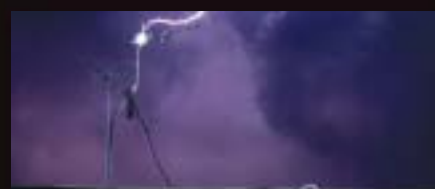


FUJIFILM
I&I - Imaging & Information



FUJICOLOR NEGATIVE FILM

ETERNA

250

35mm Type 8553 / 16mm Type 8653

[Performance Features of ETERNA 250]

Ample sensitivity, enhanced ability to render shadow detail

Incorporation of Fujifilm's Super Nano-structured Σ Grain boosts sensitivity, producing expanded latitude and exceptional grain, and giving these films significantly enhanced ability to render shadow detail.

Enhanced gradation balance

Gradation has been balanced in each of the B, G and R layers, giving ETERNA 250 smooth, consistent gray balance over a broad range from underexposure to overexposure. This contributes to natural reproduction of skin tones.

Improved intercuttability

Because they share the same palette and gradation characteristics as ETERNA 500, these films facilitate intercutting with negatives from different stock, creating seamless images as required for motion picture production.

Exceptional fine grain

Super Nano-structured Σ Grain Technology produces exceptionally fine grain, ensuring superb image quality in a variety of scenes and situations.

Superb sharpness

In addition to Super Nano-structured Σ Grain Technology, ETERNA 250 incorporate Super-Efficient DIR-Coupler Technology, for significantly enhanced sharpness. Sharpness balance has been improved to eliminate noise generated during the film scanning process.

Expanded latitude produces significantly enhanced shadow detail

Warm colors and smooth, consistent gradation produce extremely natural facial tones. Highly suitable for telecine transfer, ETERNA 250 also intercuts seamlessly with high-speed ETERNA 500.

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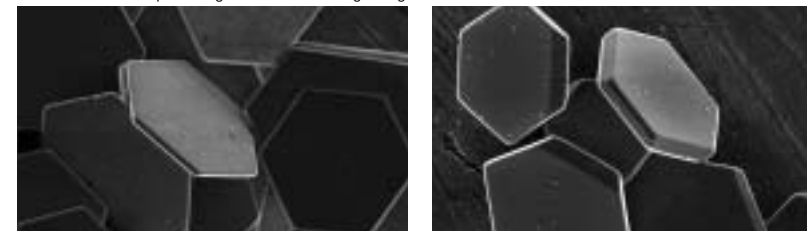


[Three Technologies Achieve Dramatic Image Quality]

Super Nano-structured Σ Grain Technology

Fujifilm has developed a new technology that precisely controls the light-sensitive structure of the silver-halide grain to nanoscale, resulting in extremely fine grain. Photons generated by exposure to light are concentrated in the photosensitive nucleus via electron accumulators. The grain is designed with a precise electron accumulator structure that efficiently concentrates photons to form the latent image. The grain configuration is precisely engineered to a thickness that minimizes reflections, effectively limiting light scatter and boosting sharpness. This technology makes it possible to reduce the volume of the grain to approximately 2/3 the size of that of previous color negative films with the same speed.

• Electron microscope enlargement of flat hexagonal grain



ETERNA-Series

F-Series

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 (E.I.)

Tungsten light (3200K) . . . 250
Daylight . . . 160 (with Kodak Filter No.85)
Numbers are for use with exposure meters marked for ISO/ASA speeds. Please note, however, that recommended exposure indices may not apply due to differences in exposure meters or the way they are used, or variations in processing conditions. For best results, test exposures should be made, following the instructions for the exposure meter to be used.

• Color Balance

ETERNA 250 is color balanced for tungsten light (3200K), eliminating the need for filters in these conditions. When shooting under other light sources, use the conversion filters and exposure adjustments listed here.

Light source	Filter	Exposure index
Tungsten	None	250
Daylight (sunlight + skylight)	Kodak Filter No.85	160
Metal halide lamps (e.g. HMI)	Kodak Filter No.85	160
Ordinary fluorescent lamps (White light type)	Kodak Filter CC30R	125
(Daylight type)	Kodak Filter No.85	160
Three-band fluorescent lamps (White daylight type (5000K))	Kodak Filter CC30R	125
Daylight type (6700K)	Kodak Filter CC40R	100

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

• Reciprocity Characteristics

ETERNA 250 require 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 with 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 250 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

MR code system [edge number, film identification mark (FN53), and their machine-readable bar codes, film name (FUJI 250), emulsion number, roll number, frame marks (5 perforations apart for 65mm film; 4 perforations apart for 35mm film; no frame marks for 16mm film)] printed as latent images.

