FUJICHROME Sensia 200 [RM]

1. FEATURES AND USES

FUJICHROME Sensia 200 [RM] is a high-image-quality, daylight ISO 200 color reversal film which features extremely fine grain and sharpness, as well as faithful and brilliant color reproduction and rich tones ranging from the brightest highlights to the deepest shadows. These qualities make this film an excellent choice not only for normal outdoor photography but also for a wide variety of indoor scenes and situations requiring high shutter speeds.
Sensia 200 is ideally suitable for slide projection and for making big enlargements, as well as for printing on FUJICHROME paper and making high-quality duplicates using duplicating film.

Features	Results
• **Ultra-fine Grain / High Resolution**	• Refined images ideal for large-size enlargements and other high-magnification applications, as a result of its extremely fine grain
• **Faithful and Brilliant Color Reproduction**	• ISO-100 film-level performance giving more faithful color reproduction and higher color saturation than any previous ISO 200-speed film
• **Rich Tone Reproduction**	• Smooth and continuous gradation linearity from the highlights to the shadows assuring delicate texture and rich tone reproduction
• **Superior Reciprocity Characteristics**	• Minimal long-exposure-related loss in film speed and changes in color as a result of improved silver halide emulsion
• **Ideal Slide Projection Suitability**	• Clear, fine-grain, delicately textured images with natural and brilliant colors, perfect for projection
• **E-6 / CR-56* Processing**	• As with other FUJICHROME film, worldwide processing available using E-6 / CR-56

* CR-56 (Fujifilm) is equivalent to E-6 processing.

2. SPEEDS

Light Source	Speed	Filter
Daylight	ISO 200/24°	None
Tungsten Lamps (3200K)	ISO 64*/19°*	No.80A** (LBB-12***)

* Indicates the effective speed resulting from designated filter use.
** Wratten Filter
*** Fuji Light Balancing Filter

3. FILM SIZES, EMULSION NUMBER, BASE MATERIAL AND THICKNESS

Sizes	Emulsion Number
Rolls: 135 ..... 24-, 36-exp.	#951 –

Base Material ..... Cellulose Triacetate
Base Thickness ..... 127 μm

4. EXPOSURE GUIDE FOR VARIOUS LIGHT CONDITIONS

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

Daylight Exposure

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/16	f/11	f/8	f/5.6
Shutter Speed (Sec.)	1/500	1/250	1/250	1/250	1/250

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

Low Light Exposure

Light Conditions	Fine Weather Daytime Indoor Scenes	Indoor Scenes (Under Fluores- cent Light)	Stage or Snow Scenes	Evening Scenes
Lens Aperture	f/2.8 to 4			
Shutter Speed (Sec.)	1/30			

NOTES Since light intensities for indoor scenes varies widely from location to location, the data above should be used only as a guide.

Daylight

Under normal daylight conditions, color balancing filters are not necessary, but the following exposure conditions may require the indicated filters.

Subject Conditions	Filter	Exposure Correction
Open shade in fair weather and shaded landscapes.	UV Filter No.2C* (SC-39 or SC-40)**	None
Bright distant views, snow scenes, seaside locations, aerial shots and open landscapes.		
Close-ups of plants and subjects having bright colors.		

Excessively high or low subject color temperatures may require the following filters and exposure corrections.

Subject Conditions	Filter	Exposure Correction
High Color Temperature : Cloudy weather landscapes or portraits in open shade in clear weather.	No.81A* (LBA-2)***	+1/3 stop****
Low Color Temperature : Morning and evening twilight scenes and portraits.	No.82A* or No.82C* (LBB-2 or LBB-4)***	+1/3 to +2/3 stop****

* Wratten Filters
** Fuji Sharp-cut Filter
*** Fuji Light Balancing Filter
**** A "+" followed by a number indicates the required increase in lens opening.

Electronic Flash

- Electronic flash produces light similar to daylight, so filters are not normally 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.
- The use of a flash meter is advisable, but the following formula can also be used to obtain a satisfactory lens opening.

$$\text{Lens Aperture (f-number)} = \frac{\text{Electronic Flash Guide Number (at ISO 200)}}{\text{Electronic Flash-to-Subject Distance (meters)}}$$

- Set the film speed at ISO 200. Since the amount of light reflected onto the subject 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

- The use of the following combinations of color compensating filters is advisable when photographing under fluorescent lighting.
- For exacting work, however, test exposures are recommended because lamp brand and age may affect light output and color balance.

Fluorescent Lamp Type	White (W)	Daylight (D)	Cool White (CW)	Warm White (WW)
Color Compensating Filters*	25M	30R+10M	30M	No.80B+ 10M + 10R
Exposure Corrections**	+2/3	+1 1/3	+1	+2

(Exposure time: 1/2 second)

* Kodak Color Compensating Filters (or Fuji CC Filters) are recommended.
** Exposure correction values include filter exposure factors. These values are added to normal exposure meter readings. A "+" followed by a number indicates the required increase in lens opening.

NOTES
- Use a shutter speed slower than 1/30 second.
- For shutter speeds of 64 seconds or more, exposure adjustments will be necessary to compensate for reciprocity-related failure.

