FUJICHROME 64T TYPE II Professional [RTPII]

1. FEATURES AND USES

FUJICHROME 64T TYPE II Professional [RTP II] is an ISO 64 speed tungsten-type high image quality color reversal film. In its speed class, this new film provides the highest degree of fine grain possible along with excellent resolving power. It also provides high saturation, rich gradation, faithful color reproduction and well-controlled gradation balance. These qualities make RTP II particularly suited to all types of product photography, interior and other architectural work, as well as the reproduction of illustrations, paintings etc.

Features	Results
• **Excellent-fine Grain**	• Allows large-size enlarging and other work which requires finely-detailed magnified images.
• **Rich Gradation**	• Provides excellent gradation continuity and delicate texture depiction, without any loss in shadow smoothness.
• **Faithful Color Reproduction**	• Results in faithful reproduction of color hues along with high saturation, delicate tones and rich gradation.
• **Improved Reciprocity Characteristics**	• Enables long exposures to be made under low-light conditions or when using small diaphragm openings for increased depth-of-field. Under these shooting conditions, any decreases in film speed and changes in color balance are minimal.
• **Excellent Push/Pull-Processing Suitability**	• Permits push/pull-processing, from -1/2 to +1 stop, with minimal changes in color tone and gradation, providing ample compensation for over-/underexposures.
• **E-6/CR-56* Processing**	• Can be processed in standard E-6/CR-56 chemicals anywhere in the world as with other FUJICHROME films.

64T TYPE II has the same excellent color image stability as ASTIA 100 and PROVIA 100 films, along with the same strong resistance against raw film aging.

* CR-56 is Fujifilm's equivalent to the E-6 process.

2. SPEED

ISO 64/19° Tungsten-type (3100K)
Exposure Time 4 sec.
For the sheet film version of this film, the usable speeds for exposures under tungsten (3100K) lighting, along with color correction filter required, if indicated, are printed on the back of the box. Differences in lighting equipment and processing conditions may prevent optimum results from being attained. For precise results, test exposures are recommended.

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

Sizes*		Emulsion Number
Rolls	135 ..... 36-exp. 35 mm x 30.5 m (100 ft) 120 120 ..... 12-exp. (5-roll packs)	#701 –
Sheets	4 x 5 in. ..... 10 and 50 sheets 5 x 7 in. ..... 20 sheets 8 x 10 in. ..... 10 sheets 11 x 14 in. .... 10 sheets 9 x 12 cm ..... 10 sheets 13 x 18 cm ... 10 sheets QuickLoad (4 x 5) ..... 20 sheets	

* Some sizes are not available in certain market areas.

Base Material ..... Cellulose Triacetate
Base Thickness ..... Rolls 135: 127 μm
120: 104 μm
Sheets: 205 μm

4. EXPOSURE GUIDE AND EXPOSURE UNDER VARIOUS LIGHT CONDITIONS

This film is designed to render optimum results with photographic tungsten lighting. If used under different light sources, the following color compensations are required.

Compensations for Various Light Sources

Light Sources		Color Compensating Filters	Exposure Corrections*4
Tungsten Photograhic Lamps • Studio Tungsten Lamps • Tungsten-halogen Lamps • Photoflood Lamps • Photospot Lamps (Color Temperature: 3100K)		None	None
• Daylight • Electronic Flash • Blue Photoflood Lamps • Blue Photospot Lamps (Color Temperature: 5500K)		No. 85B*1 (LBA-12+LBA-2)*2	+2/3 stop (+1 stop)
Fluorescent Lamps	White (W)	No. 85B*1+81D*1 (or LBA-16*2) +40B*3+10M*3	+2 1/2 stops
	Daylight (D)	No. 85B*1 (or LBA-12*2) +40R*3	+1 1/2 stops
	Cool White (CW)	No. 85B*1 (or LBA-12*2) +25M*3+10R*3	+1 1/2 stops
	Warm White (WW)	30R+5M	+1 stop

*1 Kodak Filter
*2 Fuji Light-balancing Filter
*3 Kodak Color Compensating Filters (or Fuji CC Filters) are recommended.
*4 Exposure correction values include filter exposure factors. "+" followed by number = required increase in lens opening.

Tungsten Lamps

- Photographic tungsten lamps should be used at their specified voltages because any deviation from the correct voltage affects the color temperature. As light output and color temperature vary with manufacturer, total time the lamp has been used, line voltage, reflector and diffuser, etc. employed, test exposures are recommended.
- Since household tungsten lamps have generally low color temperatures (around 2700K), No. 82A or LBB-2 light-balancing filters should be used if these lamps constitute the main light source.

Daylight

Daylight and general electronic flash exposures require the compensations listed in the above table. Exposures made under bright sun or clear blue sky conditions, where the color temperature is higher, will require the use of No. 85B + No. 81A or LBA-16 filters. Low color temperatures will necessitate the use of No. 85B or LBA-12 + LBA-2 filter.

