



picture your future...

# FG Advanced Photo System Color Print Films



**FG 200**  
**FG 400**

**Ferrania**  
Imaging Technologies

## features of the advanced photo system

### Convenient drop-in loading

Easy to use, just open the film cartridge compartment, drop in the cartridge, close the door and start shooting. Ends threading, winding and film-loading errors that lead to blank rolls.



### New style film cassette with film status indicator

Safely stores processed negatives inside the cartridge eliminating damage by dirt, fingerprints and scratches. Film status indicator displays current condition of film: "unexposed", "partially exposed", "fully exposed but not processed" or "processed". This eliminates blank rolls, double exposures and enables mid-roll exchange of films.



### Three picture format sizes: "C" — Classic, "H" — HDTV and "P" — Panoramic

Gives the photographer the ability to choose the right format for the subject. Yields properly composed pictures, increased picture taking opportunities and more reprinting options. Each negative, regardless of format chosen at the time of exposure, may be reprinted in any of the three format sizes.



### IX — Information exchange technology

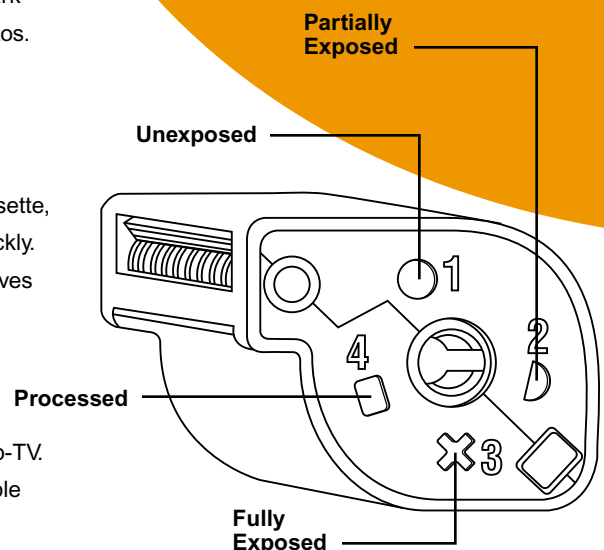
Optically clear magnetic layer stores: film exposure, consumer recorded, and photo processing information and data. Results in higher quality pictures; fewer under or over exposed pictures, truer colors in artificial lighting situations and fewer washed out or dark pictures. Enables time, date and other text backprinting on photos.

### Index print and unique identification number included with each processed roll

Easier to store and find pictures for reprints and enlargements. System provides a matching identification number on each cassette, index print and picture. Able to view the entire roll's images quickly. No longer a need to handle negatives thereby protecting negatives from damage. Also provides additional information about the processed roll such as print format and cartridge number.

### System provides multimedia capabilities

System interfaces with Television, personal computers and Web-TV. Consumer available viewing and scanning devices make possible advanced image manipulation, use and viewing.



## FG generation color print films

---

**Picture your future ... the future of color print films is available today.**

Brilliant colors, beautiful tones, fine grain, image perfection ... These are just a few of the qualities which describe the new FG family of films.

The result of a multi-million dollar research and development program, these bright, bold, new-generation films represent a major breakthrough in color print film technology.

The technological innovations incorporated in the new FG films include enhanced emulsion stability, optimized spectral sensitivity and new patented silver halide crystal formation techniques yielding faster speeds, finer grain and sharper pictures. Pictures produced from these films today and years from today will exhibit the same true-to-life colors your customers will treasure.

Demanding amateur and professional photographers alike will appreciate FG color print film's brighter, more saturated colors; its excellent image quality, contrast and sharpness; and its forgiving exposure latitude which produces better pictures even when underexposed.

Processors, photofinishers, mini and microlabs will appreciate FG's improved handling characteristics, processing and printing compatibility and excellent enlargement capability.

Ferrania Imaging Technologies FG family of films: quality, consistency, reliability and value. We deliver everything you would expect from a great film.



