:AVIPHOT COLOR N800 PE1

High Speed Colour Negative Film

:Aviphot Color N800 PE1 is a panchromatic negative colour film, designed for high-speed aerial photography or scientific photography. This film renders excellent definition and low granularity, combined with a very high speed emulsion.
The film is processed in :Agfacolor Process AP70 or the equivalent C41.
Thickness of the polyester base: 100 µm
Total film thickness: 124 µm

Applications

The film is designed for aerial and scientific photography in a variety of cameras.
In aerial applications, good quality images can be exposed up to an altitude of 15,000 ft. The low contrast allows good detail rendering at low altitude flights.
Due to the advanced fine grain technology, images for scientific applications with low light/long exposure or very short exposure are of the best quality and permit contact prints or enlargements.
:Aviphot Color N800 can be copied onto Agfa's CN Colour paper or :Avitone CP94 / CP70 print films.

Features

- Very high speed emulsion, which can still be increased during processing. Surface extended multi-structured (XMS) crystals are used to achieve this high speed.
- With this high-speed emulsion, imagery can be captured with very small light sources at long exposure times for scientific applications.
- Suitable for low light civilian and military reconnaissance up to 15,000 ft.
- The low density colour mask using the triple masking technique safeguards colour purity and faithfulness.
- The wide exposure latitude strongly reduces the need for repeat flights.
- No Schwarzschild effect for shutter speeds ranging from 1/10,000 up to 1 second.
- Six DIR (= Developer Inhibitor Release) couplers with varying performance characteristics are enhancing the colour rendition, sharpness and granularity of the emulsion. Colour couplers in the interlayers are increasing the efficiency of the crystals' activity and contribute to finer granularity.
- The special non-gelatinous back-layer ensures a perfect grip to high speed capstans and rollers without adherence of backing residuals over longer periods of time. The backing is optimised for very fast film transportation in high speed cameras.

Technical specifications

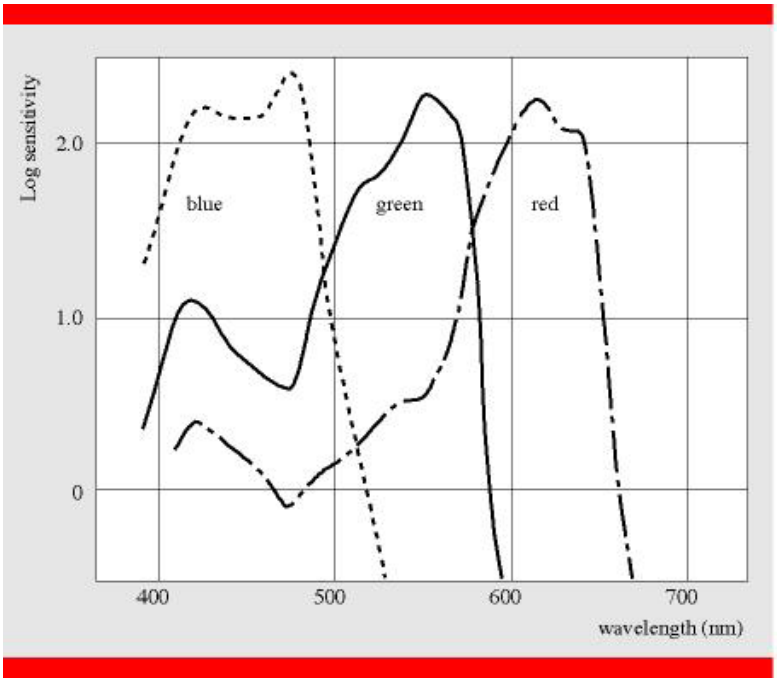
Speed

ISO 800/30, ASA 800, DIN 30 for processing in :Agfacolor Process AP70 at 37.8°C/100°F during 3 min 17 s or 4 min.

Exposure

Exposure latitude: -1 to +3 f-stops
A slight over exposure/development of :Aviphot Color N800 will increase the colour saturation of the prints.

