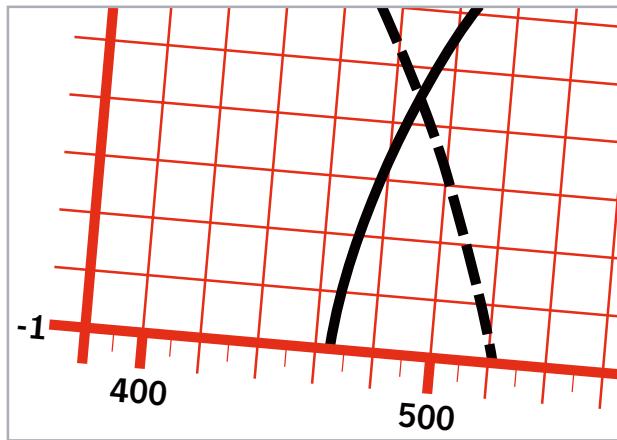




## Technical Data

### Range of AgfaPhoto standard films



- ▶ Vista 100
- ▶ Vista 200
- ▶ Vista 400
- ▶ APS star 200
- ▶ CTprecisa 100

This brochure contains information on the quality and features of AgfaPhoto amateur colour films. More specific data, figures and charts are given in the appendix.

AgfaPhoto colour films are high-grade products for all applications in amateur photography. The speed ratings available range from the standard sensitivity, for normal and very bright conditions, up to high sensitivity for bad to critical lighting conditions or fast-moving subjects. The optimum material is therefore available for any situation which may arise in normal practice.



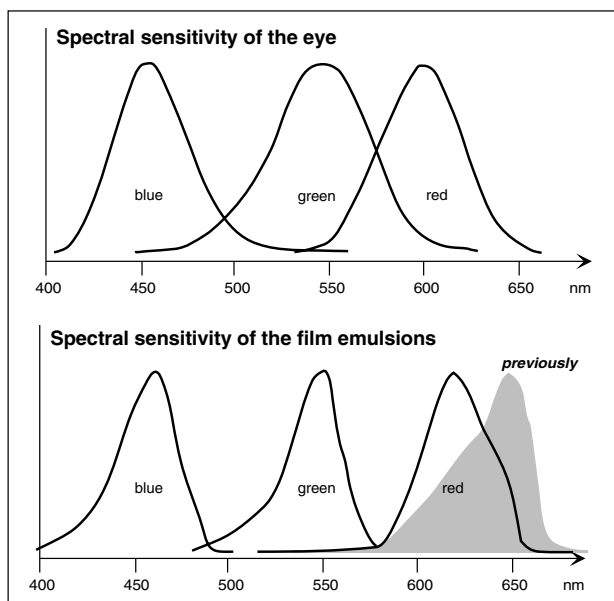


## General comments

### Vista and APS star

A film's colour rendition is governed by a number of factors. The emulsions' spectral sensitivity or sensitisation is particularly important, when it comes to reproducing true-to-nature colours with the maximum accuracy. By means of the EYE VISION technology incorporated in all Vista and APS star films, it is now possible to match, to a large extent, the films' sensitisation to the colour perception of the human eye. The effect is shown schematically in the following diagrams. The EYE VISION technology achieves more accurate colour fidelity, and largely eliminates the colour falsifications present in films with conventional sensitisation such as:

- an unpleasant green cast with fluorescent light (e.g. neon tubes),



- a shift towards red in certain blue-coloured flowers (hortensia, clematis, delphinium etc.),
- the brown rendition of particular green fabric colours,
- the absence of texture in certain red colours (e.g. roses).

## Directions for use

### Film speed

Today's ISO values are a combination of the former ASA and DIN values. The following table illustrates this point.

ISO	ASA	DIN	In comparison to ISO 100/21°
100/21°	100	21°	
200/24°	200	24°	twice as fast
400/27°	400	27°	four times as fast

In principle, all these speeds are for all photographic situations that might occur under normal circumstances (e.g. people, portraits, landscapes, groups, buildings, holidays, animals, plants, flowers, documentation etc.). Nevertheless, it is still worthwhile observing a number of simple rules in the choice of the film speed.