## product features

---

Features	Advantages	Benefits
<ul style="list-style-type: none"><li>• Optimized film speeds</li></ul>	<ul style="list-style-type: none"><li>• Wide exposure latitude</li><li>• Fewer underexposed frames</li><li>• Faster shutter speeds</li><li>• User friendly</li></ul>	<ul style="list-style-type: none"><li>• <b>Consumer:</b> ideal for compact and SLR cameras — APS FG400 is a great film for low-light and action photography</li><li>• <b>Retailer:</b> APS FG400 gives great results in single use cameras</li><li>• <b>Laboratory:</b> increase in saleable prints — less waste</li></ul>
<ul style="list-style-type: none"><li>• Finer grain and increased sharpness</li></ul>	<ul style="list-style-type: none"><li>• Fine grain and detail at all levels of exposure and in critical situations</li><li>• Good quality enlargements</li><li>• Excellent reproduction of fine details</li></ul>	<ul style="list-style-type: none"><li>• <b>Consumer:</b> sharper images, highly detailed pictures, more opportunities for enlargements</li><li>• <b>Retailer/Laboratory:</b> increase in reprint and enlargement volume</li></ul>
<ul style="list-style-type: none"><li>• Enhanced tonal and color reproduction</li></ul>	<ul style="list-style-type: none"><li>• Excellent print contrast</li><li>• Superior color saturation</li><li>• New multi-dimensional depth effect</li></ul>	<ul style="list-style-type: none"><li>• <b>Consumer:</b> superb detail in highlights and shadows, rich tonal range even on cloudy days; bright colors and natural skin tones</li><li>• <b>Retailer/Laboratory:</b> premium quality results</li></ul>
<ul style="list-style-type: none"><li>• Optimized spectral sensitivity</li></ul>	<ul style="list-style-type: none"><li>• Exceptional performance in a wide range of natural and artificial lighting conditions</li></ul>	<ul style="list-style-type: none"><li>• <b>Consumer:</b> lifelike reproduction of subtle and natural colors under a wide variety of outdoor and indoor lighting conditions</li><li>• <b>Retailer:</b> increased customer satisfaction</li><li>• <b>Laboratory:</b> good first run printing results from diverse lighting conditions</li></ul>
<ul style="list-style-type: none"><li>• Improved aging and robustness characteristics</li></ul>	<ul style="list-style-type: none"><li>• Enhanced stability of exposed and unexposed films, greater stability when exposed to chemical fumes, high humidity and high temperatures</li></ul>	<ul style="list-style-type: none"><li>• <b>Consumer:</b> better color consistency; more consistent results in marginal keeping and storage conditions</li><li>• <b>Retailer:</b> tolerant to consumer mishandling</li><li>• <b>Laboratory:</b> faster and more uniform printing</li></ul>
<ul style="list-style-type: none"><li>• Greater printing compatibility</li></ul>	<ul style="list-style-type: none"><li>• Closer alignment of spectral dye characteristics to market conditions for printer set-up</li></ul>	<ul style="list-style-type: none"><li>• <b>Consumer:</b> good, consistent picture quality</li><li>• <b>Laboratory:</b> excellent equipment integration for easier printer set-up and printing; consistent quality in minilabs; higher productivity</li></ul>
<ul style="list-style-type: none"><li>• Greater processing latitude</li></ul>	<ul style="list-style-type: none"><li>• Good performance in marginal processing conditions</li></ul>	<ul style="list-style-type: none"><li>• Overall consistency and excellence in print quality</li></ul>

# general technical data

## Exposure Characteristics

New emulsion technologies and patented silver crystal formation techniques have been developed and incorporated in these two new color print films; the new medium speed APS FG200 and high speed APS FG400 are very user-friendly films. The results are films which will perform superbly from under-exposure to over-exposure situations meeting the high quality demands of general photography. The advanced multi-layered structure ensures an excellent latitude of exposure, good results in the range of -2 to +4 stops, and high image quality for all imaging situations even when used in an inexpensive camera at less than optimal settings. Both APS FG200 and APS FG400 are very user-friendly films.

Although the film is balanced for daylight illumination, new advanced spectral sensitization assures good results when exposed under various light sources including electronic flash and fluorescent lighting. The film also performs well outdoors in conditions such as late evenings, early mornings, sky light vs. sun light and snow scenes. These films are perfect for any photographer looking for an "all light conditions" solution.

## Image Characteristics

The new patented crystal formation techniques provide much finer grain and increased sharpness. The advanced class of EXTRA-DIR couplers and color formers provide enhanced color saturation while maintaining natural skin tones and neutral gray scale reproductions in various lighting conditions. Advanced tonal linearity provides improved highlight and shadow detail.

New emulsion stabilizers yield improved processed film-keeping properties and provides, during periods of handling and storage, additional protection for the film from heat, humidity, light and damaging chemical fumes.

New printing characteristics match the most common color negative profiles used by processing labs for color and density correction.