Fluorescent Lamps

Even with fluorescent lamps of the same type and manufacturer, there will be differences in light quality relative to use duration, reflector, diffuser and lamp fixture types. Test exposures, therefore, should be made whenever possible.

Mixed Light Sources

Exposures made under mixed light sources (especially a mixture of daylight and tungsten light) are not recommended. If these conditions are unavoidable, light compensation filtration should be provided relative to the dominant light source.

Other Light Sources

With metal-halide lamps, mercury-vapor lamps and fluorescent lamps other than those listed in the above table, provide initial test exposures to determine the best filter(s) to use and proper exposure time.

5. LONG EXPOSURE COMPENSATION

Reciprocity compensation is not required if exposure times remain within the 1/15 to 64 second range. However, in cases where over 64 seconds are necessary, exposure compensation as shown in the following table should be used.

Exposure Time (sec.)	1/4000 to 1/30	1/15 to 64	128	256
Color Conpasating Filters	Not Recommended	None	None	None
Exposure Corrections*			+1/3 stop	+1/2 stop

* "+" followed by number = required increase in 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 make, 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 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.
- Handle sheet film in total darkness and do not touch emulsion surfaces. (The use of a safelight will cause fogging.)
- X-ray equipment, used to inspect carry-on baggage at airport terminals, can cause film fogging. Re-

peated inspections increase this possibility, so 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 high temperature and humidity conditions will cause adverse speed, color balance and physical property changes. 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 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 conditions.
- Before use, allow films to stand at room-temperature; over 3 hours for refrigerated film, and over 6 hours for frozen film. Long rolls such as 100 feet (30.5m) will require additional time. Opening the package/box while film is cold may cause harmful condensation.

Processed Film

- Exposure to light, high temperature and humidity can 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

This film is designed for processing in Kodak Process E-6, or Fujifilm Process CR-56.

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 standard.

* The ISO standard (ISO/DP3664-2) specifies an illuminated viewer surface with a color temperature derived from a CIE illuminant D_{50} (D: Daylight) with a reciprocal color temperature of 5000K, an average brightness of 1400cd/m^2 ± 300cd/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.

11. PRINTS AND DUPLICATES

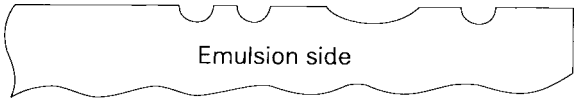
Processed transparencies can be made into prints on FUJICHROME papers or FUJICOLOR INTERNEGATIVE FILM IT-N, thus greatly increasing its versatility. High-quality duplicates can be made on FUJICHROME DUPLICATING FILM CDU TYPE II.

12. RETOUCHING

Changes in density and color balance can be made by using readily available retouching dyes and bleaching chemicals.

13. SHEET FILM CODE NOTCHING

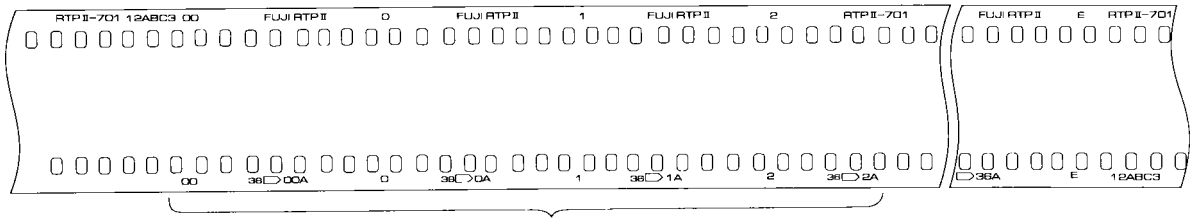
A notch identifying this emulsion type is located in the upper right-hand corner when the emulsion surface is facing toward you. The same notch is provided for QuickLoad type films.



14. PROCESSED FILM EDGE MARKINGS*

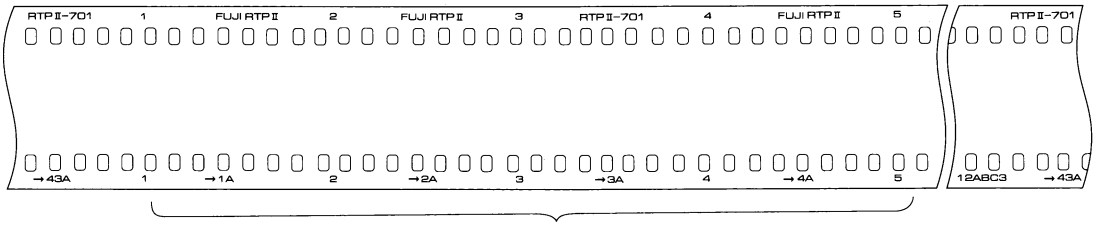
<Rolls>

- **135 Size**



These designations are repeated along the film edge.