	ISO 100/21°	ISO 200/24°	ISO 400/27°
Lightning			
– Bright, e. g. cloudless	x	x	x
– Medium, e. g. overcast		x	x
– Weak, e. g. dawn			x
Moving subject*			
– Almost motionless	x	x	x
– Medium-fast		x	x
– Fast			x
Lens*			
– High speed	x	x	x
– Low Speed		x	x
Flash (medium light output)			
– small rooms	x	x	x
– Large rooms			x

\* Depending on the lighting

## Camera setting

Modern cameras adjust themselves automatically to the film speed (by reading the DX code). Cameras without automatic lighting control must be set manually to the film speed stated on the pack.

## Exposure latitude

Most cameras have automatic exposure control, which sets the most favourable ratio of exposure time and aperture. Nevertheless, many photographs are not correctly exposed, because the automatic control of some cameras cannot cope with unusual or critical lighting conditions. Backlit shots are a typical example. Without lighting adjustment, the negative or slide may well end up being under-exposed by one or two f-stops. Depending on the film type, AgfaPhoto films tolerate exposure errors up to 5 f-stops (under-exposure up to 2, over-exposure up to 3 f-stops) without noticeable reductions in quality.

## Exposure notes

When in doubt, it is good to err on the generous side in the exposure of colour negatives (i.e. stop up = lower f-number), but to be more cautious with slide films (i.e. stop down slightly = higher f-number). In this way you are always on the safe side: over-exposing a negative film and slightly under-exposing a slide film produces an increase in colour saturation.



### Daylight

Daylight is not just daylight. In the morning and in late afternoon the sun is at an angle. As a result, the light is warmer and contains more red. At noon, on the other hand, when the sun is shining vertically, the light is colder and contains more blue. This quality of the light, which is known as the colour temperature, is measured in Kelvin.

All AgfaPhoto films are suitable for use in medium daylight, at a colour temperature of 5500 Kelvin. If the light is too cold, it can be adjusted with a red filter (e.g. R 1.5 or R 3), and if it is too warm, with a blue filter (e.g. B 1.5 or B 3). These corrections should only be used with slide films.

### Flash

Electronic flash-guns and flash bulbs are suitable for medium daylight. The guide number of the flash depends on the film speed.

Tip: if a subject is dark or far away, you can achieve better flash photos by stopping up one step.

### Artificial light

Artificial light, i.e. light from sources such as photographic lamps, electric bulbs or fluorescent tubes, has its own characteristics. Photographic lamps have a colour temperature of 3400 K, electric bulbs 3200 K.

AgfaPhoto negative films and AgfaPhoto slide films are ideal for artificial light. For best results a certain type of filter is required, depending on the light source. However as each filter reduces the intensity of the light, this must be compensated as follows.

Type of lamp	Filter	Adjustment
Photographic lamp	80 B	+ 1 2/3 f-stops
Electric bulbs	80 A	+ 2 f-stops

### UV blocking filters

Each AgfaPhoto film contains an integrated UV protection filter which absorbs any invisible UV radiation contained in daylight. It is therefore not necessary to use a UV blocking filter, though it is useful for a physical protection of the lens.

### Polarizing filters

This type of filter is used either for the reduction of reflections, e.g. on glass and water (though not metal), or for the production of certain effects (e.g. a more intensive blue sky). Depending on the filter type, the exposure time needs to be increased by a certain factor (see the instructions for your camera or filter).

### Colour filters

Colour filters are intended for black-and-white photography. They are not suitable for colour, as they produce considerable colour shifts.

### Long and short-term effects

Extremely long or short exposure times can affect the speed and colour balance of the film. This is known as the reciprocity effect.

The reciprocity effect of AgfaPhoto films is excellent. If the exposure time is within 1/10 000th and 10 second, the colours and speed remain the same. However if the exposure is any longer or shorter, then it may be necessary to make exposure or colour adjustments.

### X-ray checks

X-ray checks, which are inevitable before a flight, can sometimes cause problems. We have found that if an X-ray machine is marked "Film Safe" and the checks do not exceed the usual number, then they do not normally affect a film. Nonetheless films should never be checked in with the 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.

### Storage

Remember never to store films under moist or humid conditions. Neither should films be exposed to heat.

**Unexposed films:** The cooler an unexposed film is stored, the longer it will last. Furthermore, we recommend keeping the film in the original pack, which is moisture-proof (i.e. water-tight), so that the photographic qualities remain stable. Films that have been stored in a refrigerator should be kept at room temperature for about two hours before use, as the atmospheric humidity might otherwise produce condensation on the cold film. A car glove compartment is not suitable for storing films. If the sun is hot, they can easily develop temperatures of up to 80°C/175°F. Fumes, such as formaldehyde, can also be harmful. They are released by furniture, cosmetics, adhesives and varnish.