## Electronic Flash Exposure

Adjust the exposure setting according to the instructions provided with the flash unit. Determine the correct lens aperture (f/stop) by dividing the guide number by the flash — subject distance in feet or meters.

$$\text{Lens aperture (f-number)} = \frac{\text{Guide number}}{\text{Flash - Subject Distance (meters or feet)}}$$

## Fluorescent Light Exposure

The light emitted by fluorescent tubes is generally deficient in some wavelengths resulting in prints exhibiting a green balance with standard printing procedures. Consequently, exposures made with fluorescent illumination require color corrections at the time of printing. Due to the variety of fluorescent lighting color temperatures, it is not possible to recommend a particular compensation filter or set of filters.

## Reciprocity

These films can be used in the range of 1/10,000 to 10 seconds without changes in speed and color balance. For exposures longer than 10 seconds, exposure compensation and filtration may be required depending on the type of light illuminating the subject.

## Processing

Both APS FG200 and APS FG400 films are intended for various, carefully monitored, C-41 cycles and chemicals.

## Printing

Excellent standard size prints and enlargements on color paper can be obtained from APS FG200 and APS FG400 films using conventional enlargers or automated printing equipment. For optimal printing results with automatic printers, a dedicated channel set up with a printer control tool manufactured with this film is recommended. The extended DX barcode enables the printer to identify the film and print it on the dedicated channel.

The DX code of the Advanced Photo System FG200 is 86-12 (Generation Code = 86, Film Specifier = 12). The DX code of the Advanced Photo System FG400 is 86-14 (Generation Code = 86, Film Specifier = 14). Processed films may be visually identified by a human readable DX code on the bottom edge of the film (86-12 or 86-14).

## Storage

### Before processing

Always store unexposed or exposed films in a cool, dry place in moisture-proof containers, as all color films are sensitive to heat, humidity and fumes emitted from chemicals. In hot humid climates or for long term storage, keep the films in a moisture-proof container at 10°C/50°F or lower.





- Do not open the original foil container until just before using the film.
- Use film before the expiration date printed on the box.
- Avoid leaving a partially exposed film in the camera for a long period of time.
- Keep exposed, as well as processed cartridges away from magnetic or electromagnetic sources. Exposure to these can adversely affect the performance of the information exchange (IX) system.
- Process the film promptly after exposure to avoid any image deterioration.
- Avoid storing unpacked film or loaded cameras in high humidity conditions or where the emission of exhaust gases and formaldehyde fumes may occur, as these are very harmful to photographic films (aldehyde fumes are often emitted from new furniture wood glues, laminate adhesive, foam insulation, sprays, etc.).

### After processing

The dyes in APS FG200 and APS FG400 films are among the most stable used for sensitized material. Yet, like all organic dyes, they may change with time. Humidity, heat and light are the most critical factors in the storage of processed color negatives. Always keep processed Advanced Photo System cartridges in a cool, dry and dark place. It is advisable to store processed film at a relative humidity not exceeding 40% and a temperature not exceeding 20°C/68°F to avoid film deterioration.

## Handling

Expose film before the expiration date indicated on the film package and process promptly after exposure. Loading in extremely low temperatures may cause the film to break. The following markings on the cartridge indicate the current status of the film. Be sure to verify the status of film prior to loading.

1		Unexposed
2		Partially exposed (film may be reloaded and used in some cameras)
3		Fully exposed but not processed
4		Processed

## Diffuse RMS Granularity

Microdensitometric measurement characteristics:

Aperture diameter: 40µm — Magnification: 12X

Sample Density Level: 1.0 above minimum density

Diffuse Granularity Advanced Photo System FG200: 3.5 (RMS)

Diffuse Granularity Advanced Photo System FG400: 4.5 (RMS)

Note: Before using our product please ensure that it is suitable for your intended use. All questions of liability relating to this product are governed by the terms of the sale, subject, where applicable, to the prevailing law. The sensitometric curves and data represent product tested under the conditions of exposure and processing specified. They represent production coatings and, therefore, do not apply directly to a particular box or roll of photographic material. They do not represent standards or specifications which must be met by Ferrania Imaging Technologies. Ferrania Imaging Technologies reserves the right to change and improve product characteristics at any time.

## specific technical data

### APS FG200

#### Characteristics

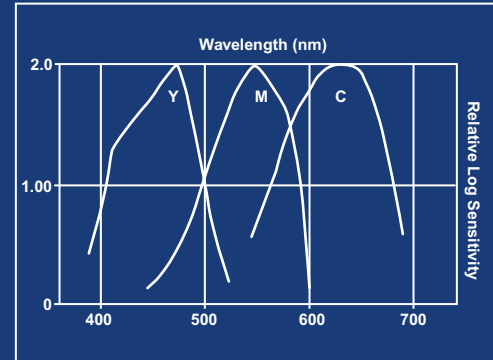
Ferrania Imaging Technologies APS FG200 is a fine grain, advanced technology, high resolution, medium speed, daylight balanced color print film with a nominal speed rating of ISO 200. APS FG200 provides excellent results in both compact and SLR cameras. The excellent tonal and color reproduction characteristics of APS FG200 yield prints with excellent contrast, superior color saturation and great dimensional depth.

