FUJICOLOR PORTRAIT FILM NPZ 800 PROFESSIONAL [NPZ] (Daylight)

1. FEATURES AND USES

FUJICOLOR PORTRAIT FILM NPZ 800 PROFESSIONAL [NPZ] is a high-speed ISO 800 color negative film that is especially suitable for portrait, wedding and fashion photography. By incorporating the 4th Color Layer Technology and the Fine Σ(Sigma) Technology, this film produces vibrant colors with high fidelity, and smooth textures with little evidence of grain. It also boasts wide exposure latitude and excellent grays.

Features	Results
• **High Sensitivity**	• High ISO 800 speed rating that assures fine results even under low-light conditions
• **Faithful Skin Tone Reproduction**	• Natural, true-to-life skin tones even in dark, low-light situations • Natural skin tones even under overly flat lighting
• **Wide Light Source Latitude**	• A fourth color-sensitive layer enabling the reproduction of desired images even under a mixed light source of natural light, fluorescent light and tungsten light
• **Excellent Textural Depiction**	• Excellent, almost grain-free textures, regardless of the film's high sensitivity

2. SIZES, BASE & EMULSION NUMBER

Film Size	Base Thickness	Base Material	Emulsion Number
135 – 36	122 μm	Cellulose Triacetate	#007–
120	98 μm		#006–
220	98 μm		

3. EXPOSURE

- The table below will provide recommendations which will yield the best results when a series of exposures are not made. The film speed shown is the effective speed when filters are used.

Light Condition	Film Speed	Filter
Daylight or Electronic Flash	ISO 800/30°	NONE
Tungsten (3200K)	ISO 200/24° *	Wratten No. 80A (or LBB-12 **)

* Indicates the effective speed resulting from designated filter use.
** Fuji Light Balancing Filter

- **Exposure Determination without an Exposure Meter**
  The recommendations in the table below should be used two hours after sunrise and two hours before sunset.

Daylight Exposure Guide

Light Conditions	Seashore or Snow Scenes Under Bright Sun	Bright Sunlight	Hazy Sunlight	Cloudy	Cloudy Day or Open Shade
Lens Aperture	f/22	f/16	f/16	f/11	f/8
Shutter Speed (sec.)	1/1000		1/500		

NOTE
- The use of an exposure meter is highly recommended in cloudy weather or in open shade as light conditions continually change.
- Back lit and close up subject exposures should be increased by one to two stops.

Low Light Exposure Guide

Light Conditions	Indoor Sports & Night Games	Nighttime Indoor Scenes (under fluorescent light)	Evening Scenes	Night Scenes
Lens Aperture	f/2.8 to 5.6	f/2.8 to 4	f/4 to 5.6	f/2.8 to 4
Shutter Speed (sec.)	1/125	1/30	1/60	1/30

4. EXPOSURE UNDER VARIOUS LIGHTING SOURCES

Since this film is designed as a daylight type, there is no need for filtering when the subject is exposed under natural daylight conditions. Even when exposed under early morning and evening twilight conditions, filtering is generally not necessary as when printed, these exposures will produce excellent results.

Electronic Flash

- Since electronic flash characteristics are similar to daylight, no filters are required. Effective light output and color balance will differ with the equipment type, age, color temperature and other factors. This will require making initial tests.
- With shutter speeds slower than 1/60 of a second, the influence of non-flash light sources such as modeling lamps and room illumination may cause undesirable color balance shifts. Test exposures are recommended.
- Adjust the lens opening for electronic flash according to the following formula;

$$\text{Lens Aperture} = \frac{\text{ISO 800 Electronic Flash Guide Number}}{\text{Electronic Flash-to-Subject Distance (in Meters)}}$$

- The film speed should be set at the ISO setting currently being used for ISO 800 rated film.
- Since the amount of light reflected onto the subject from surrounding surfaces will differ with conditions, refer to the instructions for the flash unit.

Fluorescent Lamps & High-Intensity Discharge Lamps

This film will provide the best results when exposed to fluorescent and H/D lamps by applying the filter and exposure recommendations listed below. Fluorescent and H/D lamps are subject to color and brightness variations during alternating-current cycles.
To avoid this variability under these lighting conditions, expose NPZ at speeds longer than 1/30 sec. Test exposures are always recommended for determining the appropriate filtration and exposure.

Lamp Type	Fluorescent				High-intensity Discharge	
	Daylight (D)	Cool White (C.W)	White (W)	Warm White (W.W)	Deluxe White Mercury	Clear Mercury
Color Compensating Filters *	10M+10Y	—	10C	30C+30M	10C	40M+40Y
Exposure Corrections**	+1/3	—	+1/3	+1	+1/3	+1 1/3

* Wratten CC Filters (or Fuji Color Compensating Filters)
** Exposure correction values include filter exposure factors. These values are added to unfiltered exposure meter readings. A "+" followed by a number indicates the required increase in lens opening.