The camera itself only provides inadequate protection. Instead, put your camera in a polyethylene bag if necessary.

**Exposed films:** Once exposed, a film should be developed as soon as possible. The "latent" image (i.e. the pre-development exposure) may otherwise deteriorate as a result of long-term storage or unfavourable weather conditions, and this disturbs the colour balance.

**Developed films:** The same safety precautions apply to developed films, i.e. they must be kept in a cool and dry place and protected from harmful fumes and direct light.



## Processing

Film development processes are standardized throughout the world.

AgfaPhoto films are "process-compatible" and are developed in the following processes:

AgfaPhoto negative films	AP 70/C-41
AgfaPhoto slide films	AP 44/E-6

## From production to the finished picture – Agfa quality assurance

Modern production methods and strict inspections ensure that no films are shipped unless they are within Agfa's extremely narrow tolerance limits. To ensure that this high quality standard reaches the end user, Agfa has incorporated a number of features to enhance the stability of its products.

- High storage stability, which largely prevents any changes to the qualities of the film during storage, by the retailer or by the customer.
- Extremely wide exposure latitude, which largely compensates for any exposure errors that might occur in practice (e.g. with backlit photographs or a weak flash).
- High resistance to processing fluctuations during development – fluctuations which can never be totally avoided, even if process monitoring is very thorough.

## Specific product details

The charts and figures shown on page 5 to 7 are briefly explained below, and the conditions of measurement are also described.

All the figures are averages of various production runs. For some emulsion batches they may vary slightly from each other, in spite of the very tightly main-tained tolerances.

## Spectral sensitivity

Chart to define the colour sensitivity of an unprocessed film.

References:

- Equi-energy spectrum
- Measured density: 0,5 above minimum density for colour negativ films, 1,0 above minimum density for colour reversal films

## Absorption of emulsion dyes

Chart to define the relative effect of a processed film on incident light. With colour negative films, it measures the spectral sensitization of the subsequent print material, with colour slide films it measures the viewer's perception under certain defined standard lighting conditions. References:

- Neutral object of medium brightness
- Minimum density

## Colour density curves

Chart to define the density of dyes in a processed film, depending on the lighting. References:

- Exposure: daylight 1/100th sec
- Process: AP 70/C-41 or AP 44/E-6
- Densitometry: Status A or Status M

## Sharpness

International name of the chart: MTF (Modulation Transfer Function) which defines the sharpness of the image. The higher the transfer factor in %, the lower the loss during transmission of the light. References:

- Exposure: daylight
- Densitometry: visual filter ( $V_\lambda$ )

## Granularity

Granularity is the irregular density of an exposed and processed film surface. The numeric value is based on the RMS (root mean square) method of measurement. The smaller the value, the finer the grain of the film. References:

- Exposure: daylight
- Densitometry: visual filter ( $V_\lambda$ )
- Reading: diffused density 1,0  
40  $\mu\text{m}$  scanning aperture
- magnification: 12x

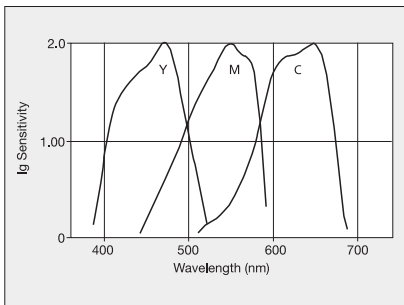
## Emulsion base

The film base consists of acetyl cellulose and has a thickness of approx. 120  $\mu\text{m}$ . The base of the films in the Advanced Photo System is made of PEN (Poly Ethylene Napthalate), and is approx. 90  $\mu\text{m}$  thick.