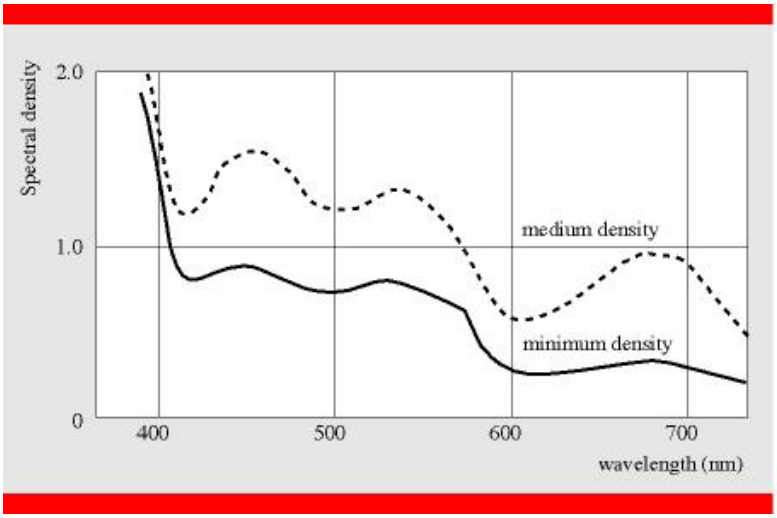
Spectral Sensitivity



The curves refer to a density of 0.5 above base fog.
The film is exposed to an equi-energetic spectrum. Sensitivity is reciprocal to the exposure expressed in mJ/m², required to produce the indicated density.

Colour rendering/ Spectral density

Triple masking technology (orange mask) is used for controlling the colour rendering.
The best colour balance is obtained at standard AP70/C41 processing.



The curves show the spectral density measured on the processed image (neutral object with medium brightness), per wavelength.
Standard processing.

Granularity

Due to the fine grain property, the :Aviphot Color N800 minimises the loss of details, even when enlarged.

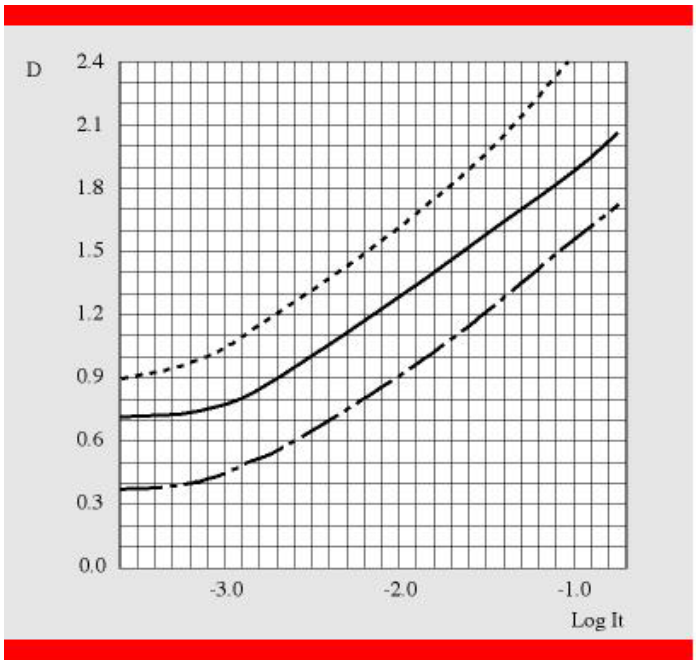
RMS Granularity

The RMS granularity measured at a diffuse visual density of 1.0 with 48 µm spot size equals RMS (x1000) = 9

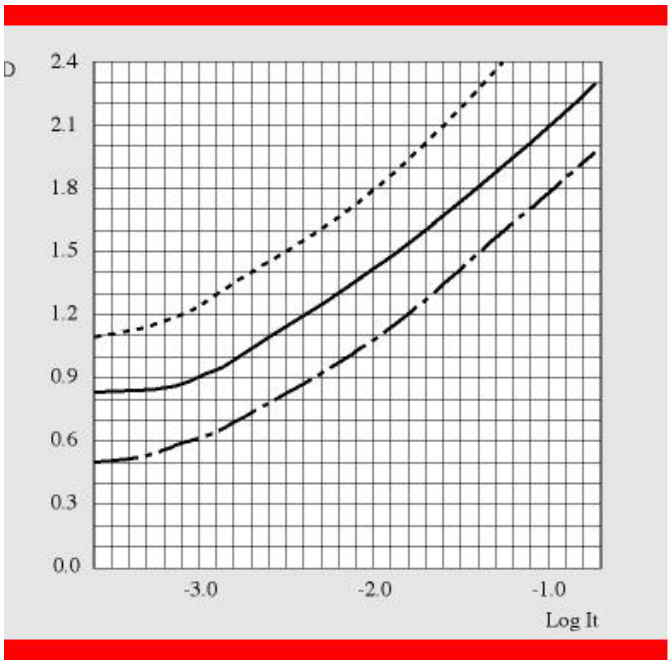
Sharpness
Due to the use of the DIR technology (developer Inhibitor Release) inhibitors in the emulsion are active during development to achieve better differentiation of densities within one colour. The visual effect results in clear-cut marking and enhanced sharpness.