If the fluorescent lamp type is unknown, use a 30M cc filter and a +1 stop exposure correction. This will provide acceptable results under most conditions.

5. LONG AND SHORT EXPOSURES

No exposure or color balance compensation is required when exposure time is within a 1/4000 to 2 second range. However for exposures of 4 seconds or longer, exposure compensations are required.

Exposure Time (sec.)	1/4000 to 2	4	16	64
Color Compensating Filter	None	None	None	None
Exposure Corrections (Lens Opening)	None	+ 2/3	+ 1½	+ 2

Exposures longer than 64 seconds are not recommended.

6. FILM HANDLING

To insure quality results, NPZ like all professional films requires proper handling prior to and after exposure.

- When traveling, manual film inspection at airports may be advisable due to the wide variety of X-Ray equipment in use.
- Allow sufficient time for refrigerated films to reach room temperature before using.
- Load and unload films in subdued light.
- Do not subject unexposed or exposed film to high temperatures and humidities.
- Process promptly after exposure.
- Do not use a safelight. Handle unprocessed film in total darkness.

7. FILM STORAGE

Unprocessed Film

Unexposed film should be stored at 10°C (50°F) or below in factory sealed packaging.

Processed Film

Processed film should be placed in protective envelopes and stored in a cool, dark, and dry location.

- **Recommended Storage Conditions**

  ○ Temperature: Below 25°C (77°F), Humidity: 30 to 60% RH
  ○ Extended Duration Conditions Temperature: Below 10°C (50°F), Humidity: 30 to 50% RH

NOTE Even though this film reaches new highs in long term dye stability, as with all color dyes, those used in this film will fade with time.

8. PROCESSING

This film is designed for standard C-41 processing chemicals. Equivalent chemicals from other manufacturers should also produce the expected results.

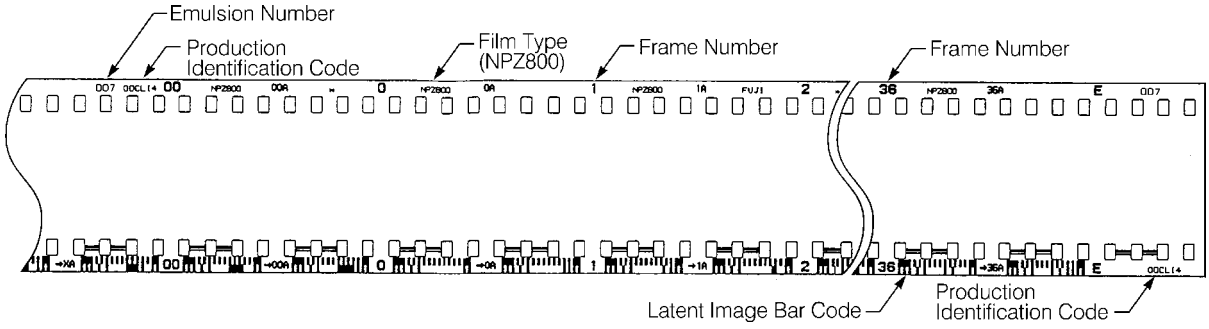
9. NEGATIVE EXPOSURE EVALUATION

NPZ 800 exposure results can be accurately predicted by using an electronic densitometer equipped with Status M filters. An 18% gray card, receiving the same illumination as the subject, when read through the RED filter should render density readings between 0.70 and 0.90 (for exposures under recommended lighting and with optimal film processing).

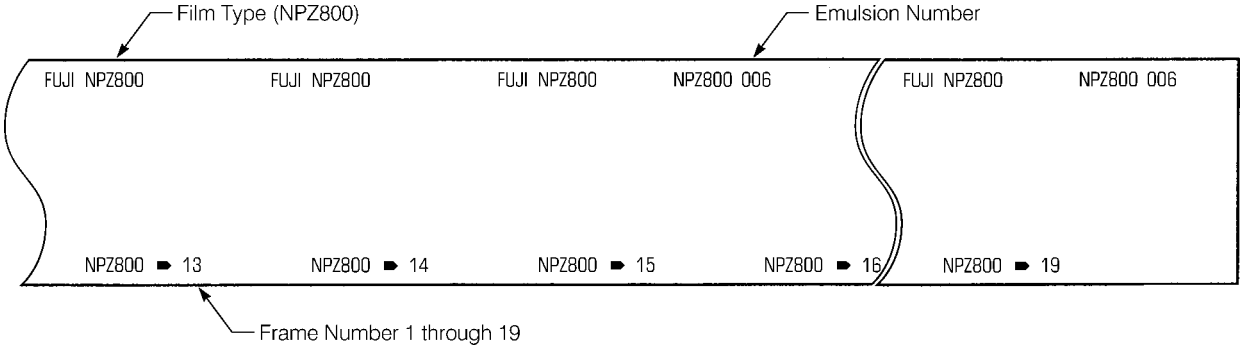
10. IDENTIFYING FILM

It may be necessary to segregate NPZ from other color negatives when utilizing the many different analyzers and printers. The following markings identify NPZ films.

