FUJICHROME Sensia II 400 [RH]

1 FEATURES AND USES

FUJICHROME Sensia II 400 [RH] is a high speed daylight-type color reversal film with an ISO speed rating of 400. It provides remarkable sharpness and granularity for an ISO 400 slide film.
Sensia II 400 is excellent for action and sports photography requiring high shutter speeds, and for low light conditions such as indoor, nighttime and astrophotography.
This film is ideal for making color slides for projection. In addition, color prints with FUJICHROME PAPER, duplicate slides and internegatives can be made.

Features	Results
• **Excellent Sharpness and Granularity**	• Remarkably sharp and fine-grain images for an ISO 400 slide film
• **Natural, Lifelike Rich Color Reproduction and Rich Gradation**	• Smooth gradation • Fine detail • Regulated highlight-to-shadow gradation
• **Excellent Long Exposure Performance**	• Minimal loss in color balance or sensitivity in extended exposures of nighttime or astronomical subjects
• **Artificial Light Suitability**	• Minimal color balance shifts under metal halide and other artificial illumination used at stadiums and indoor sporting events
• **Process E-6 or CR-56 Suitability**	• Can be processed anywhere in the world as with other FUJICHROME films
• **Excellent for Slide Projection**	• Displays crisp, fine-textured images with natural and lifelike colors on screen
• **Push-Processing Suitability**	• Can be push-processed for exposure flexibility

2 SPEEDS

Light Source	Speed	Filter Requirements
Daylight	ISO 400/27°	None
Tungsten Lamps (3200 K)	ISO 125/22°*	No.80A** (or LBB-12***)

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

3 FILM SIZES, EMULSION NUMBER, BASE MATERIAL AND THICKNESS

	Sizes	Emulsion Number
Rolls	•135 ..... 24 & 36-exp.	211 –

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

4 EXPOSURE GUIDE AND EXPOSURE UNDER VARIOUS LIGHT CONDITIONS

Use a 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/16	f/11	f/11	f/11	f/8
Exposure Time (sec.)	1/1000	1/1000	1/500	1/250	1/250

NOTES

- The foregoing settings are for 2 hours after sunrise and 2 hours before sunset.
- Provide lens opening 1/2 stop smaller during the summer and 1/2 stop large 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	Bright Daylight Indoor Scenes (in Fine Weather Conditions)	Indoor Scenes (under Fluorescent Light)	Stage or Show Scenes	Evening or Night Game Scenes	Night Scenes
Lens Aperture	f/2.8 to 4	f/2.8 to 4	f/2.8 to 4	f/2.8 to 4	f/2.8 to 4
Exposure Time (sec.)	1/60	1/30	1/30	1/60	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 daylight conditions color balancing filters are not necessary, but the following exposure conditions may require the indicated filters.

Subject Conditions	Filter	Exposure Correction
Fair weather open shade and shaded landscapes.	UV Filter No. 2B* (Fuji SC-40 or SC-41)**	None
Bright distant scenes, snow landscapes, seaside scenes, aerial scenes and open landscapes.		
Close-ups of plants and subjects having bright colors.		

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

Subject Conditions	Filters	Exposure Corrections
High Color Temperature: Cloudy weather landscapes or portraits and clear weather open shade.	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****

* Kodak Filters
** Fuji Sharp-Cut Filters
*** Fuji Light Balancing Filters
**** "+" = Lens opening

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.
- Adjust lens openings for electronic flash according to following formula.

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

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

Photo-Reflector Lamps (Daylight Photoflood Lamps)

- Daylight photoflood lamps tend to result in underexposure, 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

- Color balance corrections should be made using the filter combinations suggested below because effective light intensity and color balance varies with lamp make and age.
- For exacting work, test exposures are recommended.

(Exposure Time: 1/15 second)

Fluorescent Lamp Type	White (W)	Daylight (D)	Cool White (CW)	Warm White (W.W)
Color Compensating Filters*	40M +10B	40R +5M	30M +10R	No. 80C +20M (LBB-8 +20M)
Exposure Corrections**	+1 1/3 stops	+1 1/3 stops	+1 1/3 stops	+2 stops

* Kodak CC Filters (or Fuji Color Compensating Filters) recommended.
** Exposure correction values include filter exposure factors. These values are added to unfiltered exposure meter readings. "+" = Lens opening.

NOTES

- Use 1/30th or slower shutter speeds.
- For shutter speeds longer than 4 seconds, exposure adjustments will be necessary to compensate for reciprocity.

Tungsten Lamps

- A Kodak Filter No. 80A (or Fuji Light Balancing Filter LBB-12) is recommended with photoflood lamps. A 1 2/3 stop larger lens opening is also recommended.
- With household tungsten Lamps, a Kodak Filter No. 82A (or Fuji Light Balancing Filter LBB-2) will compensate for inherent color temperatures lower than photoflood lamps. A 2 stop larger lens opening is recommended.

Mixed Light Sources

Under mixed light conditions, derive the basic filter configuration for the main light source.

