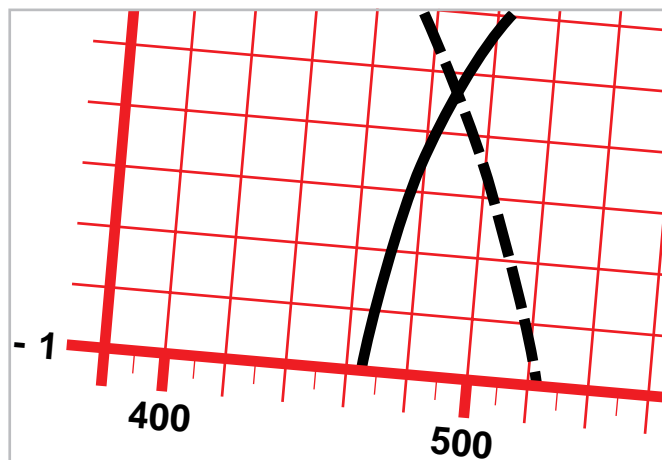


TECHNICAL DATA



AGFA RANGE OF FILMS

PROFESSIONAL

In professional photography and creative imaging the main considerations are quality, continuity and individuality. For these reasons the films for this area are measured by special standards. A film only satisfies these high standards if its performance is above-average. And it will only be accepted if it achieves this performance with extreme accuracy, consistency and with the maximum reliability. The wide range of professional applications calls for a correspondingly wide range of different emulsions, whose characteristics must be designed exactly for specific areas of use.

Agfa Professional films are specified to satisfy these exceptional standards. They combine the maximum quality with maximum reliability: optimum colour saturation and tonal definition, exact contrast ranges, exemplary grey balance, the finest detail rendition in the critical highlight and shadow areas, extreme sharpness and fine granularity, and unproblematic short- and long-time features.

Two examples of extremely tight production tolerances:

speed: ± 0.5 DIN = $\pm 1/6$ stop

colour balance: ± 5 CC filter units

AGFA 

ISO 9002 quality certificate

Since 1992 the photo-chemical production department of Agfa-Gevaert AG has possessed the ISO 9002 certificate for its quality management system, as awarded by Lloyd's Register for Quality Assurance Ltd. (LRQA), London.

The ISO 9002 standard defines the principles of quality assurance, including concepts and criteria for customer-based quality planning, specifications for each stage of production, and also systems for error prevention and for the continuous enhancement of production techniques.

Comprehensive documentation of all the tests and their regular monitoring by internal and external auditors ensures that the product quality is consistently based on objectively defined criteria, and conforms at all times to a reproducible standard.

Agfa Professional film range

Agfa Professional films are available with the speed ratings required by professional practice: from the slow film (ISO15/25° – ISO 100/21°) through the medium (ISO 160/23° – ISO 200/24°) to the fast (ISO 400/27°) film.

Slow films are characterised by outstanding colour rendition, fine granularity and sharpness, and are especially suitable for subjects in which the finest detail resolution is required. These are also the best films for giant enlargement or projection.

Medium-rated films are ideal for all-round use due to their balanced performance which combines sensitivity, colour rendition, sharpness and granularity.

Fast films create brilliant colours and high image quality, even in poor lighting and with fast-moving subjects.

Agfacolour Professional negative films

The range permits a choice between different colour saturations, so that the user can determine the intensity of colour of the prints before shooting.

Colour saturation

High	Extremely high	Restrained
OPTIMA II 100	ULTRA 50	PORTRAIT XPS 160
OPTIMA II 200		
OPTIMA II 400		

Films with specific colour saturation

AGFACOLOR PORTRAIT XPS 160 PROFESSIONAL

A film specially conceived for portrait photography, with soft colour typification, extremely fine granularity and superb skin tone rendition. Due to its restrained saturation and flat contrast, it is ideally suited for toning down rich colours and high contrasts.

AGFACOLOR ULTRA 50 PROFESSIONAL

This film features extremely high colour saturation for high-key colour effects and the enrichment of pale colours. The colours of low-contrast subjects (haze or fog) are intensified.

The Agfachrome Professional reversal films

- AGFACHROME RSX II 50 PROFESSIONAL
- AGFACHROME RSX II 100 PROFESSIONAL
- AGFACHROME RSX II 200 PROFESSIONAL

The Agfa Professional black and white films

- AGFAPAN APX 25 PROFESSIONAL
- AGFAPAN APX 100 PROFESSIONAL
- AGFAPAN APX 400 PROFESSIONAL
- AGFA SCALA 200x PROFESSIONAL

Processing of AGFA SCALA 200x in the special SCALA process (in authorised SCALA labs only, see Technical Data P-12-F).

Information on the performance characteristics of Agfa Professional films

Sensitivity (speed)

The sensitivity of a film is measured with a densitometer. It is related to a defined exposure time of 1/100 s for daylight films. The figure given on the pack applies however to the exposure time range of 1 s to 1/10 000 s. Absolutely no sensitivity deviations occur with any Agfa films within this range.