TOC (target Object Contrast)
Measured according to ANSI PH 2.33-1980
TOC 1000:1 = 110 lp/mm or 220 dots/mm
TOC 1.6:1 = 40 lp/mm or 80 dots/mm
TOC resolution is a purely visual criterion, affected significantly by the contrast range.

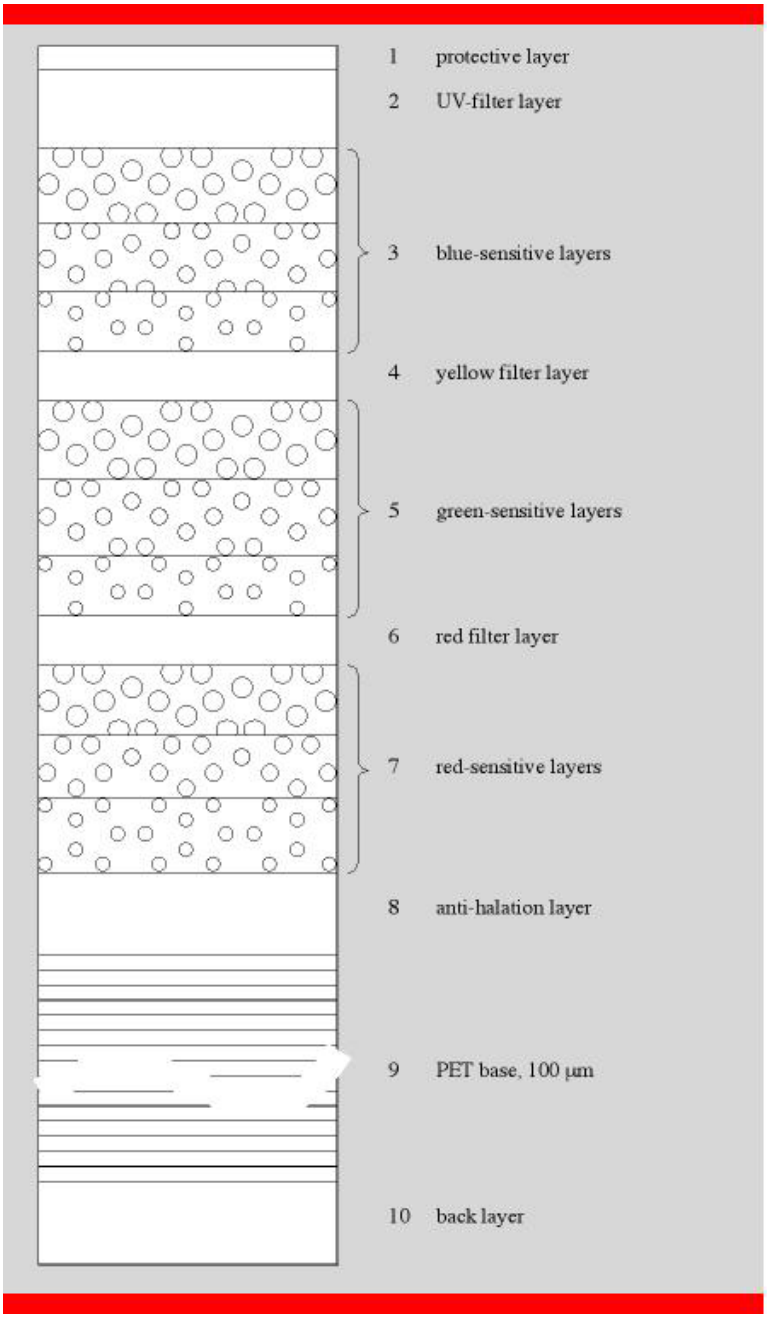
Colour Density Curves.
Processing at 37.8 C° for 3 min15 s



Processing at 37.8 C° / 4 min



Film structure



Total film thickness: 100 µm PET + 22 µm colour layers + 2 µm back layer = 124 µm.