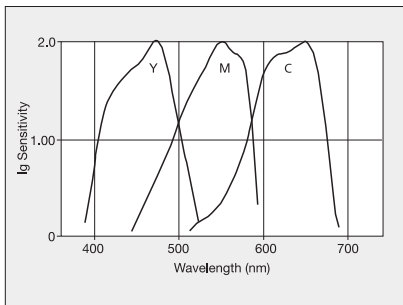
### AgfaPhoto Vista 100

Spectral sensitivity:



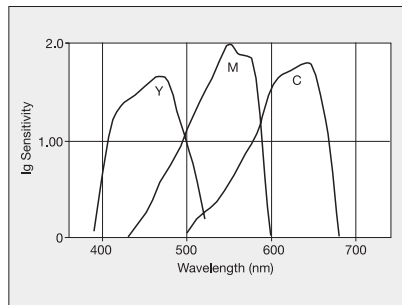
### AgfaPhoto Vista 200

Spectral sensitivity:

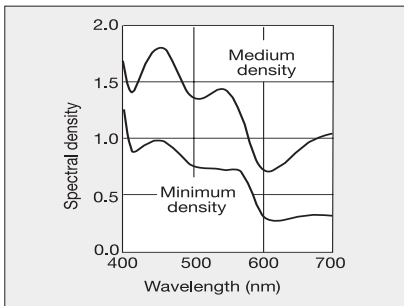


### AgfaPhoto Vista 400

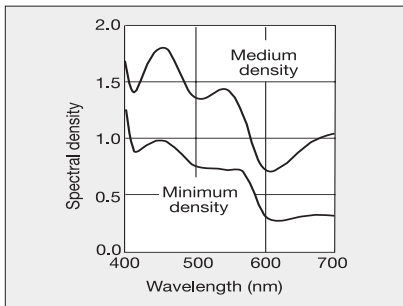
Spectral sensitivity:



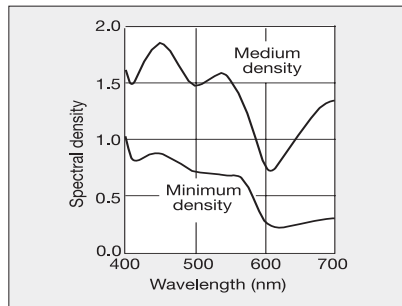
Spectral density:



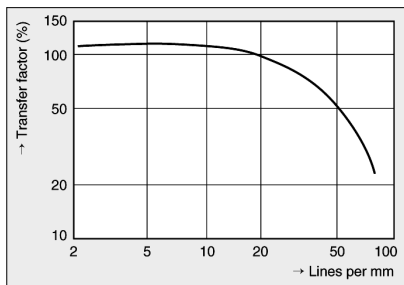
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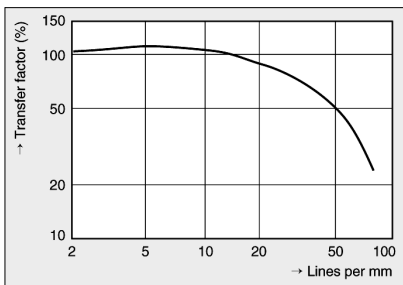
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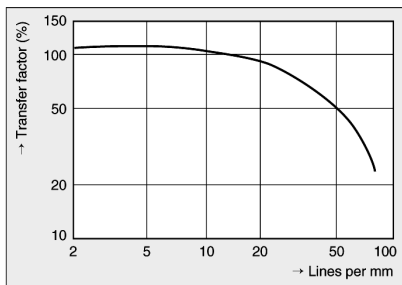
Sharpness:



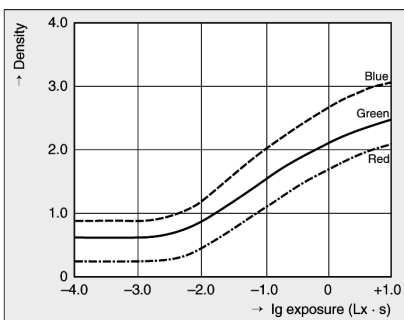
Sharpness:



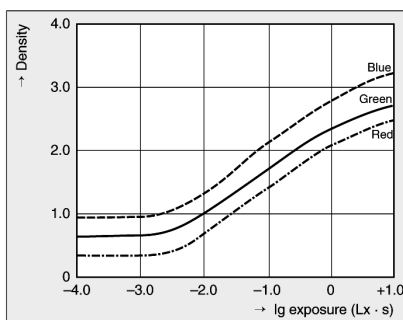
Sharpness:



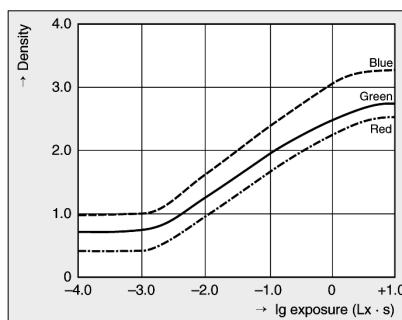
Colour density curves:



Colour density curves:



Colour density curves:



Speed: ISO 100/21°  
Granularity (x 1000): RMS 3.5

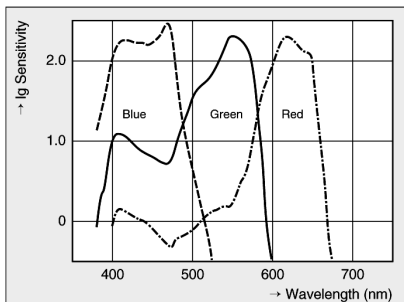
Speed: ISO 200/24°  
Granularity (x 1000): RMS 4.0

Speed: ISO 400/27°  
Granularity (x 1000): RMS 4.5



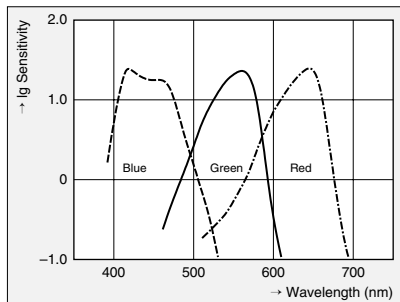
**APS star 200**

Spectral sensitivity:

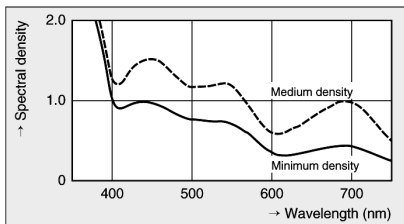


**AgfaPhoto CTprecisa 100**

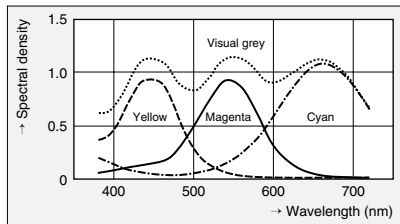
Spectral sensitivity:



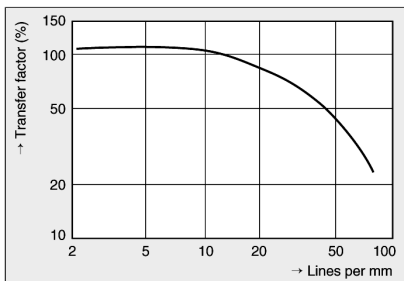
Spectral density:



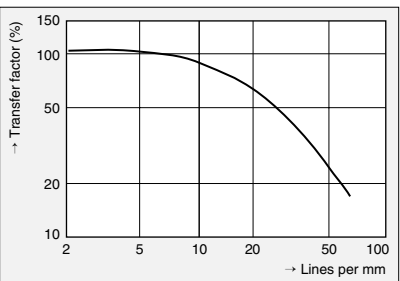
Spectral density:



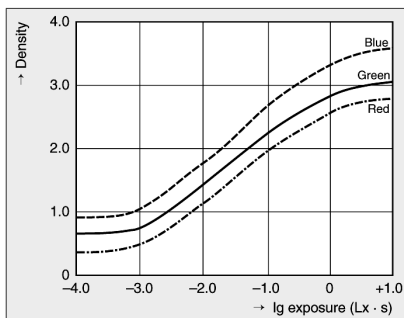
Sharpness:



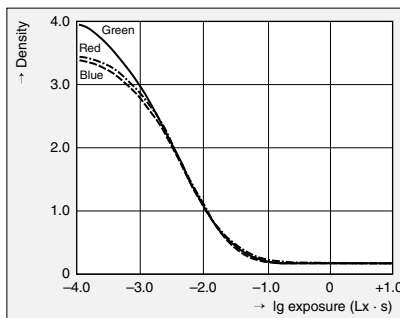
Sharpness:



Colour density curves:



Colour density curves:



**Speed:** ISO 200/24°  
**Granularity (x 1000):** RMS 4.1

**Speed:** ISO 100/21°  
**Granularity (x 1000):** RMS 10.0



# ▶ The range

Film type Systemcode-no. frames	Colour negative films				Slide films
	Vista 100 ISO 100/21°	Vista 200 ISO 200/24°	Vista 400 ISO 400/27°	APS star 200 ISO 200/24°	CTprecisa 100 ISO 100/21°
135-36	x	x	x		x
135-24	x	x	x		
135-12	x	x	x		
240-25				x	

**Technical Data Sheet AP-F**  
Stand: 07/2007

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