Reciprocity effect

Bunsen and Roscoe's reciprocity law states that the results will be the same for an exposure with high light intensity and short exposure time, or with low light intensity and long exposure time. In the range of extremely long or extremely short exposure times however the relative sensitivity falls. This phenomenon is termed the reciprocity or Schwarzschild effect. The three part-colour layers on colour films may behave differently, with the result that the colour balance is also affected.

This effect can be corrected by suitable camera correction filters for Agfacolor reversal films, and by suitable printing filtration for colour negative films. The reciprocity effect with Agfa Professional films is reduced to a minimum by special technical features. The correction figures are given in the product specifications.

Sensitisation

The spectral sensitivity of Agfa colour negative, colour reversal and black and white Professional films covers the entire range of visible light radiation.

Colour balance

Daylight has a completely different colour temperature to the artificial light produced by the halogen and incandescent lamps common in practice. (An exception is formed by the halogen metal vapour lamps with daylight characteristics, e.g. Osram HMI and Philips MSR lights for professional use.)

Colour films detect variations in the colour temperature much more accurately than the human eye, which receives an overall colour impression and largely balances the differences. For this reason colour films have to be sensitised to a certain kind of subject light, i.e. depending on the film type a particular colour temperature is fixed as the so-called colourless point during manufacture.

All the AGFACOLOR and AGFACHROME Professional films are matched to daylight, and are designed for the spectral radiation of mixed sunlight (colour temperature approx. 5500 Kelvin). Photography in this type of light does not require

filtration, i.e. the results with all the films have an even, neutral colour balance.

If however the colour temperature of the subject light varies distinctly, this has to be counteracted for colour reversal films by camera correction filters, which prevent colour casts.

Colour temperature		Filter colour
too high	(> 5 500 K)	yellow-red
too low	(< 5 500 K)	blue

The exposure must also be adjusted depending on the filter strength.

Light sources and filters

Daylight

Practical correction examples	Filter	Correction
<i>High colour temperature, e. g. 5700 K</i> Landscapes, portraits with cloudy sky, cloudless mountainscapes	81 A	+ 1/3 stop
<i>Low colour temperature, e. g. 5 300 K</i> Landscapes, portraits at dawn or dusk	82 A	+ 1/3 stop

Artificial light

Agfa Professional films can also be used in artificial light with suitable filtration.

Light source	Filter	Exposure correction (f-stops)
Photo lamps 3 400 K	80 B	+ 1 ² / ₃
Photo lamps 3 200 K	80 A	+ 2

Electronic flash

Electronic flash frequently works with a colour temperature of 5500 K (average daylight). There are however equipment and applications for which the flash tube colour temperature varies from this average figure. In these cases a test is advisable. Bear in mind that with longer exposure times the electronic flash light can be influenced by any other light sources present, so that a mixed-light situation is created.

Fluorescent tubes

The spectral distribution of radiation of fluorescent light tubes varies quite considerably according to manufacturer, lamp type and lamp age. Exact filter information is therefore not possible. To ensure optimum colour rendition in spite of this, test shots are advisable.

The following correction figures can only serve as guides for the right filtration in practice, and apply to colour reversal films. They are based on results gained by experience. However the exposure times can be lengthened so much by the filtration that a further correction is necessary, due to the reciprocity effect.

Fluorescent lamp type	Filter	Exposure correction (f-stops)
Daylight (D)	50 R	+ 1
White (W)	40 M	+ 2 ² / ₃
Cold-white (KW)	20 C + 40 M	+ 1
Warm-white	40 M + 10 Y	+ 1

Mixed light

When you take pictures with different light sources, special attention must be paid to the colour temperature of the main light source for the correction filtration. The precise colour rendition and – if required – specific colour temperature effects should definitely be found with test shots.

Other filters

UV-blocking filter

Films are also sensitive to the UV content of daylight. UV-blocking filters are therefore often used to prevent colour shifts and unsharpness. This is unnecessary for all the Agfa Professional colour films, because a UV-blocking layer is already incorporated in the emulsion. An extra filter is nevertheless useful to protect the lens against physical damage.

Polarisation filter

This filter is used firstly to cut down reflections, e.g. from glass or water (not metal), and secondly to create special effects (e.g. more vivid sky blue). A certain lengthening factor must be applied to the exposure, depending on the filter type (see the instructions for use of the camera or filter).

Filters for black and white photography

All the correction and contrast filters standard in black and white photography can be used with AGFAPAN films.

Examples

<i>Yellow filter</i>	To heighten cloud contrast
<i>Orange filter</i>	For clear long-distance views
<i>Red filter</i>	To “dramatise” an atmosphere

To compensate for the loss in speed caused by these filters, the manufacturer’s lengthening factors must be applied. Filters for black and white films are not suitable for colour photography. They cause strong colour shifts.

