

FUJICHROME PROVIA 100 Professional [RDPII]

1. FEATURES AND USES

FUJICHROME PROVIA 100 Professional [RDPII] is a top quality daylight-type color reversal film with an ISO rating of 100. It provides exceptional sharpness and granularity for an ISO 100 film.

Faithful color reproduction, rich, realistic gradation and optimum gradation balance make this versatile film suited for product, fashion and landscape photography.

Features	Results
<ul style="list-style-type: none"> • Excellent Sharpness and Granularity 	<ul style="list-style-type: none"> • Exceptionally fine grain and sharp images for an ISO 100 reversal film
<ul style="list-style-type: none"> • Faithful Color Reproduction and Rich, Realistic Gradation 	<ul style="list-style-type: none"> • Faithful hues and high saturation, realistic, subtle color tone and gradation
<ul style="list-style-type: none"> • Excellent Long Exposure and Multiple Flash Performance 	<ul style="list-style-type: none"> • Minimal loss in color balance or sensitivity in extended exposures of nighttime or astronomical subjects • Minimal color shift with multiple exposures
<ul style="list-style-type: none"> • Process CR-56 or E-6 Suitability 	<ul style="list-style-type: none"> • Can be processed anywhere in the world as with other FUJICHROME films
<ul style="list-style-type: none"> • Excellent Push-/Pull-Processing Suitability 	<ul style="list-style-type: none"> • Allows development time corrections for under- and over-exposures with minimal variations in color balance and gradation, especially in a range down to 1/2 stop and up to 1 stop

2. SPEED

Light Source	Speed	Filter
Daylight	ISO 100/21°	None
Tungsten Lamps (3200K)	ISO 32/16°	LBB-12**(or No. 80A***)

* Indicates the effective speed resulting from designated filter use.

** Fuji Light Balancing Filter

*** Kodak Filter

- Included in each of the sheet film boxes are speed and color compensating filter values. Use these values in exposure determination.

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

Sizes		Emulsion Number
Rolls	135 36-exp. 36-exp. (5-roll and 20-roll pack) 35 mm x 30.5 m (100 ft) 120 12-exp. 12-exp. (5-roll pack) 220 24-exp. (5-roll pack)	#101~
Sheets	4 x 5 in.(10.2 x 12.7 cm) 10 sheets and 50 sheets 5 x 7 in.(12.7 x 17.8cm) 20 sheets and 50 sheets 8 x 10 in.(20.3 x 25.4 cm) 10 sheets and 50 sheets 11 x 14 in.(27.9 x 35.6cm) 10 sheets 9 x 12 cm 10 sheets 13 x 18 cm 10 sheets Quickload 4 x 5 in 20 sheets	

Base Material Cellulose Triacetate

Base Thickness Rolls 135; 127 μm

120; 105 μm

220; 105 μm

Sheets ; 205 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.

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

(Exposure Time 1/250 th Sec.)

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 larger during the winter.
- Excessively bright (or dark) or backlighted subjects may require plus or minus 1 stop lens opening adjustments.

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 (Fuji SC-40 or 41 or No. 2B or No. 2C*)	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	Filter	Exposure Correction
High Color Temperature: Cloudy weather landscapes or portraits and clear weather open shade.	LBA-2** (No. 81A)*	+1/3 stop ***
Low Color Temperature: Morning and evening twilight scenes and portraits.	LBB-2** or LBB-4** (No. 82A or No. 82C)*	+1/3 to +2/3 stop ***

* Kodak 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.

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

- Set the film speed at ISO 100. Since the amount of light reflected onto 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 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

- 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: 1/4 second)

Fluorescent Lamp Type	White (W)	Daylight (D)	Cool White (CW)	Warm White (W.W)
Color Compensating Filters*	25M + 20B	30R + 10M	35M	LBB-10 + 5M (No. 80C + 5M)
Exposure Corrections**	+1 stop	+1 stop	+1 stop	+2 stops

* Fuji Color Compensating Filters (or Kodak CC 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 32 seconds, exposure adjustments will be necessary to compensate for reciprocity.

Tungsten Lamps

- A Fuji Light Balancing Filters LBB-12 (or Kodak Filter No. 80A) is recommended with photoflood lamps. A 1 2/3 stop larger lens opening is also recommended.
- With household tungsten Lamps, a Fuji Light Balancing Filter LBB-2 (or Kodak Filter No. 82A) 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 AND MULTIPLE EXPOSURE COMPENSATIONS

No exposure or color balance compensation is required for exposures within a 1/4000 to 16 seconds shutter speed range. However for exposures of 32 seconds or longer, reciprocity-related color balance and exposure compensations are required.