Tungsten Lamps

- A Wratten Filter No.80A (or Fuji Light Balancing Filter LBB-12) is required when using 3200K tungsten lighting. A 1 2/3-stop larger lens opening is also required.
- With household tungsten lamps, a Wratten Filter No.82A (or Fuji Light Balancing Filter LBB-2) will compensate for the lower color temperature. A 2-stop larger lens opening is required.

Mixed Light Sources

Under mixed light conditions, the basic filter configuration should suit the main light source. In the case of cameras with TTL metering, there is no need for additional exposure compensation for any CC filter(s) used.

5. LONG EXPOSURE COMPENSATION

No exposure correction or color balance compensation is required for exposures within a shutter speed range of 1/4000 second to 32 seconds. However, for exposures of one minute or longer, reciprocity-related color balance and exposure compensations are required.

Exposure Time	1/4000 – 32 sec.	1 min.	2 – 4 min.	8 min.
Color Compensating Filter	None	5G	7.5G	Not recommended
Exposure Corrections*		+2/3	+1	

* 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 the lens opening.

6. EXPOSURE PRECAUTIONS

With artificial light, such as electronic flash, photoflood, fluorescent, tungsten, mercury vapor, etc., the lamp output and color temperature may be affected by such factors as brand, age of equipment and line voltage. Reflectors and diffusers can also influence light intensity and color temperature.

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, shield the film from the sun with your body.
- 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.
- 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 the speed, color balance and physical properties of the film. Store film under the following conditions.
  - ○ Short-to-medium-term storage : Below 15°C (59°F) ..... (Refrigerator)
  - ○ Long-term storage : Below 0°C (32°F) ..... (Freezer)
- Building materials, finishes used on newly manufactured furniture, paints and bonding agents may produce gases which could affect photographic film. Do not store film, lightproof boxes of film, loaded cameras or film holders near these materials.
- Before use, films taken from cold storage should be allowed to stand at room-temperature for over 3 hours for refrigerated film, and over 6 hours for frozen film.

Processed Film

Exposure to light, high temperature and humid conditions can cause color changes in processed films. Therefore, place such films in mounts or sleeves and store them in a dark, dry, cool and well ventilated location under the following conditions.

- ○ Medium-term storage: Below 25°C (77°F) at 30% to 60% RH
- ○ Long-term storage : Below 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 designed for processing by Kodak E-6, Fujifilm CR-56, or equivalent chemicals.

10. LIGHT SOURCES FOR VIEWING

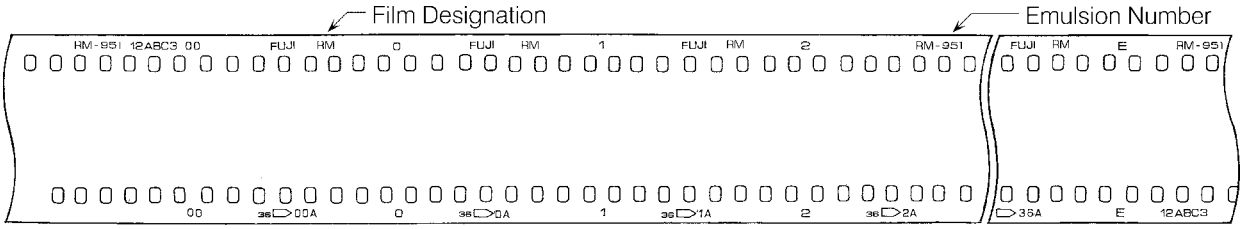
Take care to use a standard viewer, as visual responses differ with light source quality and brightness.

11. PRINTS

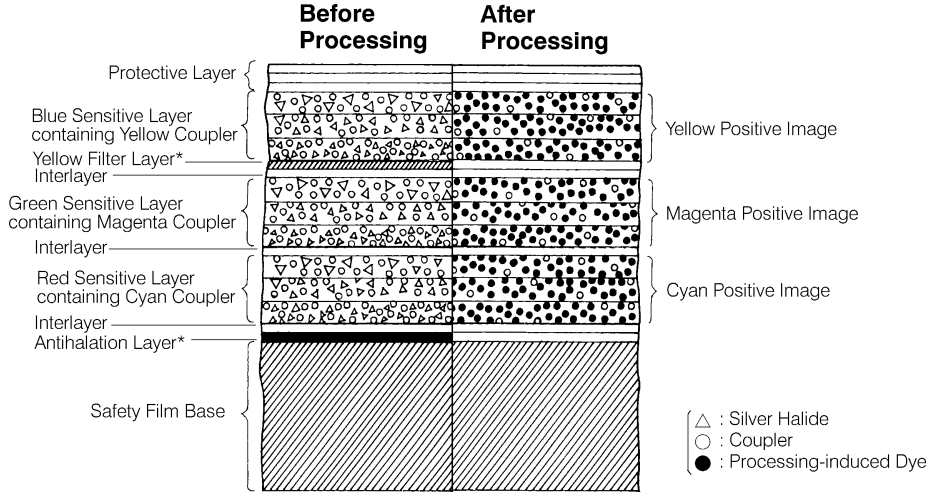
Slides can be made into normal prints on FUJICHROME paper or into Super Digital Prints.