Storage of unprocessed films

High temperatures and high atmospheric humidity can impair the photographic characteristics of a film material, in particular its speed and colour balance. Harmful fumes such as formalin or other fumes given off mainly by glues or cosmetics should definitely be avoided. Films are best stored in the original pack, because this protects them against humidity and fumes. Storage in a refrigerator (below +10 °C / 50 °F) or in a deep freezer (below 0 °C / 32 °F) is an effective way of stabilising films’ photographic properties for a very long time. However wait long enough for the film to come up to room temperature after it has been taken out of refrigeration, since otherwise condensation can form on the cold material. (Recommended acclimatisation time: with refrigerator approx. 2 hours, with deep freezer approx. 8 hours).

Cameras do not provide sufficient protection against these harmful effects. It is therefore advisable to keep a camera cool, dry and airtight when a film is loaded (if necessary in a polyethylene bag).

Once a film has been exposed, the above precautions for unexposed films are even more important. Exposed films should be kept cool and dry, or even better processed as soon as possible after exposure. This ensures that these effects have no time to take place.

Directions for X-ray inspections

The basic rule is that films are sensitive to X-rays, and this sensitivity increases with the film's sensitivity. The X-ray inspection equipment used on many airports marked "Film Safe" does not affect films under normal circumstances. Nevertheless, for safety's sake films should not be handed in as luggage but kept in hand luggage. In cases of doubt a visual inspection is preferable.

Storage of processed films

The same precautions apply to processed films:

- under 25° C
- 30 to 60 % relative humidity
- protected from fumes
- darkness

Processing

Film type	Process	Compatible with process	Process data sheet
AGFACOLOR-negative films	AP 70	C-41	P-70-C, P-71/72-C
AGFACHROME slide films	AP 44	E-6	P-44-C
AGFAPAN BW films	For developing methods, types etc. see data sheet		P-16-C
AGFA SCALA 200x BW slide film	Special SCALA process in authorised SCALA labs only		P-12-F

The Technical Data sheets listed contain detailed information on the processing of the relevant films.

Pushed/pulled processing of slide films

If the first development time is changed, the photographic speed also changes. Lengthening the time leads to an increase in speed (so-called pushing), shortening the time reduces it (pulling). This is a correction method often used in professional photography, with the aim of a fine adjustment of the colour density or a deliberate change in speed.

The AGFACHROME RSX II Professional films feature exceptionally good push/pull stability. Up to a speed adjustment of ± 1 stop (1), the neutrality of colour rendition is preserved in full. Even an increase in speed of up to two stops only has a very slight effect on the colour balance.

The SCALA 200x permits pushing/pulling from ISO 100/21° to ISO 1600/33° (see Technical Data P-12-F).

Further processing

Evaluating negatives

Negatives of colour and black and white films can be appraised in basically the same way. The most important criterion is the shadow area. Thin coverage in comparison to the mask coloration should be apparent on colour negatives.

Retouching

In portrait photography and in some other areas as well, the retouching of processed film material is common. The film types suitable for this treatment incorporate a retouchable back (only roll film and sheet film), i.e. they are suitable for pencil and liquid retouching (retouching paints). Only the AGFACHROME XPS 160 roll film has a retouchable emulsion.

Evaluating slides

The colour balance of AGFACHROME Professional films is designed for the viewing light specified in ISO 3664. The main features of this standard:

- colour temperature 5000 K
- mean luminance 1400 cd/m²
- uniformity of luminance at least 75 %

Comparisons should be made in principle on one and the same light box, because there may be considerable variations in light colour and intensity between different boxes.

Use of slide films in scanners

All AGFACHROME Professional films are reprographically compatible. The high-grade photographic characteristics of this material are therefore transferred completely, even if only the standard scanner setting is used.

Specific information on the product

The charts and figures shown on page 6 to 11 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 maintained tolerances.

Spectral sensitivities

The chart indicates the colour sensitivity of an unprocessed film.

Reference: – equal-energy spectrum
Reading density: – 1.0 above minimum density

Absorption of the emulsion dyes

The chart indicates the relative effect of a processed film on transmitted light. For colour negative films this is a measure for the spectral sensitisation of the following printing material, for colour slide films it is a measure for the viewer's eye under defined standard light conditions.

Reference: – neutral subject with medium brightness
– minimum density

Colour density curves

The chart indicates the dye densities of a processed film in relation to the exposure.

Reference: – exposure: daylight 1/100 second
– process: AP 70/C-41 and AP 44/E-6
– densitometry: Status A and Status M

Sharpness

This is an MTF (Modulation Transfer Function) chart, which indicates the image sharpness. The higher the transfer factor in %, the lower the transfer losses are.

Reference: – exposure: daylight
– densitometry: visual filter (V_λ)

Granularity

Granularity is the irregular density structure of an exposed and processed area of film. The figure is based on the RMS (root-mean-square) measuring method. The smaller the figure is, the finer grain the film has. The RMS measuring method is intended to match an instrumentally found figure with the visual perception of the film granularity.