Exposure Time	1/4000 to 16 sec	32 sec.	2 min.	8 min.
Color Compensating Filters	None	None	2.5 R	Not recommended
Exposure Corrections*		+1/2 stop	+1 stop	

Multiple Exposures

Make the following color and exposure compensations for electronic flash multiple exposures.

Number of Flashes	1	2	4	8
Color Compensating Filters	—	None		2.5Y
Exposure Corrections*	—			+1/2 stop

* Exposure correction values include filter exposure factors. These values are added to unfiltered exposure meter readings. "+" = Lens opening.

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.
- Camera-loaded film should be exposed and processed promptly.

- 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 Storage

- Storing exposed or unexposed, unprocessing film under high temperature and humidity conditions will cause adverse speed, color balance and physical property changes. Store film under the following conditions.
 - * Refrigerated Storage: Below 15°C (59°F)
 - * 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 camera 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 trouble due to moisture condensation.

Processed Film Storage

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 Conditions:
Below 25°C (77°F) at 30 to 60% RH
- * Extended Storage Conditions:
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 intended for processing in Fujifilm Process CR-56, or Kodak Process E-6.

10. VIEWING LIGHT SOURCES

A color viewer with an ISO adjusted light source should be used for checking original and duplicate films because the characteristics and brightness levels of the viewer substantially affect discernment accuracy.

* 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 1400cd/m² ± 300cd/m², 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.

11. PRINTS AND DUPLICATES

Processing-derived transparencies can be made into prints on FUJICHROME Paper or internegative films. Duplicates can be made on FUJICHROME DUPLICATING FILM CDU.

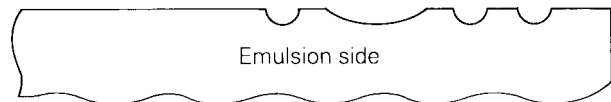
12. RETOUCHING

Use commercially available retouching dyes and bleaching chemicals. Further information is to be found in the FUJICHROME Professional Technical Handbook "Retouching FUJICHROME Transparencies." This Handbook contains procedures for retouching and bleaching, chemical formulas, and other relevant information.

13. SHEET FILM CODE NOTCHING

Code notching is cut into sheet film to designate emulsion types and positioning. Notching in the upper right-hand corner positions the emulsion surface forward.

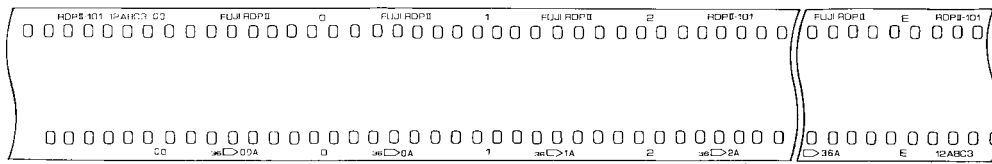
Quick Load type films use the same code notching.



14. PROCESSED FILM EDGE MARKINGS*

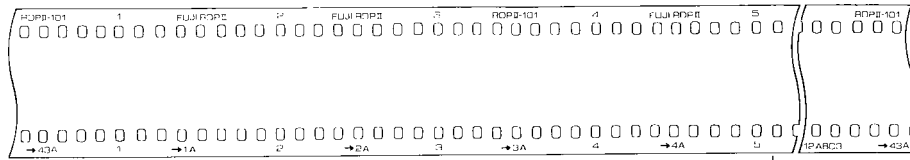
<Rolls>

- 135 Size



These designations are repeated along the film edge.

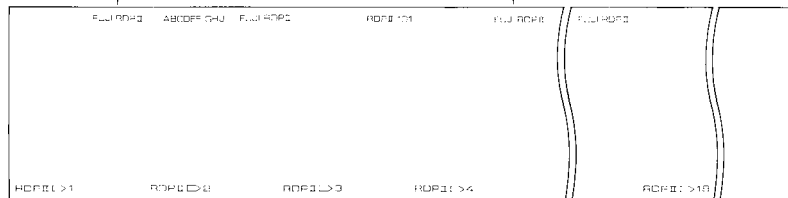
- 35 mm X 30.5 m



These designations are repeated along the film edge.