5 LONG EXPOSURE COMPENSATION

No exposure or color balance compensation is required for exposures within a 1/10000 to 4 second shutter speed range. However for exposures of 16 seconds or longer, reciprocity-related color balance and exposure compensations are required.

Exposure Time (sec.)	1/10000 to 4	16	64
Color Compensating Filters	None	5M + 2.5R	5M + 5R
Exposure Corrections*		+1 stop	+1 stop

6 EXPOSURE PRECAUTIONS

For artificial light sources such as electronic flash, photoflood lamps, fluorescent lamps, tungsten lamps, mercury lamps and the like, effective light output and color temperatures will vary with the type, the applied voltage and the age of the equipment. Also, light intensity or color temperature differences may be caused by variations in auxiliary lighting equipment such as reflectors and diffusers.

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.
- 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 unprocessed film under high temperature and humidity conditions will cause adverse speed, color balance and physical property changes. Store film under the following conditions.
  - o Short-to-medium term Storage:
    Avoid storing at places subject to high temperatures; if possible, store at below 15°C (59°F)
    ..... (Refrigerator)
  - o Long-term Storage:
    Film should be ideally stored bellow 0°C (32°F)
    ..... (Freezer)
- Building supplies, newly manufactured furniture, paints and bonding agents may produce noxious gases. Do not store film, lighttight boxes with film, loaded cameras or film holders under these conditions.
- Before use, allow films to stand at room-temperature; over 3 hours for refrigerated film, and over 6 hours for frozen film. Opening the container while film is cold may cause harmful condensation.

Processed Film

Light, high temperature and humidity 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.

- 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

Process in standard E-6, CR-56 or equivalent chemicals.

10 VIEWING LIGHT SOURCES

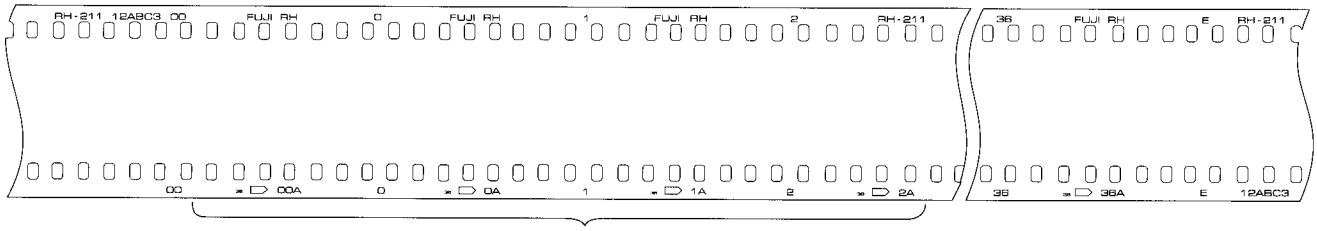
Use a standard viewer. Visual responses will differ with light source quality and brightness. Therefore, employ a viewer which meets the ISO/ANSI standards.

* The ISO standard (ISO/DP3664-2) specifies an illuminated viewer surface with a color temperature derived from a CIE illuminant D50 (D: Daylight) with a reciprocal color temperature of 5000K, an average brightness of 1400 cd/m^2 ± 300 cd/m^2, a brightness uniformity of more than 75%, a light diffusion level of more than 90% and an average color rendition assessment value of more than Ra90. Transparency viewers should meet these standards.

10 PRINTS AND DUPLICATES

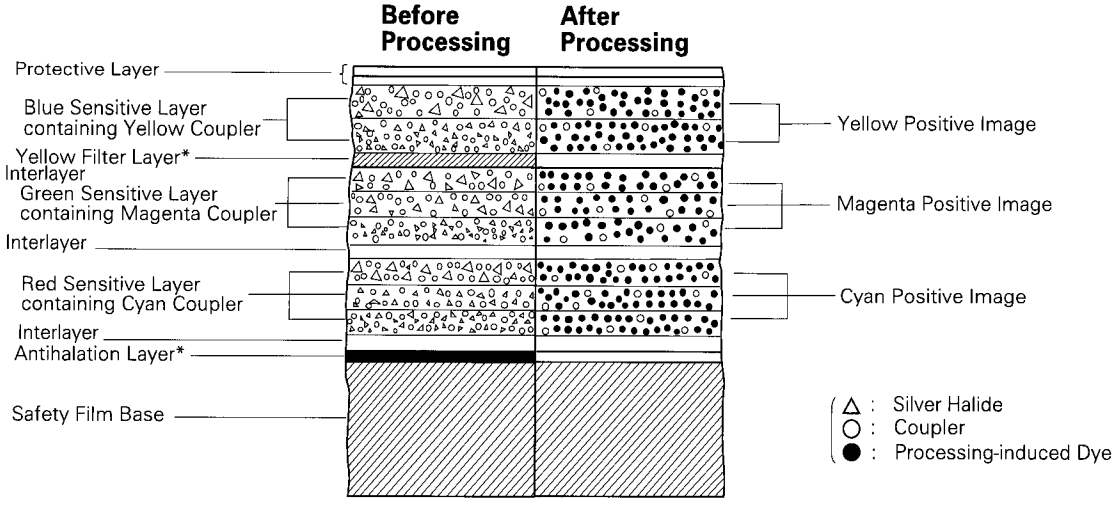
Processed slide films can be made into prints on FUJICHROME PAPER or FUJICOLOR internegative film IT-N. Duplicates can be made on FUJICHROME DUPLICATING FILM CDU TYPE II.