Reference: – exposure: daylight
 – densitometry: visual filter (V_λ)
 – measurement: diffuse density 1,0;
 48 μ m reading aperture

Resolving power

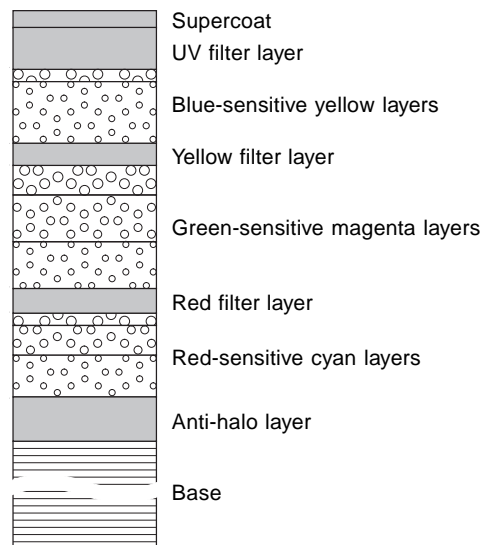
This is given as a figure in the appendix. It indicates the resolution limit in the rendition of adjacent finest details (e.g. lines in a matrix).

The resolving power is a purely visual criterion, which is greatly influenced by the contrast range.

Reference: lines per mm at contrast range 1.6 : 1 or 1000 : 1

Layer design of OPTIMA II 100

The continuous further development of coating technology permits thinner, and simultaneously more layers. The thinner layers enhance the sharpness, and the extra layers have separating, blocking, protecting and filtering functions. They optimise not only the colour rendition, but also the sharpness and storage life as well. A schematic representation is shown on right, taking the OPTIMA II 100 as an example.



Total layer thickness (without base): 16 μ m
 (Other films: see pages 7 to 10.)

Emulsion base

The film base is made of acetyl cellulose or polyester. The type and thickness of the base are given on pages 7 to 10.

Film identification

Process colour coding on 35 mm films

Margin bars on the cartridge

- red Process AP 70/C-41
- blue Process AP 44/E-6
- grey BW negative processing

Process colour coding on roll films

Overprint at end of backing paper

- yellow Process AP 70/C-41
- blue Process AP 44/E-6
- black BW negative processing

Exposed margin marks

1. Film type + emulsion number
2. Frame numbering
 - On 35 mm films after 2 blank exposures continuous frame numbering starting with "1" and "1A" up to 12A, 24A or 36A
 - On roll films continuous double-sided frame numbering from 1-12 or 41-61 (120 roll film), or 1-25 or 41-83 (220 roll film).
3. Symbol marks on colour negative films

Symbols are exposed on to 35 mm and roll films to identify the film generation. Details are given in the appendix. Marking on OPTIMA II films: red squares (see table).

Marking on OPTIMA II negative films

	135/120/220
AGFACOLOR OPTIMA II 100	2
AGFACOLOR OPTIMA II 200	2
AGFACOLOR OPTIMA II 400	1

Notch coding on sheet films

The film type can be identified from the type of notching. The emulsion side is facing the viewer when the notching in upright format is at top right.

AGFACOLOR OPTIMA II 100



AGFACHROME RSX II 100



AGFAPAN APX 100



AGFA SCALA 200x



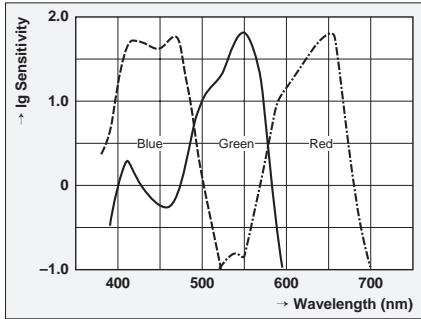
Appendix: Characteristic values and curves of the various films

