

FUJICOLOR NEGATIVE FILM

ETERNA
500

35mm Type 8573 / 16mm Type 8673

[Outstanding Features of ETERNA 500]

Ultra-fine grain

The first color motion picture film to feature Fujifilm's proprietary Super Nano-structured Σ Grain Technology, ETERNA 500 delivers a combination of high speed and ultra-fine grain.

Outstanding gradation balance

Gradation balance has been adjusted in each of the B, G, and R layers, giving ETERNA 500 smooth, consistent gray balance over a broad range from underexposure to overexposure. This contributes to exceptionally natural reproduction of both grays and skin tones.

Excellent sharpness

In addition to Super Nano-structured Σ Grain Technology, ETERNA 500 also incorporates Super-Efficient DIR-Coupler Technology, which boosts interlayer effect for enhanced sharpness.

Broad exposure latitude

Adjustment of gray balance from highlights to shadows gives ETERNA 500 expanded exposure latitude, ensuring expressive performance even when under- or over-exposed.

Enhanced film-to-tape characteristics

Optimized mask density and enhanced grain boost film-to-tape characteristics, resulting in minimal noise during telecine transfer or film scanning of images.

Exceptional Grain & Outstanding Gray Balance
Bring Your Imagination Alive

Setting a new standard for motion picture film, this high-speed (E.I. 500) color negative film achieves ultra-fine grain, natural skin tones, and outstanding gray balance. Dramatically improved grain produces natural results for even the most sophisticated studio work, including digital processing and computer graphics treatments. This film's subtle expressive power and ability to capture extensive detail enable the creator to bring imagination to life. Smoothly. Naturally. Beautifully. Discover ETERNA 500.

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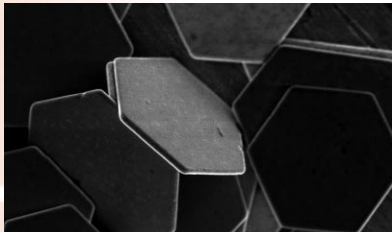


[Three Technologies Achieve Dramatic Image Quality]

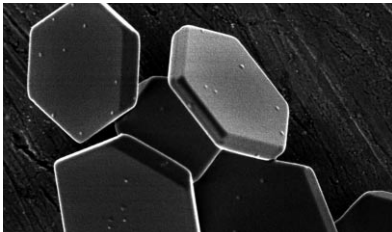
Super Nano-structured Σ Grain Technology

Newly developed Super Nano-structured Σ Grain Technology makes it possible to reduce the volume of the photosensitive grain by approximately 1/3 compared to previous color negative films with the same speed. Controlling the light-sensitive structure of the silver-halide grain to nanoscale creates extremely fine grain. Photons generated by light are concentrated in the photosensitive nuclear lamina by way of electron accumulators. These grains feature a precise electron accumulator structure that efficiently concentrates photons into a latent image. The thickness of the grains is engineered to minimize reflections, enhancing sharpness by reducing light scatter.

• Electron microscope enlargement of flat hexagonal grain



ETERNA 500(8573,8673)



F-500(8572,8672)

Super-Efficient DIR-Coupler Technology

Existing DIR Couplers, which control the image formation process by releasing development inhibitors during development, produce improved definition and color reproduction. Now, a new DIR coupler has been developed to work effectively with the new Nano-structured Σ Grain, resulting in further enhancements in color and sharpness.

Super-Efficient Coupler Technology

A new yellow coupler has been developed for enhanced color formation effect during processing. This highly efficient color formation makes it possible to create a thinner layer of emulsion, minimizing dispersion of light and creating crisp, clear images with little distortion.

•Exposure index

Tungsten light (3200K). . . 500
Daylight . . . 320 (with Fuji Filter LBA-12 or Kodak Daylight Filter No.85)
Numbers are for use with exposure meters marked for ISO/ASA speeds. Please note, however, that recommended exposure indexes may not apply due to differences in exposure meters, how they are used, and processing conditions. For best results, test exposures should be made based on instructions for the exposure meter to be used.

•Color Balance

ETERNA 500 is color balanced for tungsten light (3200K), and requires no filters for use in these conditions. When shooting outdoors in daylight or under other light sources, the following conversion filters and exposure adjustments should be made.

Light source	Filter	Exposure index
Tungsten light (3200K)	None	500
Daylight (sunlight + skylight)	Fuji Filter LBA-12 or Kodak Filter No.85	320
Metal halide lamps (e.g. HMI)	Fuji Filter LBA-12 or Kodak Filter No.85	320
Ordinary fluorescent lamps (White light type)	Fuji Filter CC-30R or Kodak Filter CC30R	250
(Daylight type)	Fuji Filter LBA-12 or Kodak Filter No.85	320
Three-band fluorescent lamps White daylight type (5000K)	Fuji Filter CC-30R or Kodak Filter CC30R	250
Daylight type (6700K)	Fuji Filter CC-40R or Kodak Filter CC40R	200

These filter recommendations will provide approximate color temperature conversion. Final color correction should be done when printing.

•Reciprocity Characteristics

ETERNA 500 requires no filter corrections or exposure adjustments for shutter speeds of 1/1000 to 1/10 second. For exposures of 1 second, open the lens 1/3 of a stop.

•Film Base

Film is coated on a triacetate safety base. The film base has been tinted light cyan, to prevent fogging of ends that can occur when loading spools of film into the camera in light.

•Safelight

This film should be handled in total darkness.

•Processing

ETERNA 500 can be processed with Process ECN-2 and formulas published by Eastman Kodak for Eastman Color Negative Film. In the bleaching step, persulfate bleach, ferricyanide bleach or PDTA-ferric bleach (UL bleach) can be used.