#### Speed

ISO 200/24° — APS FG200 is designed to extend picture taking opportunities from bright daylight to subdued outdoor lighting and is an excellent general purpose film. The medium speed and extra wide latitude make this film very easy to use offering advantages of greater depth of field and better usable range for flash pictures. The film may be used in a wide variety of shooting conditions and situations including scenic, still-life, portraiture, subdued daylight, macro photography and wide ranging flash photography.

### APS FG200

#### Spectral Sensitivity Curves



### APS FG400

#### Characteristics

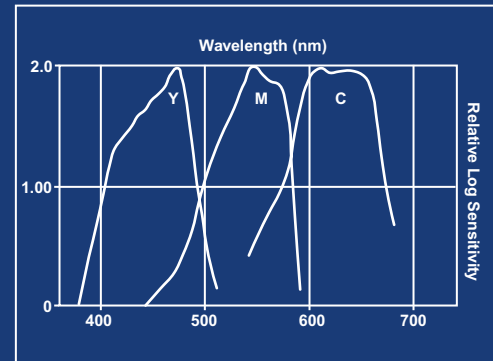
Ferrania Imaging Technologies APS FG400 is a high speed, daylight balanced color print film with a high nominal speed rating of ISO 400. APS FG400 is designed for extended picture-taking opportunities in a variety of conditions and situations, and will provide excellent results in compact, SLR and single-use cameras. APS FG400 color print film has great dimensional depth, exceptional sharpness, fine grain, vivid color saturation, high color fidelity, rich gradation and fine detail.

#### Speed

ISO 400/27° — APS FG400 has been designed to provide good picture-taking opportunities in "all light" conditions especially from normal to low "available light" levels and will extend effective flash distance ranges. The film also provides good picture-taking opportunities with subjects requiring high shutter speeds for action photography and hand-held telephotography, and allows for smaller aperture openings for greater depth of field.

### APS FG400

#### Spectral Sensitivity Curves



### APS FG200 & APS FG400

#### Exposure

Both APS FG200 and APS FG400 films are balanced for daylight or equivalent light conditions (5500K). When exposed under tungsten or fluorescent lighting, the use of an appropriate filter is recommended.

#### Daylight Exposure

(Exposure time 1/250 sec.)

Use exposures shown in chart at far right from two hours after sunrise to two hours before sunset for average front-lit subjects.

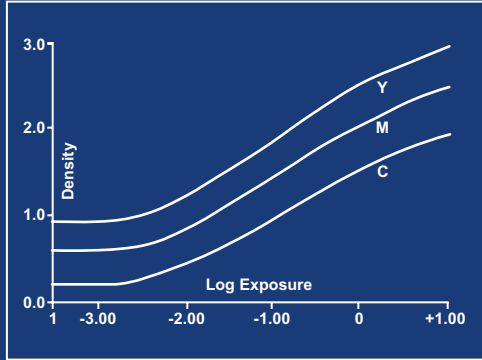
#### Exposure

Light source	APS FG200 exposure index	APS FG400 exposure index	Filter requirements
Daylight or Electronic Flash	200/24°	400/27°	none
Tungsten (3200 K)	50/18°	100/21°	80 A
Photoflood (3400 K)	64/19°	125/22°	80 B