Reciprocity effect

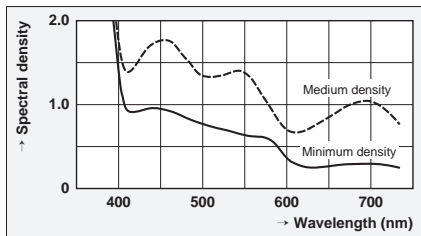
AGFACOLOR negative films	AGFACOLOR OPTIMA II 100			AGFACOLOR OPTIMA II 200			AGFACOLOR OPTIMA II 400					
Exposure reading (seconds)	$\frac{1}{10\,000} - 1$	10	100	$\frac{1}{10\,000} - 1$	10	100	$\frac{1}{10\,000} - 1$	10	100			
Exposure adjustment (f-stops)	0	+ ½	+ 1½	0	+ 1	+ 2	0	+ 1	+ 2			
AGFACOLOR negative films	AGFACOLOR PORTRAIT XPS 160			AGFACOLOR ULTRA 50								
Exposure reading (seconds)	$\frac{1}{10\,000} - 1$	10	100	$\frac{1}{10\,000} - 1$	10	100						
Exposure adjustment (f-stops)	0	+ 1	+ 2	0	+ 1	+ 2						
AGFACHROME slide films	AGFACHROME RSX II 50			AGFACHROME RSX II 100			AGFACHROME RSX II 200					
Exposure reading (seconds)	$\frac{1}{10\,000} - 1$	10	100	$\frac{1}{10\,000} - 1$	10	100	$\frac{1}{10\,000} - 1$	10	100			
Exposure adjustment (f-stops)	0	+ ½	+ 1	0	+ ½	+ 1	0	+ 1	+ 2			
Filtration (CC filter)	0	05 B	10 B	0	05 B	10 B	0	075 Y	15 Y 05 C			
AGFA black and white slide film	AGFA SCALA 200x											
Exposure reading (seconds)	$\frac{1}{10\,000} - \frac{1}{2}$	1	10	100								
Exposure adjustment (f-stops)	0	+ ½	+ 1	+ 2								
AGFAPAN negative films	AGFAPAN APX 25				AGFAPAN APX 100				AGFAPAN APX 400			
Exposure reading (seconds)	$\frac{1}{10\,000} - \frac{1}{2}$	1	10	100	$\frac{1}{10\,000} - \frac{1}{2}$	1	10	100	$\frac{1}{10\,000} - \frac{1}{2}$	1	10	100
Exposure adjustment (f-stops)	0	+ 1½	+ 1	+ 2	0	+ 1	+ 2	+ 3	0	+ 1	+ 2	+ 3
Developing adjustment (%)	0	0	0	0	0	- 10	- 25	- 35	0	- 10	- 25	- 35

AGFACOLOR OPTIMA II 100

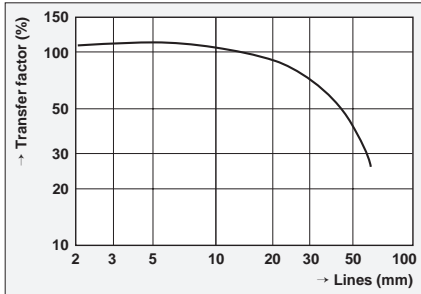
Spectral sensitivity



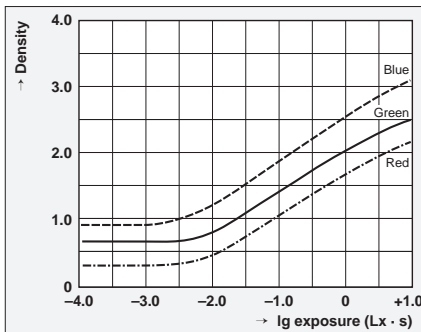
Spectral density



Sharpness



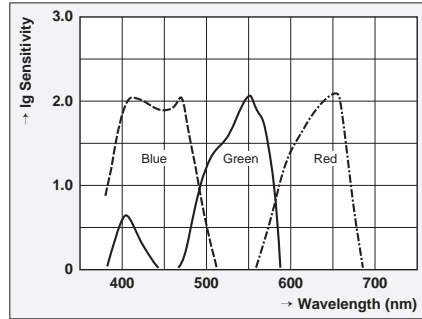
Colour density curves



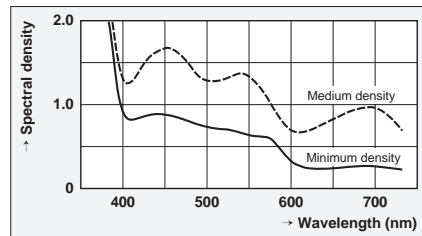
Speed: **ISO 100/21°**
 Granularity (x 1000): **RMS 4.0**
 Resolving power:
 Contrast 1000 : 1 **140 lines/mm**
 Contrast 1.6 : 1 **50 lines/mm**
 Layer thickness: **16 µm**
 Film base: **135 = 120 µm**
120 = 95 µm
sheet film = PET 175 µm

