Filter LBB-12 (or Kodak No. 80A) is recommended with photoflood lamps. Under these conditions a 2 stop larger lens opening will also be necessary.

**5. LIGHTING EQUIPMENT**

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

**6. LONG EXPOSURE COMPENSATION**

No exposure or color balance compensation is required when exposure time is within a 1/4000 to 1 second. However for exposures of 4 seconds or longer, exposure compensations are required.

Exposure Time (sec.)	1/4000 to 1	4	16
Color Compensating Filter	None	None	None
Exposure Corrections (Lens Opening)	None	+1/3	+1

(Exposure time longer than 16 seconds is not recommended.)

**7. FILM HANDLING**

- Expose film before the expiration date indicated on the film package and process immediately 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.
- Expose camera-loaded film before the expiration date and process immediately.
- Under certain conditions the X-ray equipment used to inspect carry-on baggage at airport terminals will adversely affect photographic film (cause fogging). The adverse effects of this are increased with the strength of the X-rays, the speed of the film, and the cumulative number of inspection exposures. Therefore it is recommended that at each inspection the film be removed from the baggage and that airport security personnel be asked to inspect the film manually.
- Film fogging may occur in hospitals, factories, laboratories and other locations using X-rays and other radiation sources.

**8. FILM STORAGE**

**Unprocessed Film**

- Storing exposed or unexposed, but unprocessed films 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
- Extended Term Storage: Below 0°C (32°F)

- New building materials, newly manufactured furniture, paints and bonding agents may produce noxious vapors. Do not store film, loaded cameras or film holders near these substances.
- When refrigerated film is removed for use, allow it to reach room temperatures before opening (at least one hour). Opening while temperatures are still low may cause moisture condensation.

**Processed Film**

Light, high temperatures and humidities cause color changes in processed films. Therefore, place such films in mounts or 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
- Extended Storage: 10°C (50°F) at 30 to 50% RH

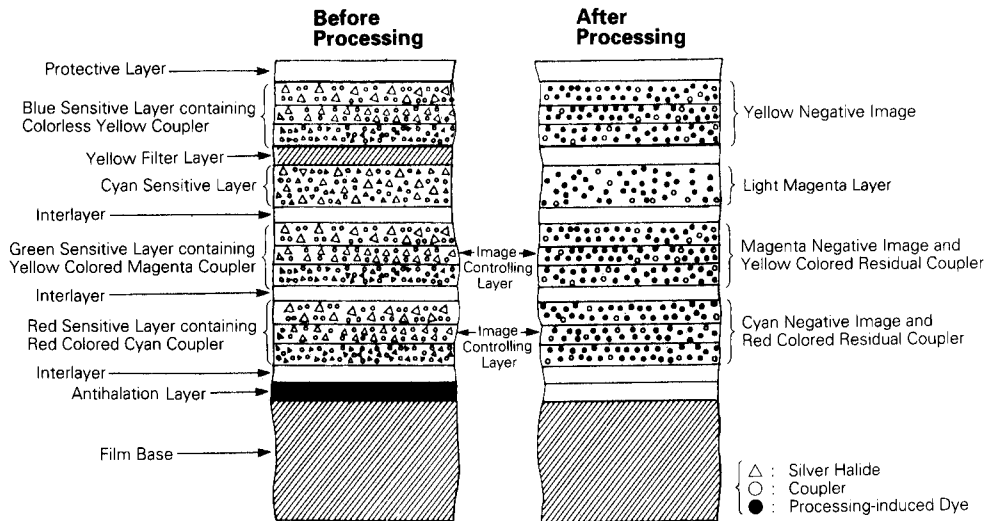
**9. PROCESSING**

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

**10. JUDGING EXPOSURE RESULT**

SUPERIA REALA exposure adequacy can be accurately estimated by using an electronic densitometer equipped with Status M filters. When read through the RED filter, an 18% gray card receiving the same illumination as the subject, should render density readings between 1.02 and 1.20. These densities are for exposures made under recommended light sources and with optimal film processing.

