



*New*

**FUJICOLOR POSITIVE FILM**

**F-CP**

**35mm Type 3510 / 16mm Type 3610**



# Advanced image quality and handling ease for total cinematic versatility.



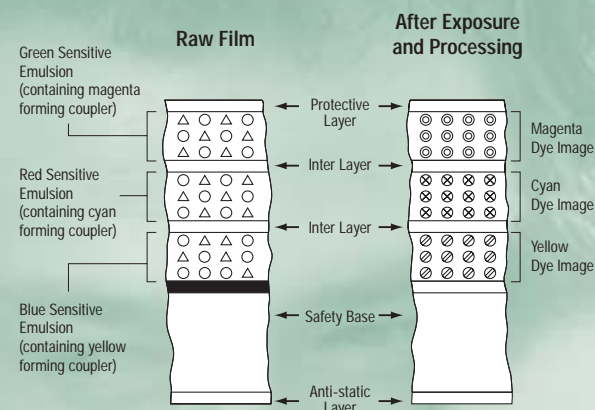
## General Properties

Fujicolor Positive Film F-CP is a high-resolution, fine-grain color positive film capable of rich gradation and lifelike color reproduction. It is used to produce color release prints from original camera film or color intermediate film. The emulsion layers are color-balanced for making prints from color mask incorporated color negative film or color intermediate film. The black backing layer, which produces a colored waste solution when washed with water, is removed from this film. The film incorporates newly incorporated antihalation and antistatic layers. It also employs a rugged polyester (PET) base which will undergo only a slight change in size.

## Film Structure

This film is composed of three emulsion layers, sensitive to red, green, and blue light respectively, along with a protective layer coated on a safety base. These layers contain various components required to record an image and a sound image, such as silver halides that capture light and couplers that form dyes. Yellow, cyan, and magenta dye images are formed when exposed and processed. The conventional analog sound image is printed in the green and red sensitive emulsion layers and forms an image composed of

silver and dyes through processing. The digital sound systems which have been introduced to the industry in recent years are printed in the different sensitive layers to form various sound tracks. An antihalation layer is provided between the emulsion layer and the film base to prevent halation during printing. The dyes of this layer are removed during processing. The other side of the base is provided with a transparent antistatic layer to provide such properties as static electricity control and scratch resistance. This layer serves to prevent the occurrence of static arcs and the collection of dust due to static electricity. This property is still effective even after processing. The film structure is schematically represented below.



## Film Base

The polyester (PET) safety base does not allow splicing with film cement. Use splicing tape or an ultrasonic splicing device for splicing.

## Safelight

This film should be handled at a distance of 1m (3½ft) or more from a 10-watt electric bulb by the use of a Fuji Safelight Filter N0.101A (dark orange) for color positive film. When the film is exposed to safelight for prolonged periods of time, a sufficient test should be performed to ensure safety.

## Printing

### • Image

When prints are to be made from Fujicolor Super F Series negative film (processed UL bleach) using a printer with an additive color light source, such as Bell & Howell Model C, the printer conditions are approximately as follows.  
Printer light source: 1000W, DC70V  
Filters: Fuji Filter SC41+Heat-absorbing Filter No.2043  
Printer speed: 55m/min (180ft/min)

Printer settings :

Light	Trimmer	Tape	ND Filter
Red	15	25	0.50
Green	15	25	0.55
Blue	15	25	0.90

**Aim Print Density:** Normally expose a negative film normally to 18% reflectance gray card and process the negative film under standard conditions. Print the negative image of the gray card onto the Fujicolor positive film. Fine adjustments should then be made to the printer settings so that the following density values of status A may be obtained with the gray card on the positive film.

(The aim density values are based on the assumption that the film will be projected with a xenon lamp projector.)

R 1.10    G 1.05    B 1.05

### • Analog Sound Track

Insert Fuji Filter SC-50 in the light path of the printer to record a sound image in the top two emulsion layers. The optimum density of the variable-area type sound track of the color positive film is determined by the combination of its density and the sound track density of the sound negative film. Obtain the optimum density of the variable-area type sound track by performing a cross modulation test. The sound track density of color positive film usually ranges from 1.1 to 1.6 when measured at a wavelength of 800nm.

### • Digital Sound Track

Refer to the specifications of each digital recording system.