AGFACOLOR OPTIMA II 200

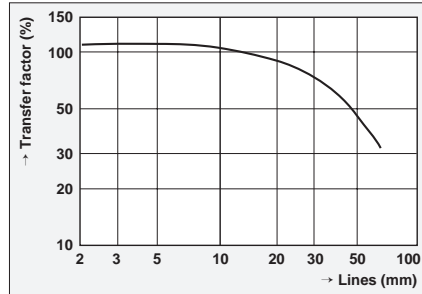
Spectral sensitivity



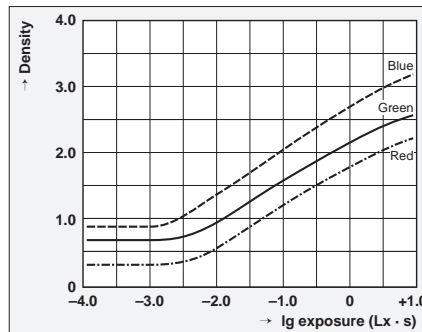
Spectral density



Sharpness



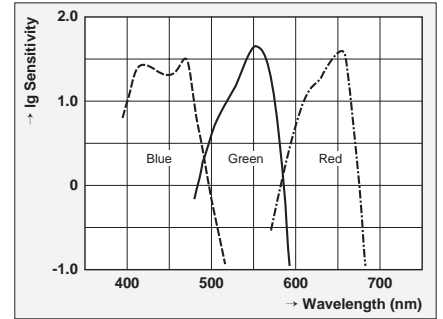
Colour density curves



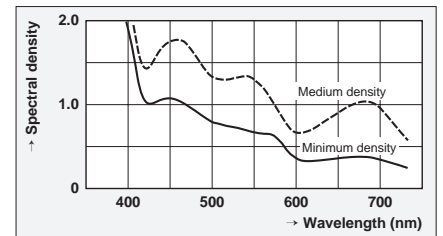
Speed: **ISO 200/24°**
 Granularity (x 1000): **RMS 4.5**
 Resolving power:
 Contrast 1000 : 1 **130 lines/mm**
 Contrast 1.6 : 1 **50 lines/mm**
 Layer thickness: **18 µm**
 Film base: **135 = 120 µm**
120 = 95 µm

AGFACOLOR OPTIMA II 400

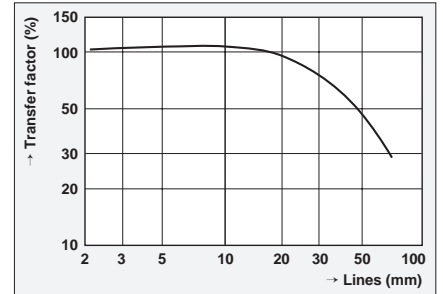
Spectral sensitivity



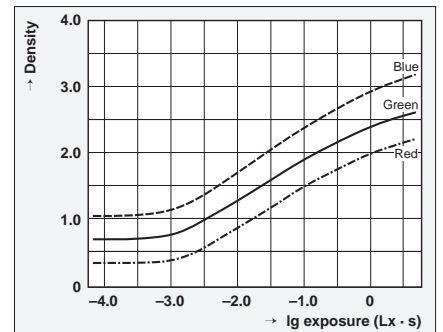
Spectral density



Sharpness



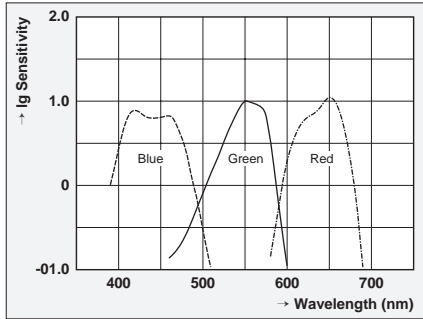
Colour density curves



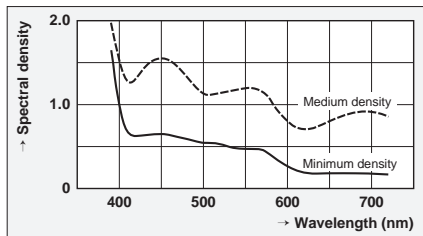
Speed: **ISO 400/27°**
 Granularity (x 1000): **RMS 4.5**
 Resolving power:
 Contrast 1000 : 1 **130 lines/mm**
 Contrast 1.6 : 1 **50 lines/mm**
 Layer thickness: **19 µm**
 Film base: **135 = 120 µm**
120/220 = 95 µm

AGFACOLOR PORTRAIT XPS 160

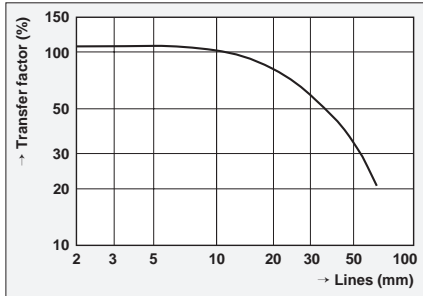
Spectral sensitivity



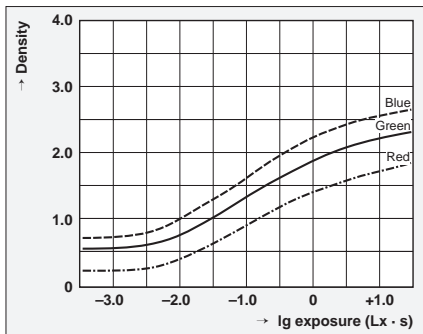
Spectral density



Sharpness



Colour density curves



Speed: **ISO 160/23°**

Granularity (x 1000): **RMS 3.5**

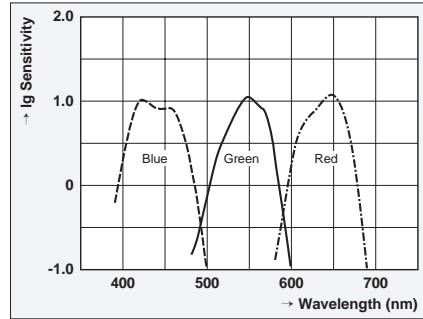
Resolving power:
 Contrast 1000 : 1 **150 lines/mm**
 Contrast 1.6 : 1 **60 lines/mm**