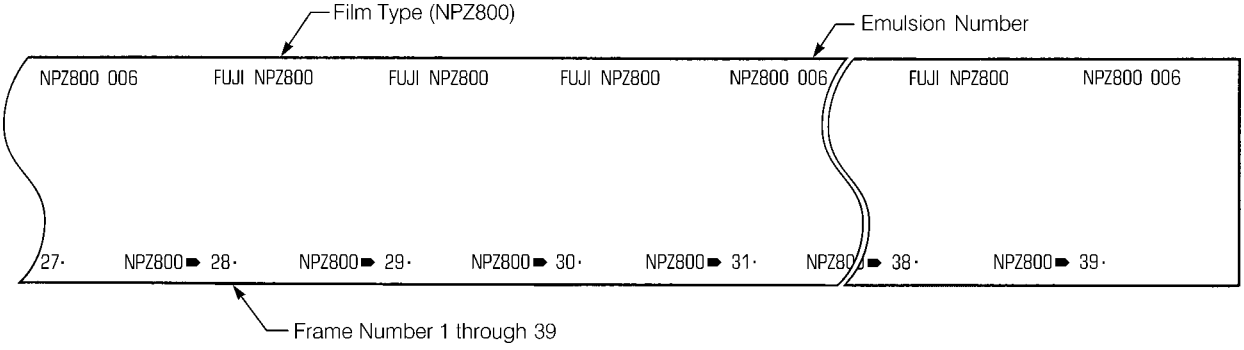
135 Size



120 Size



220 Size



11. VIDEO ANALYZING

A separate channel set up is recommended for the analyzer. Excellent results are attainable on the Kodak PVAC*, Bremson CVIS** and other analyzers. Starting values and Setup and Balancing manuals are available. Please contact your local Sales or Technical Representative for these items.

* PVAC is a registered trademark of the Eastman Kodak Company
** CVIS is a registered trademark of Bremson Data Systems

12. PRINTING

Color prints can be made by contact printing or enlarging on FUJICOLOR and other professional printing materials.

13. RETOUCHING

Conventional retouching techniques will work well with this film. For more information on retouching please refer to the FUJI PROFESSIONAL RETOUCHING GUIDE (Ref. #02408100) and or the FUJI PROFESSIONAL WORKBOOK AND VIDEO (Ref. #02408200) available through local Professional Product Dealers and Stockhouses.

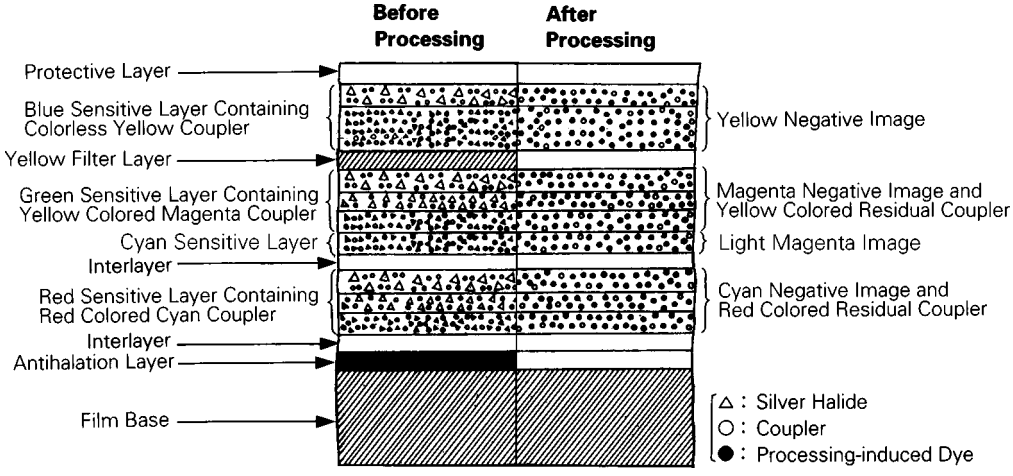
14. DIFFUSE RMS GRANULARITY 5

Micro-densitometer Measurement Aperture:
48μm in diameter.
Magnification: 12 X.
Measured Sample Density (NETA): 1.0.