## Processing

Fujicolor Positive Film F-CP is designed to be processed in Process ECP-2B for Eastman Color Print Film. The process steps of prebath and rem-jet removal & rinse may be omitted.

## Edge Markings

Film identification marks (FUJICOLOR, Type No, Lot No, Roll No, Slit No and Perforating Machine No) are printed as latent images. For edge markings, a magenta coloring is used in order not to interfere with the SDDS soundtracks.

## Raw Stock Storage

Like other color films, Fujicolor Positive Film F-CP may undergo certain changes in photographic properties when stored for extended periods. Since these changes can be accelerated, particularly through the action of heat and moisture, it is recommended that raw stock be stored at temperatures below 13°C (55.4°F) in the package. A package containing film that has been refrigerated should remain sealed until it reaches equilibrium with the ambient temperature. If packages are opened too soon, moisture from outside the package may condense on the film surface before and during use.

## Exposed Film Handling

Exposed films should be processed as soon as possible. If exposed films cannot be processed within 3 days of exposure, they should be stored below 10°C (50°F) and processed as soon as circumstances permit.

## Processed Film Storage

Fujicolor Positive Film F-CP is designed to resist color fading. However, to avoid changes in dye image due to high temperatures and humidities during prolonged storage, it is recommended that processed films be kept at a temperature of 15°C (59°F) with 30% to 40% RH for long-term storage (about 100 years), and at a temperature of 20°C (68°F) with 40% to 50% RH for medium-term storage (about 50 years). Furthermore, it is also recommended that processed films in storage should be checked by visual inspection for changes (e.g., deformation, color fading, adhesion, mold) at intervals of a few years.

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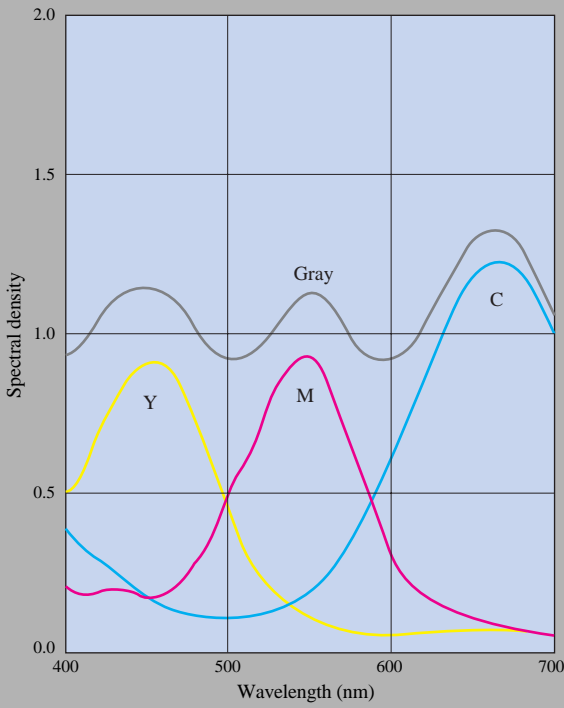


## Packaging Units and Perforations

Film Width	Film Length and Winding Type	Core / Spool	Shape, Pitch and Specification of Perforations
70mm	610m	70 X 75 mm core	KS-4, 750mm [ISO 3023 : 1995]
	* 762m	70 X 75 mm core	
35mm	* 610m	35 X 75 mm core	KS-4, 750mm [ISO 491 : 1995]
	915m	35 X 75 mm core	
	1220m (box bin style package)	35 X 75 mm core	
	1830m (box bin style package)	35 X 75 mm core	
16mm	610m X 2 (Single-perforated, type B winding)	16 X 75 mm core	1R-7, 620mm [ISO 69 : 1998]
	915m X 2 (Single-perforated, type A winding)	16 X 75 mm core	