Layer thickness: **18 µm**

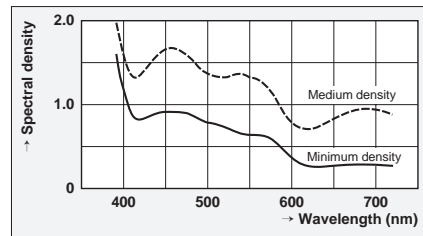
Film base: **135 = 120 µm**
120/220 = 95 µm

AGFACOLOR ULTRA 50

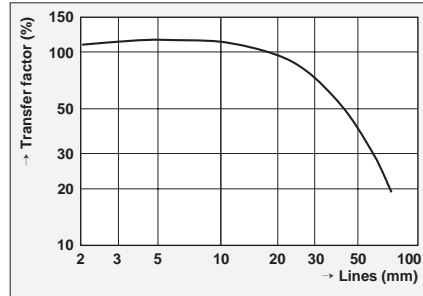
Spectral sensitivity



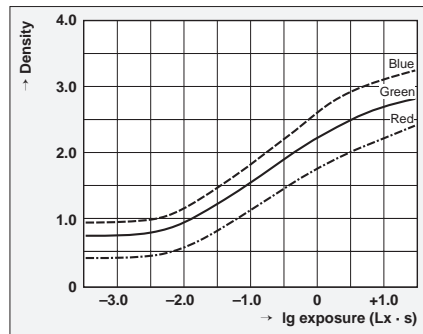
Spectral density



Sharpness



Colour density curves



Speed: **ISO 50/18°**

Granularity (x 1000): **RMS 4.3**

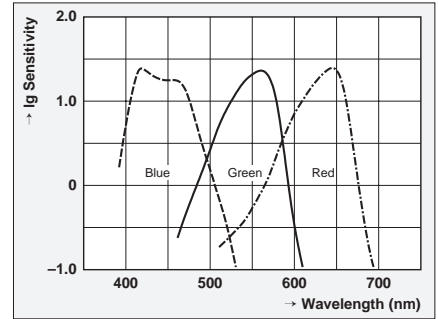
Resolving power:
 Contrast 1000 : 1 **140 lines/mm**
 Contrast 1.6 : 1 **50 lines/mm**

Layer thickness: **27 µm**

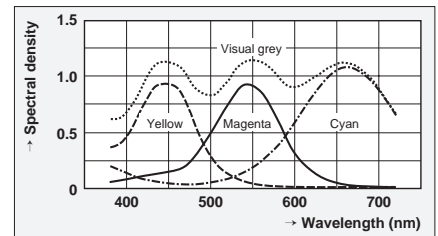
Film base: **135 = 120 µm**
120 = 95 µm

AGFACHROME RSX II 50

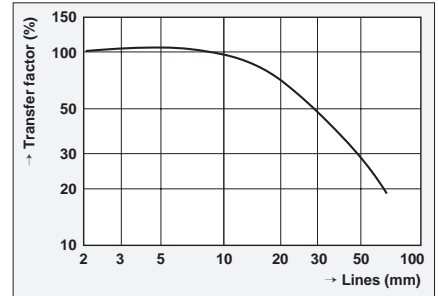
Spectral sensitivity



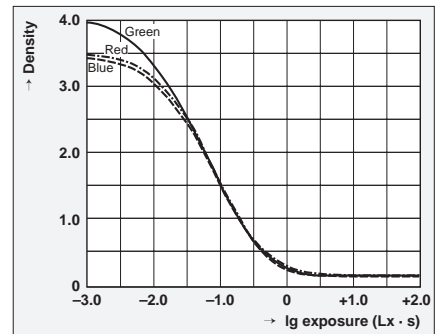
Spectral density



Sharpness



Colour density curves



Speed: **ISO 50/18°**

Granularity (x 1000): **RMS 10.0**

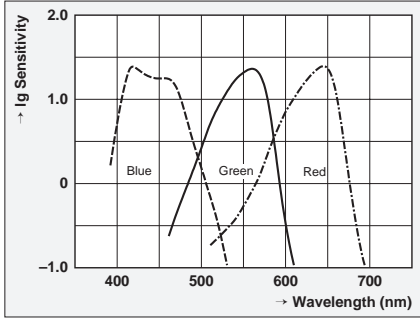
Resolving power:
 Contrast 1000 : 1 **125 lines/mm**
 Contrast 1.6 : 1 **55 lines/mm**