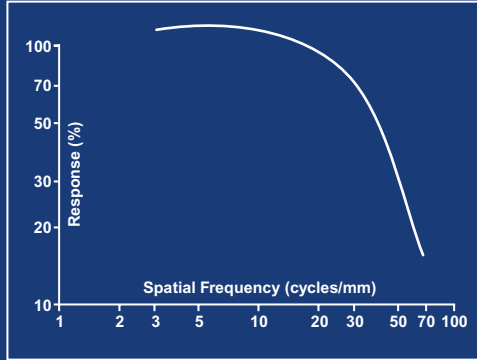


**APS FG200**  
**APS FG400**

**APS FG200**  
Sensitometric Characteristic Curves

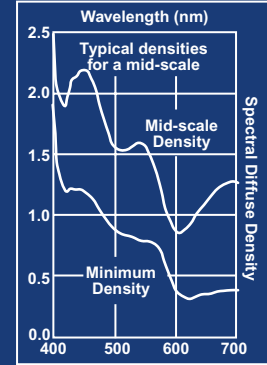


**APS FG200**  
Modulation Transfer Function

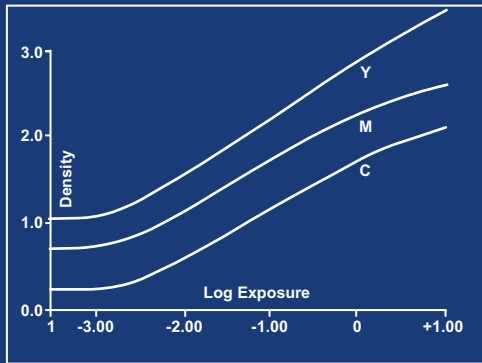


Exposure: Daylight    Densitometry: Visual

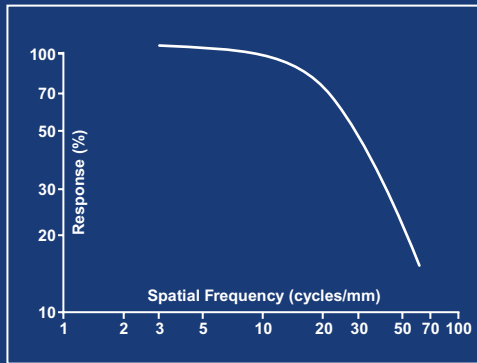
**APS FG200**  
Spectral Dye Density Curves



**APS FG400**  
Sensitometric Characteristic Curves

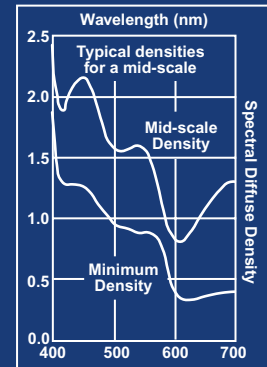


**APS FG400**  
Modulation Transfer Function



Exposure: Daylight    Densitometry: Visual

**APS FG400**  
Spectral Dye Density Curves



**Daylight Exposure (1/250 sec.)**

Lighting Conditions	APS FG200 Lens Aperture	APS FG400 Lens Aperture
Bright sunlight (sand or snow)	f/16	f/22
Bright sunlight (distinct shadows)	f/11	f/16
Weak hazy sun (soft shadows)	f/8	f/11
Cloudy bright (no shadows)	f/5.6	f/8
Heavy overcast	f/4	f/5.6
Open shade	f/4	f/5.6

Note: For side or back-lit subjects with shadow detail, increase lens aperture by 1/2 or 1 f/stop.



### **Italy**

#### **Ferrania S.p.A.**

*Servizio Tecnico Colore*  
Viale della Libertà, 57  
Frazione Ferrania  
I 17014 Cairo Montenotte (SV) - Italia  
Tel: 800 804088 or +39 0195224616  
Fax: +39 0195224474

### **France, Belgium, Switzerland**

#### **Ferrania France S.A.S.**

Immeuble "Le Jules César"  
12 Chaussée Jules César  
BP 264 Osny - France  
F 95523 Cergy Pontoise Cedex  
Tel: +33 1 34 24 53 00  
Fax: +33 1 34 24 53 20

### **Germany, Austria, Netherlands**

#### **Ferrania Deutschland GmbH**

Hammfelddamm 11  
D 41460 Neuss - Germany  
Tel: +49 21 31 1246630  
Fax: +49 21 31 1246666

### **Spain, Portugal**

#### **Ferrania Ibérica S.L.**

C/Caleruega, 81  
E 28033 Madrid - España  
Tel: +34 91 343 2630  
Fax: +34 91 343 2699

### **UK, Ireland, Sweden, Denmark, Norway, Finland**

#### **Ferrania UK Limited**

Amber House  
Market Street, Bracknell  
UK Berkshire RG12 1JB  
Tel: +44 1 344 312100  
Fax: +44 1 344 489364

### **U.S.A.**

#### **Ferrania USA, Inc.**

*Technical Service Group*  
6063 Hudson Road, Suite 121  
Woodbury, MN 55125  
Tel: 800 233 8579  
Fax: 651 704 3948

### **All Other Countries (Export Division)**

#### **Ferrania S.p.A.**

Viale della Libertà, 57  
Frazione Ferrania  
I 17014 Cairo Montenotte (SV) - Italia  
Tel: +39 019522 4336/4442/4236  
Fax: +39 019522 4384