12 PROCESSED FILM EDGE MARKINGS



These designations are repeated along the film edge.

13 FILM STRUCTURE



* These layers become colorless and transparent after processing.

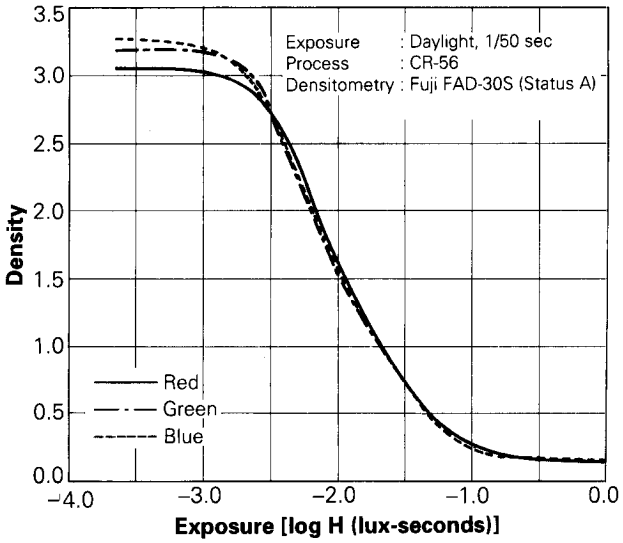
14 DIFFUSE RMS GRANULARITY VALUE — 15

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

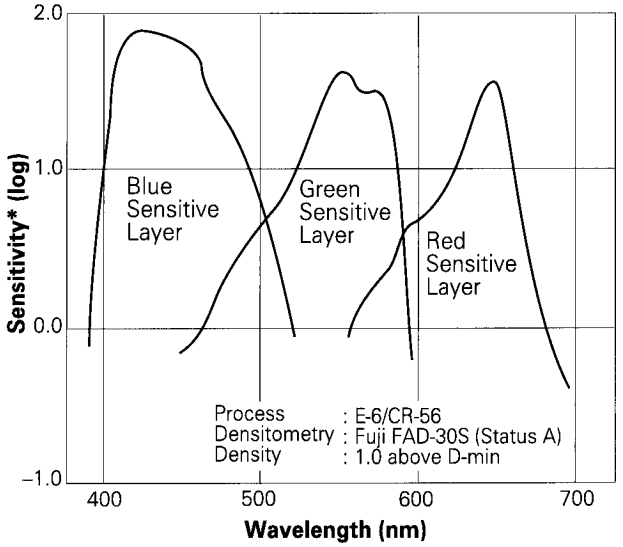
15 RESOLVING POWER

Chart Contrast	1.6 : 1	**40** lines/mm
Chart Contrast	1000 : 1	**125** lines/mm

16 CHARACTERISTIC CURVES

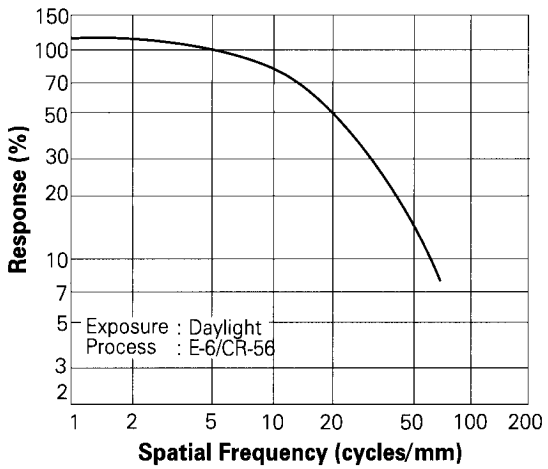


17 SPECTRAL SENSITIVITY CURVES

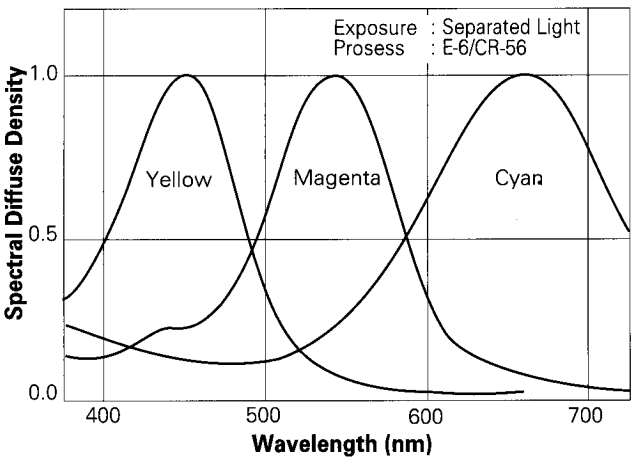


* Sensitivity equals the reciprocal of the exposure (ergs/cm²) required to produce a specified density.

18 MTF CURVE



19 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.

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