Production Guidelines

Film handling
Wear cotton gloves, both before and after processing the film.
Avoid direct contact between emulsion and other objects like rollers to prevent scratches that can be picked-up at scanning.
Avoid manipulation of freshly processed film.
Handle film in low dust environments. Use an anti-static cleaning device for film before duplicating/scanning.

Luggage X- Ray at airports
High-speed films should never be checked in with normal luggage, but kept with your hand luggage. Visual checks are always safer. This applies in particular to high-speed films, because the sensitivity of a film to X-rays is proportional to its sensitivity to visible light.

Darkroom lighting
The film must be handled in complete darkness in its pre-processing stage.

Exposure
Recommended speed setting: 600 to 1000 ASA. To get the best possible exposure, make a series of test images representative of the exposure, flying altitude and atmospheric conditions. Use the camera that you expect to use for the task and process in the machine and under the conditions foreseen for the real job. Your best image should show no under-exposure; extreme over-exposure or over-processing may also degrade the details in the image.
Filters are not required for daylight exposure.

Processing
:Aviphot Color N800 is preferably processed in a machine filled with :Agfacolor AP70 chemistry.
If you do not have your own aerial processor, specialised photo labs can offer a solution. They generally have a lot of experience in processing :Aviphot colour film. Don't forget to inform the flight crew about the required quality of the final result, so they can take that into account on their next sortie.

Archiving

:Aviphot Color N800 can be archived for a very long time, if the material has been processed in a professional way and according to the instructions. Dark fading (loss of a certain colour dye in dark storage) is due to inadequate washing and/or stabilising during processing. Light fading (loss of colour dye due to exposure to light) hastens colour deterioration. If the films are to be stored for maximum duration – i.e. centuries -, we recommend to keep them stored in a dark room and in their original plastic film containers, at a RH ranging from 30% to 50% and at a temperature of max 24 °C/75 °F. Protect the film from effects caused by harmful gases (formaldehyde-, turpentine- and vapour, hydrogen sulphide or ammonia).

Shelf life

Unexposed :Aviphot Color N800 films should be stored in a cool and dry place, in its original packaging at a temperature below 13 °C/55 °F. The expiry date indication on the film cans refers to those conditions. The photographic properties can be kept stable in freezers (at temperatures below -10 °C/+14 °F) for an extended period of time. After removal from the freezer, the film needs to adapt to the ambient temperature for some 12 hours, before the original packaging can be opened.

If not, some water condensation (drops) may be formed on the film especially in high RH environments. Avoid any unprotected manipulation of film at high temperatures or in extreme RH circumstances. Also keep clear from harmful gases.
Exposed films are best processed immediately. The latent image drift – although small- may affect the image quality in case of long delayed processing.

Dimensional Stability of Aviphot N800

Temporary dimensional changes:

- Thermal coefficient of linear expansion (-20°C to +50°C): 0.0018% per °C of change.
- Humidity coefficient of linear expansion (30%RH to 60% RH): 0.0024% per % RH of change.

Permanent dimensional changes:

- Dimensional change due to processing: 0.0014%, pre- to post-processing.

Assortment

:Aviphot Color N800 film is available in high speed scientific camera sizes.
Other sizes (320mm – 240mm – 190mm – 126mm – 80mm – 70mm –35mm) are available with minimum ordering quantities.
70 mm, 35 mm and 16 mm sizes are available in various perforation types and layout. Short and long pitch perforations are possible.
Your Agfa-representative will be pleased to give you additional information.

mm x m	mm x ft	Spool / core	Perforation	Order code
35 x 366	35 x 1200	CNP3 core	Double P/EI	EFPR3
70 x 366	70 x 1200	CNP3/70	Type I/EI	EFPS5
240 x 76	240 x 250	AH 897	None	EKMY4

Other sizes are available with a guaranteed minimum volume.
Your Agfa-representative will be pleased to give you additional information.

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