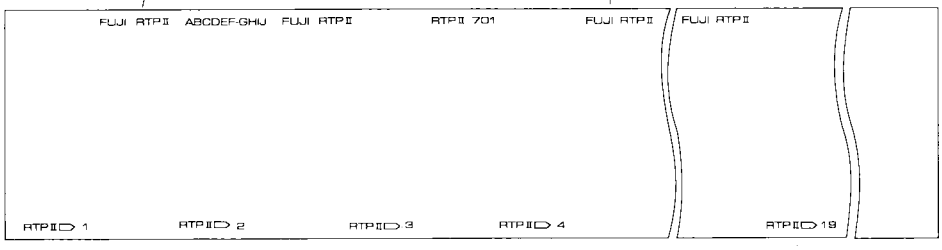
- **35mm x 30.5 (100 ft.)**



These designations are repeated along the film edge.

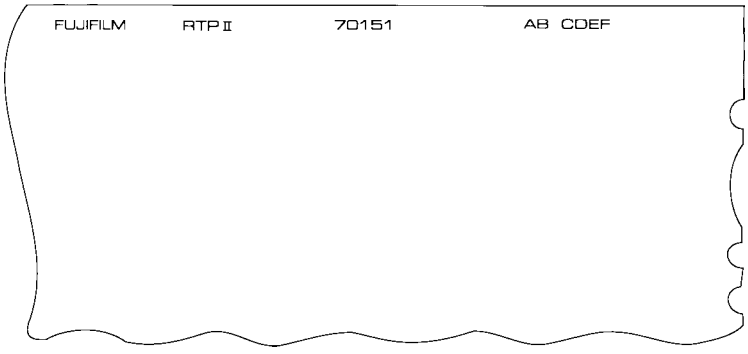
- **120 Size**

These designations are repeated along the film edge.

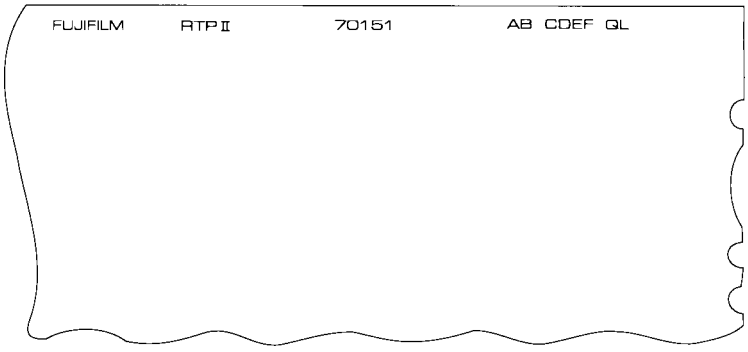


<Sheets>

- **Standard Sheet Film**

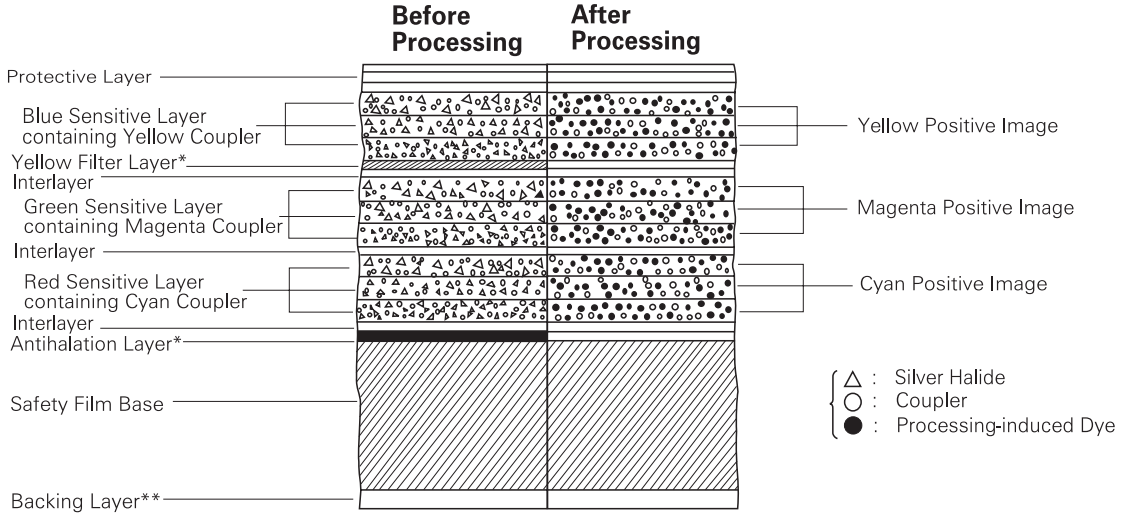


- **QuickLoad**



* The emulsion is on the opposite side.
(Base side facing you)

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.