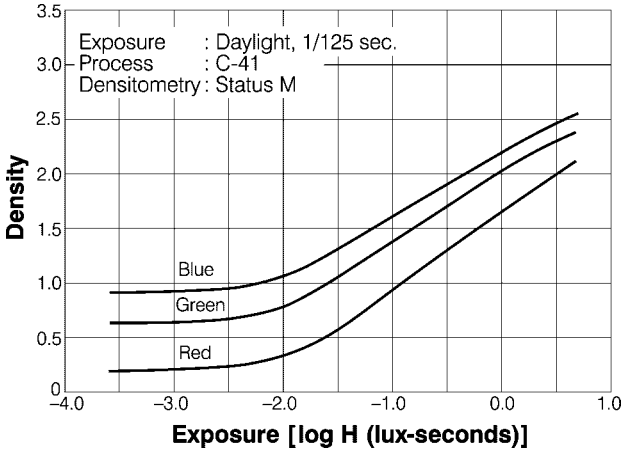
15. RESOLVING POWER

Test Object Contrast 1.6:1 ..... **50** lines per mm
Test Object Contrast 1000:1 ..... **115** lines per mm

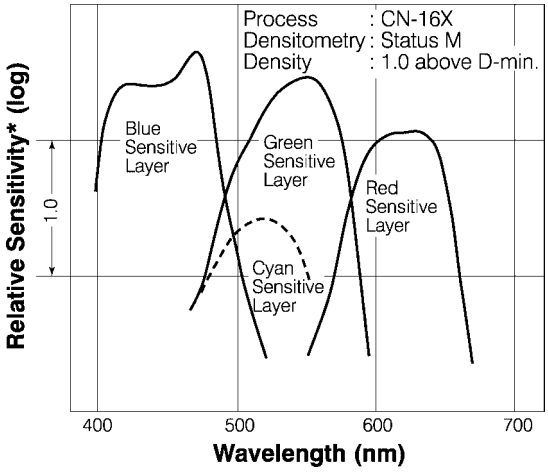
16. FILM STRUCTURE



17. CHARACTERISTIC CURVES

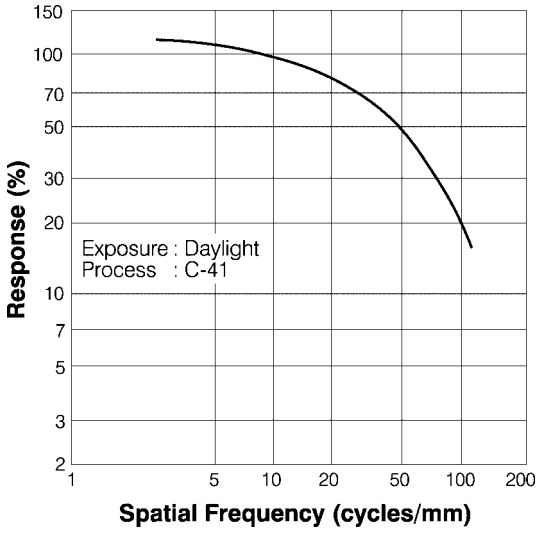


18. SPECTRAL SENSITIVITY CURVES

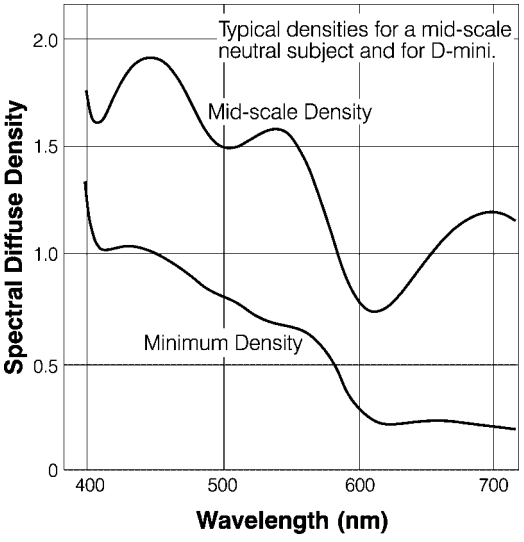


* Sensitivity equals the reciprocal of the exposure (J/cm²) required to produce a specified density.

19. MTF CURVE



20. SPECTRAL DYE DENSITY CURVES



NOTICE The sensitometric curves and other data herein published were derived from particular materials taken from general production runs. As such they do not represent in exact duplication the characteristics of every lot produced nor a standard for FUJIFILM products. Further, FUJIFILM is in a constant process of upgrading quality which may result in data changes.

FUJIFILM
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Ref. No. **AF3-100E** (EIGI-01.4-HB • 10-1●) Printed in Japan