• Packaging Units and Perforations

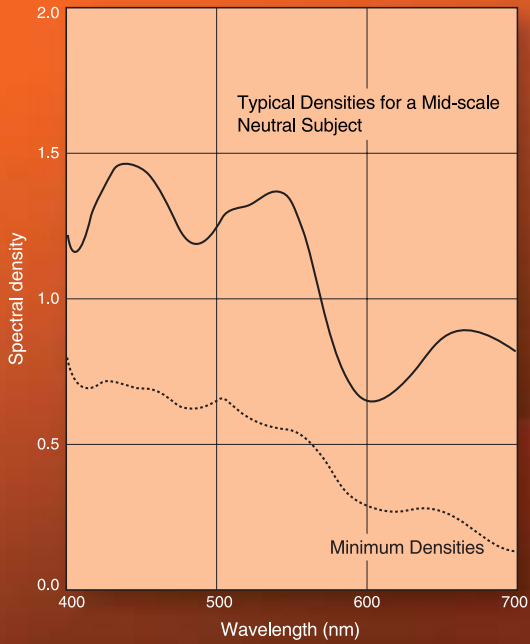
Film Width	Film Length and Winding Type	Core/Spool	Shape, Pitch, and Specification of Perforations
35mm	30.5m*	30.5m spool	N-4,740mm (single perforations with short pitch) [ISO 491:1988]
	61m	35 x 50mm core	
	122m	35 x 50mm core	
	305m	35 x 50mm core	
16mm	30.5m (single-perforated, type B winding)	30.5m 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 core		

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

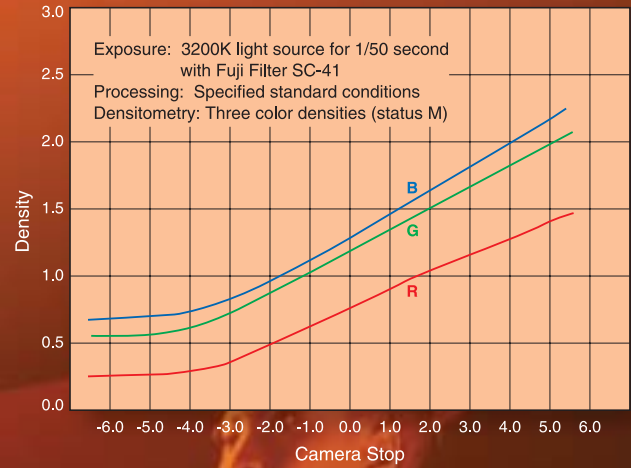
• Handling of exposed film

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

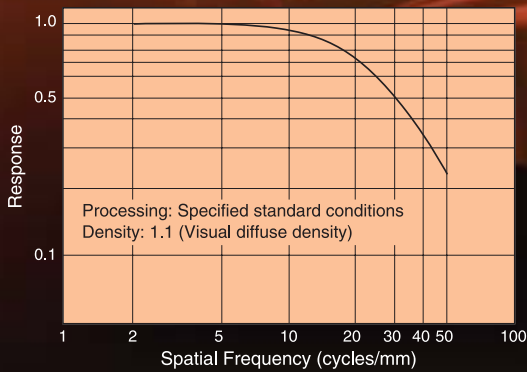


Characteristic curves



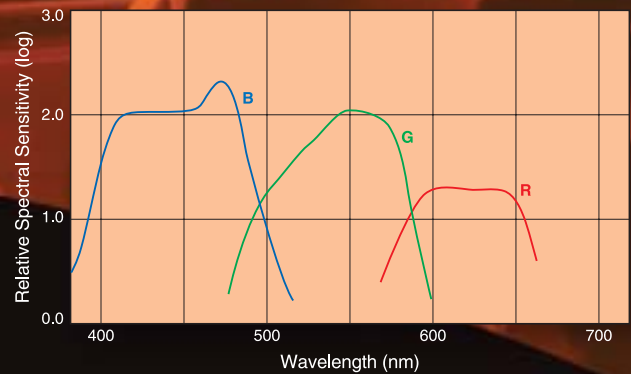
In order to simulate conditions closest to practical use, exposure was made under a 3200K light source, through a Fuji SC-41 ultraviolet absorbing filter. Processing was carried out under standard conditions and the three color densities were measured, producing the results indicated in the graph above.

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 48 μ m diameter aperture)

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