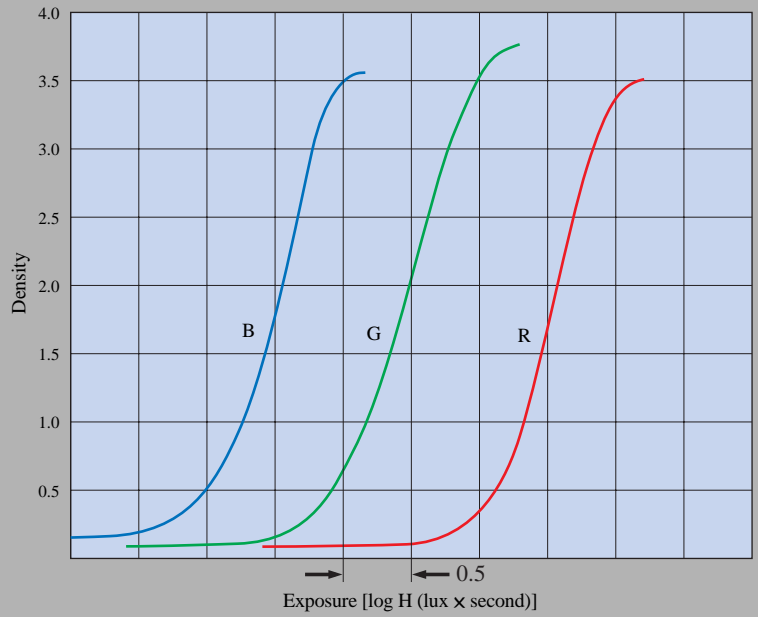
Items marked with the symbol\* are manufactured after receipt of orders.

**Spectral density curves**



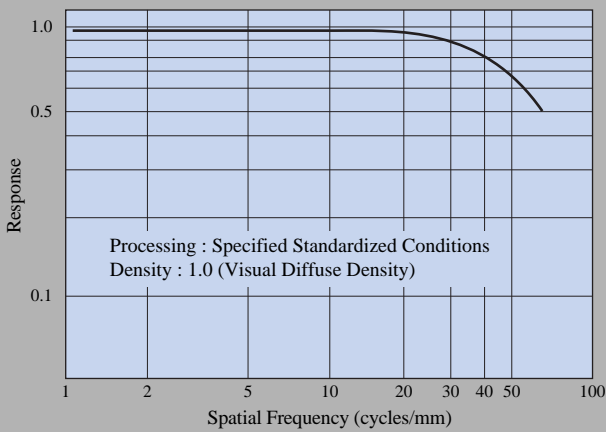
**Characteristic curves**

Exposure : 2854K Tungsten Light Source for 1/100 second  
with Fuji Filter SC-41 and Color Correction Filter  
Processing : Specified Standardized Conditions  
Densitometry : Three Color Diffusion Densities (Status A)



In order to simulate conditions closest to practical use, exposure was made under a 2854K Tungsten light source, through CC-90Y and CC-60M print color correction filters and a Fuji SC-41 ultraviolet absorbing filter in combination. Processing was carried out under standard conditions and the three color densities (status A) were measured. The results of measurements are plotted as characteristic curves. Curves G and B are shifted 1.0 Log H to avoid overlapping.

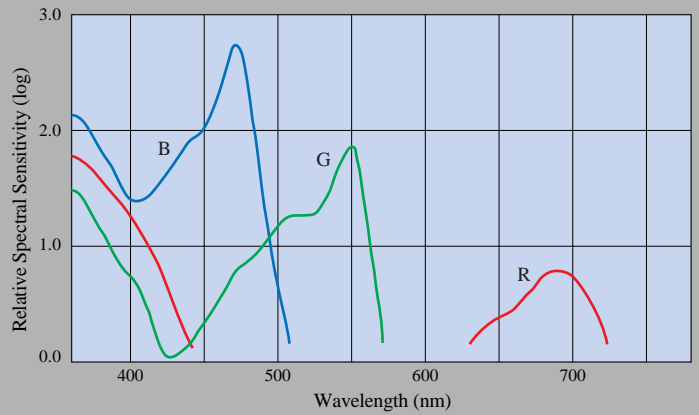
**Contrast transfer function (CTF)\***



Processing : Specified Standardized Conditions  
Density : 1.0 (Visual Diffuse Density)

\* Spatial frequency attenuation characteristic of amplitude relative to rectangular wave chart (However, the presented data is normalized with the amplitude of zero frequency.)

**Spectral sensitivity curves**



Processing : Specified Standardized Conditions  
Densitometry : Arbitrary Three Color Densities  
Density : 1.0 above Minimum Density  
Sensitivity : Reciprocal of Exposure (ergs/cm<sup>2</sup>)  
Required to Produce Specified Density