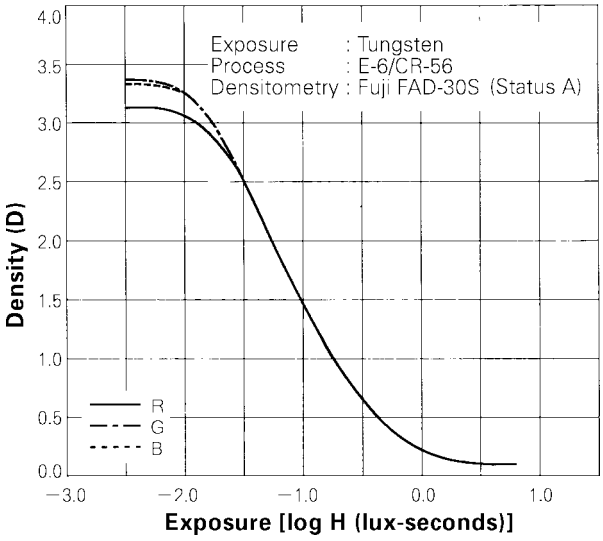
16. DIFFUSE RMS GRANULARITY VALUE 10

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

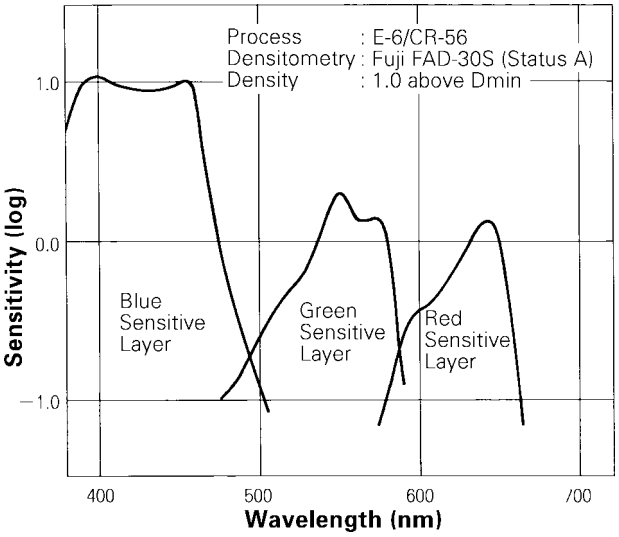
17. RESOLVING POWER

Chart Contrast 1.6 : 1 ..... **55** lines/mm
Chart Contrast 1000 : 1 ..... **135** lines/mm

18. CHARACTERISTIC CURVES

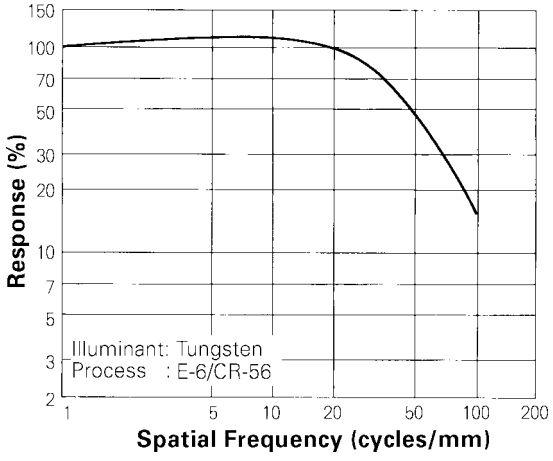


19. SPECTRAL SENSITIVITY CURVES

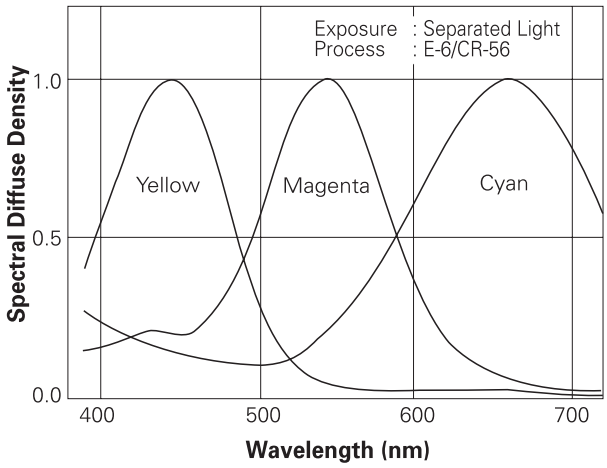


* Sensitivity equals the reciprocal of the exposure (ergs/cm²) required to produce a specified density.

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.

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