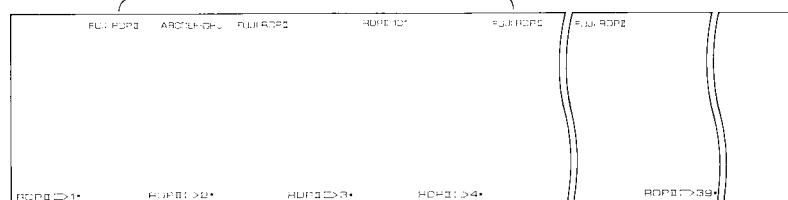
- 120 Size

These designations are repeated along the film edge.



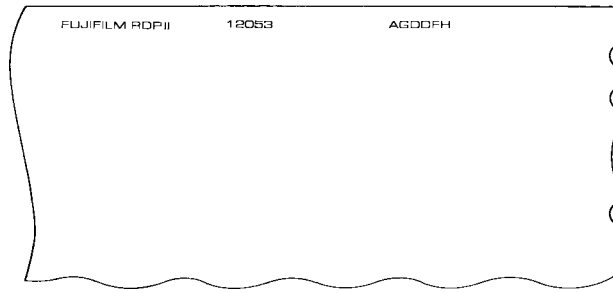
- 220 Size

These designations are repeated along the film edge.

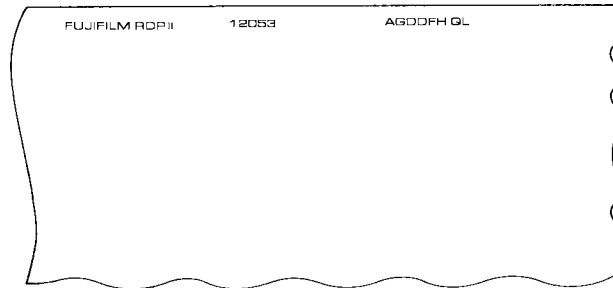


<Sheets>

- 4 X 5in.

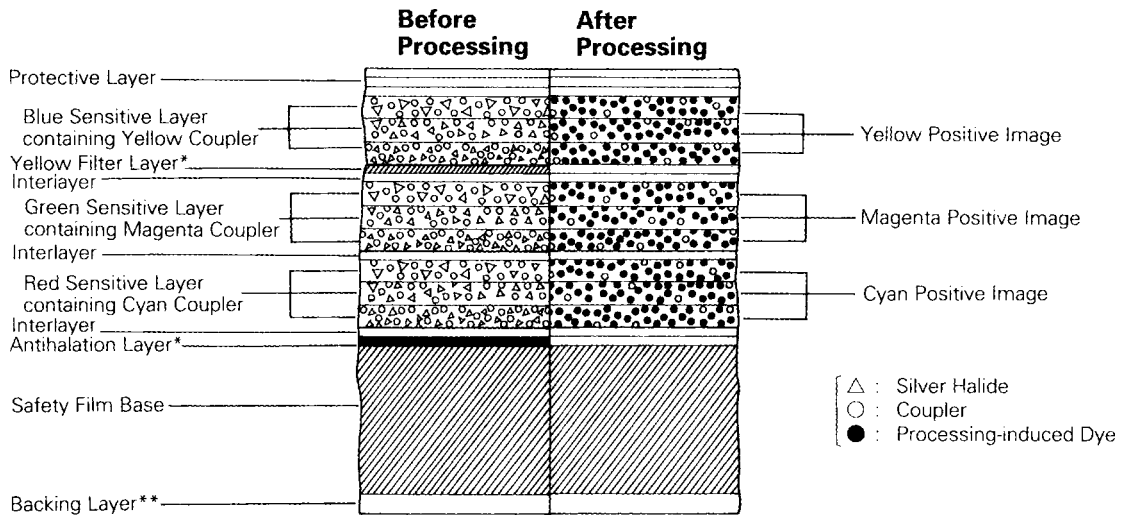


- Quick Load type



* In all cases the emulsion is on the opposite side.

15 FILM STRUCTURE



* These layers become colorless and transparent after processing.
 ** The backing layer is colorless and transparent both before and after processing, but it is not provided with 135 size film.