**11. FILM STRUCTURE**



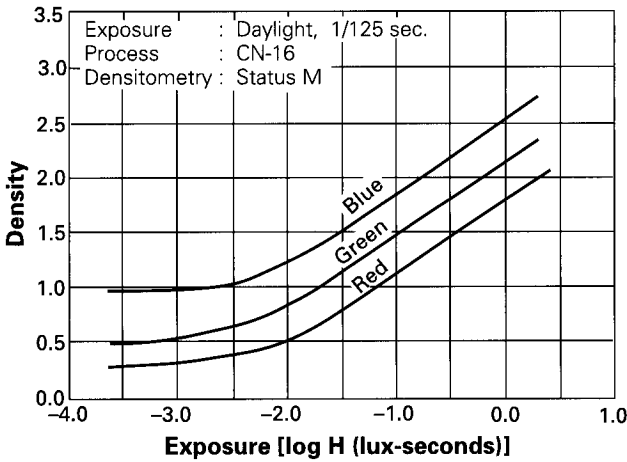
**12. DIFFUSE RMS GRANULARITY VALUE** ..... 4

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

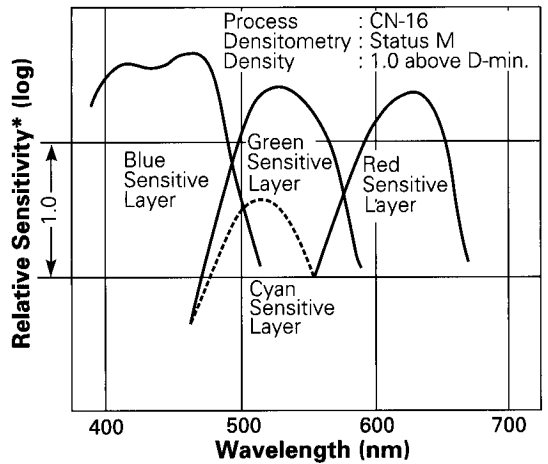
**13. RESOLVING POWER**

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

**14. CHARACTERISTIC CURVES**

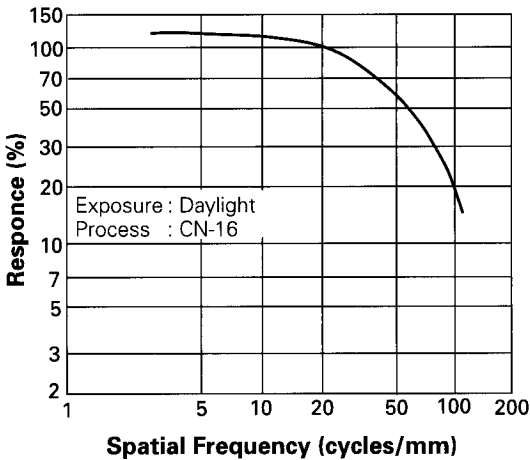


**15. SPECTRAL SENSITIVITY CURVES**

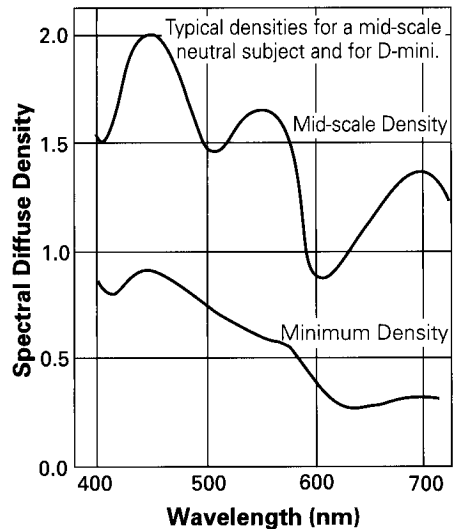


\* Sensitivity equals the reciprocal of the exposure (ergs/cm<sup>2</sup>) required to produce a specified density.

**16. MTF CURVE**



**17. SPECTRAL DYE DENSITY CURVES**



**NOTICE** The sensitometric curves and other data herein published were derived from particular materials taken from general production runs. As such they do not represent in exact duplication the characteristics of every lot produced nor a standard for Fujifilm products. Further, Fujifilm is in a constant process of upgrading quality which may result in data changes without notice.