12. PROCESSED FILM EDGE MARKINGS

• 135 Size



13. FILM STRUCTURE



* These layers become colorless and transparent after processing.

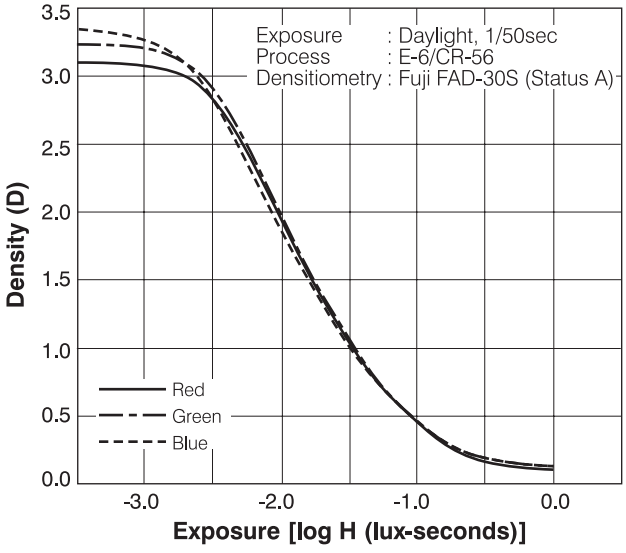
14. DIFFUSE RMS GRANULARITY VALUE 13

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

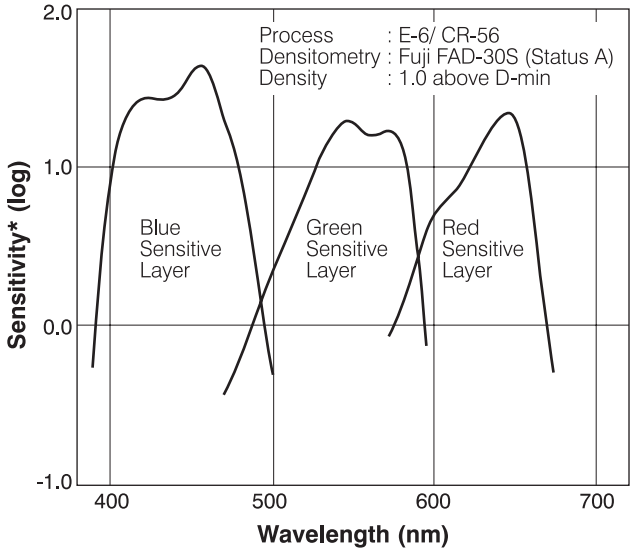
15. RESOLVING POWER

Chart Contrast 1.6 : 1 ..... **60** lines/mm
Chart Contrast 1000 : 1 ..... **140** lines/mm

16. CHARACTERISTIC CURVES

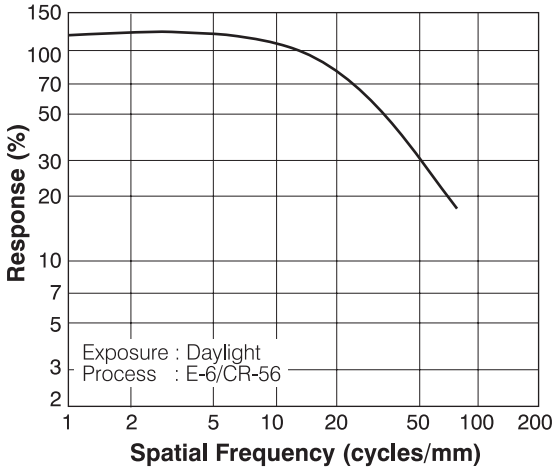


17. SPECTRAL SENSITIVITY CURVES

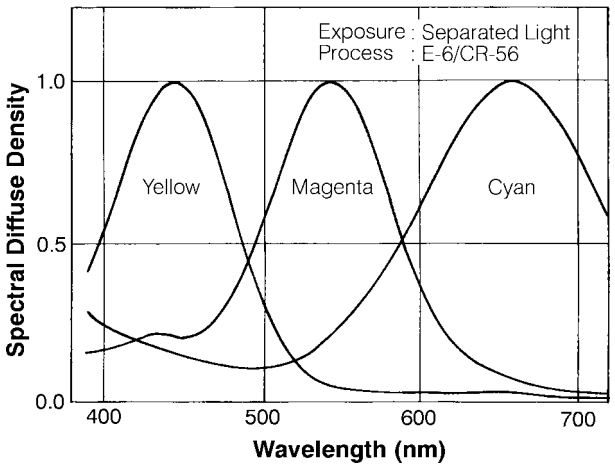


* Sensitivity equals the reciprocal of the exposure (J/cm^2) required to produce a specified density.

18. MTF CURVE



19. 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.

FUJIFILM
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Ref. No. **AF3-080E** (EIGI-00.8-HB • 10-1●) Printed in Japan