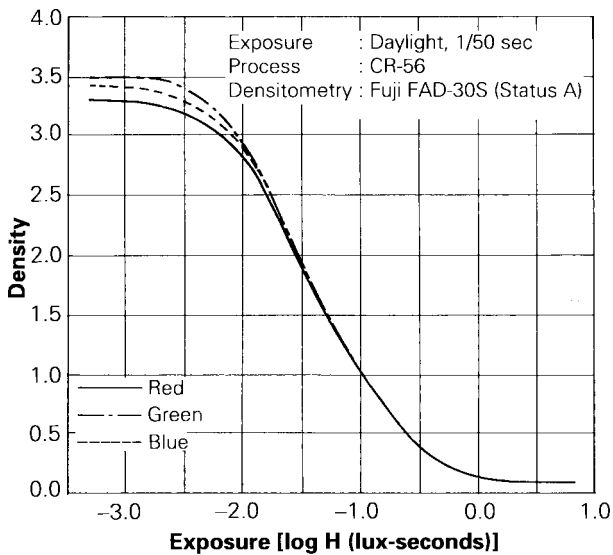
16. DIFFUSE RMS GRANULARITY VALUE — 10

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

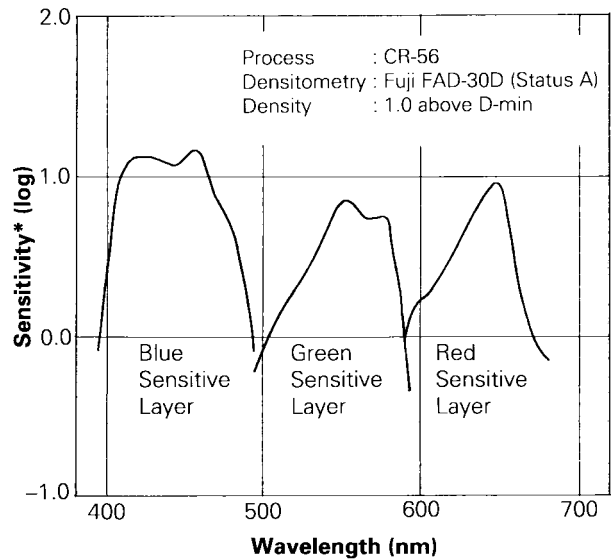
17. RESOLVING POWER

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

18. CHARACTERISTIC CURVES

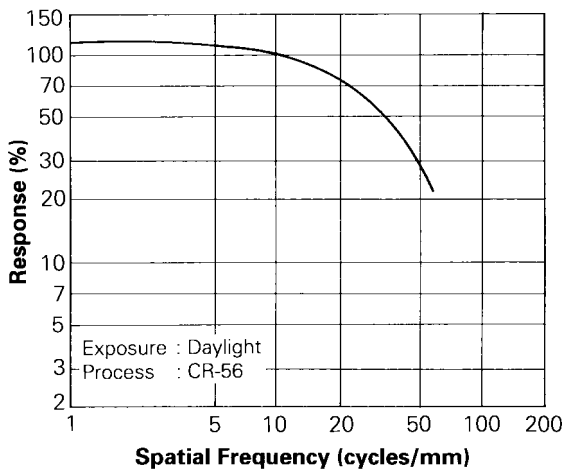


19. SPECTRAL SENSITIVITY CURVES

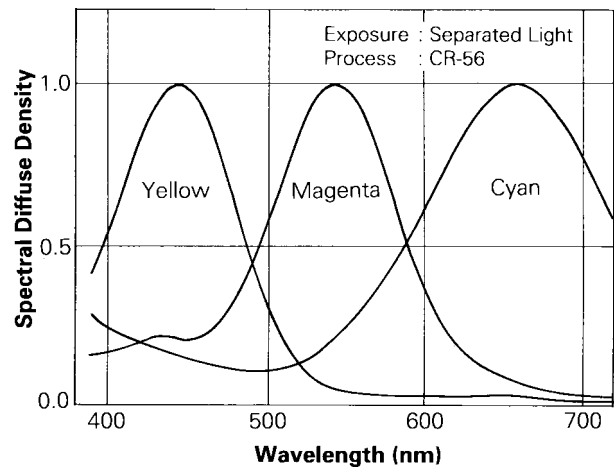


* Sensitivity equals the reciprocal of the exposure (ergs/cm²) required to produce a specified density.

20. MTF CURVE



21. 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.