•Edge markings

The MR code system [edge number, film identification mark (FN73), and machine-readable bar code for each, film name (FUJI 500), emulsion number, roll number, frame marks (4 perforations apart for 35mm film; no frame marks for 16mm film)] is printed as latent images.

•Packaging Units and Perforations

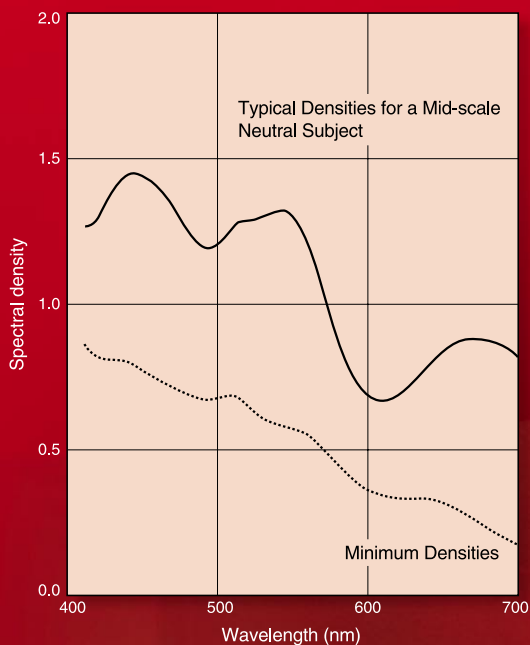
Film Width	Film Length and Winding Type	Core/Spool	Shape, Pitch, and Specification of Perforations
35mm	30.5m*	30.5m spool	N-4,740mm (Negative perforations with short pitch) [ISO 491:1988]
	61m	35 x 50mm core	
	122m	35 x 50mm core	
	305m	35 x 30mm core	
16mm	30.5m (Single-perforated, type B winding)	30.5m spool	1R-7,605mm (Single perforations with short pitch) 2R-7,605mm (Double perforations with short pitch) [ISO 69:1972]
	30.5m (Double-perforated)	30.5m spool	
	61m (Single-perforated, type B winding)	61m spool	
	61m (Double-perforated)	61m spool	
	122M (Double-perforated)	122m spool	
	122m (Single-perforated, type B winding)	16 x 50mm core	
	122m (Double-perforated)	16 x 50mm spool	

Items marked with an asterisk are available on a special order basis

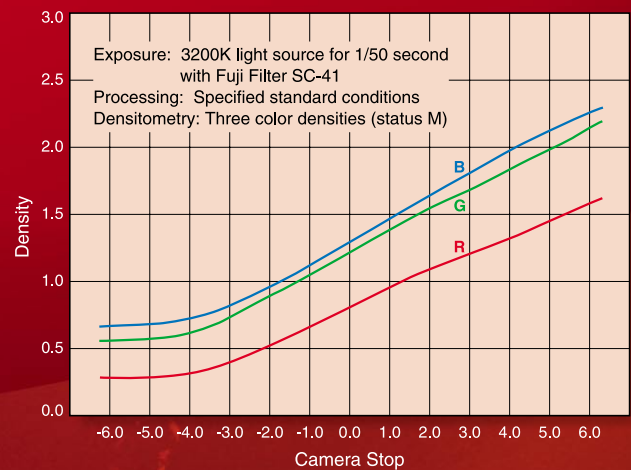
•Handling of exposed film

Exposed film should be processed as soon as possible. If exposed film cannot be processed within one week of exposure, it should be stored at temperatures below 10°C (50°F) and processed as soon as possible.

Spectral density curves

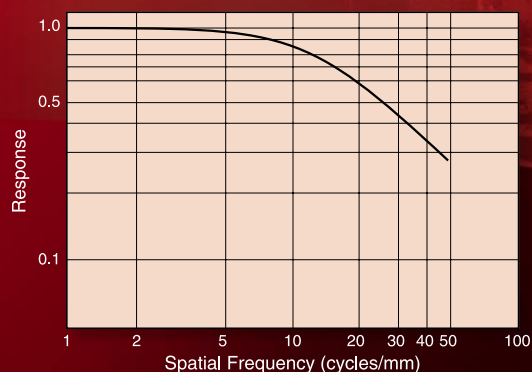


Characteristic curves



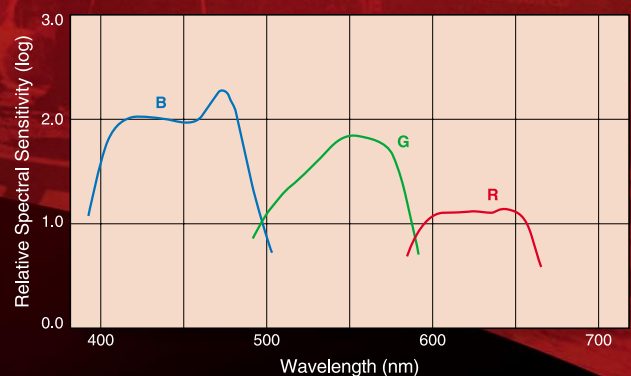
In order to simulate conditions closest to practical use, exposure was made under a 3200K tungsten light source, through a Fuji SC-41 ultraviolet absorbing filter. Processing was carried out under standard conditions and the three color densities were measured, producing the results indicated in the graph above.

Contrast transfer function*



* Spatial frequency attenuation characteristic of amplitude relative to rectangular wave chart.
(Data is normalized for amplitude of zero frequency.)

Spectral sensitivity curves



Processing: Specified standard conditions
Densitometry: Arbitrary three color densities
Density: 0.40 above minimum density
Sensitivity: Reciprocal of exposure (ergs/cm²) required to produce specified density

RMS granularity

3.5 (1,000 times the data obtained from measurement taken at a visual diffuse density of 1.0 above minimum density, using a 48μm diameter aperture)