Layer thickness: **25 µm**

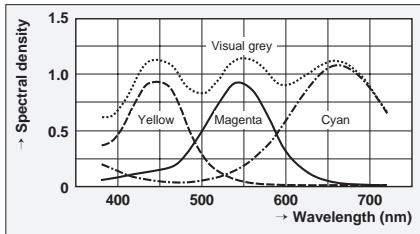
Film base: **135 = 120 µm**
120 = 95 µm

AGFACHROME RSX II 100

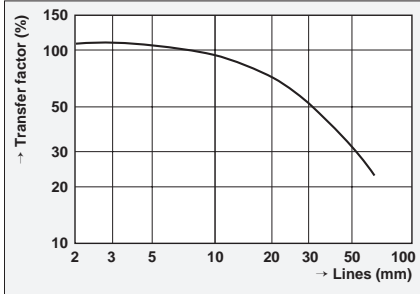
Spectral sensitivity



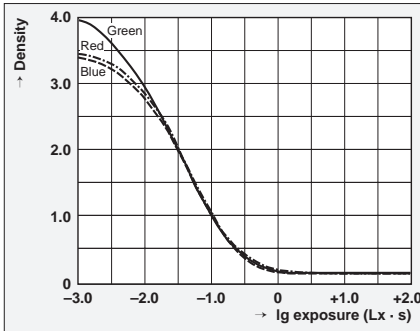
Spectral density



Sharpness



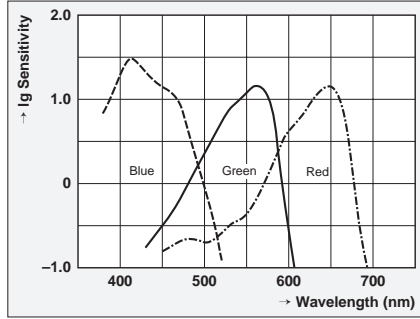
Colour density curves



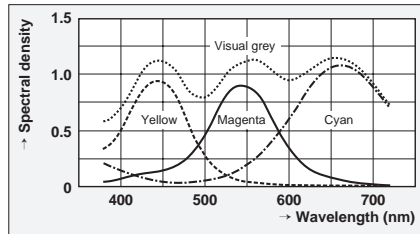
Speed: **ISO 100/21°**
 Granularity (x 1000): **RMS 10.0**
 Resolving power:
 Contrast 1000 : 1 **125 lines/mm**
 Contrast 1.6 : 1 **50 lines/mm**
 Layer thickness: **25 µm**
 Film base: **135 = 120 µm**
120 = 95 µm
sheet film = Acetate 190 µm

AGFACHROME RSX II 200

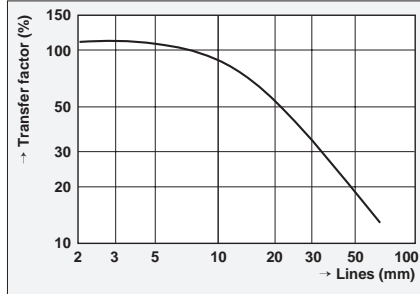
Spectral sensitivity



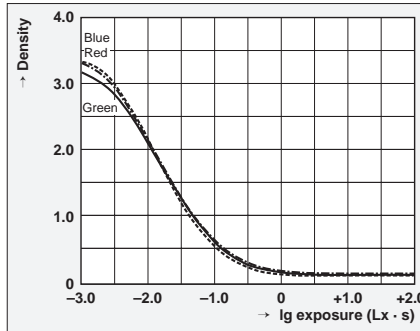
Spectral density



Sharpness



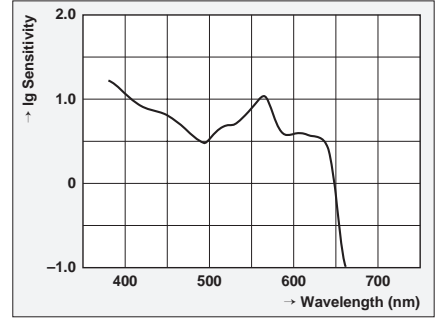
Colour density curves



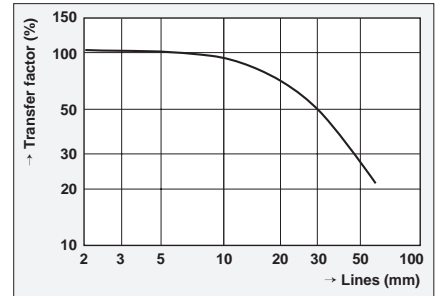
Speed: **ISO 200/24°**
 Granularity (x 1000): **RMS 12.0**
 Resolving power:
 Contrast 1000 : 1 **110 lines/mm**
 Contrast 1.6 : 1 **50 lines/mm**
 Layer thickness: **27 µm**
 Film base: **135 = 120 µm**
120/220 = 95 µm

AGFA SCALA 200x

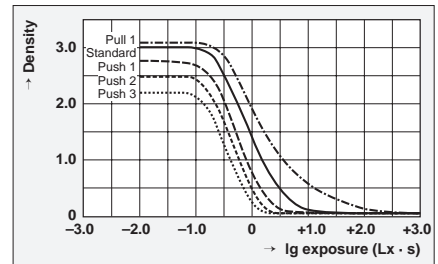
Spectral sensitivity



Sharpness



Density curves



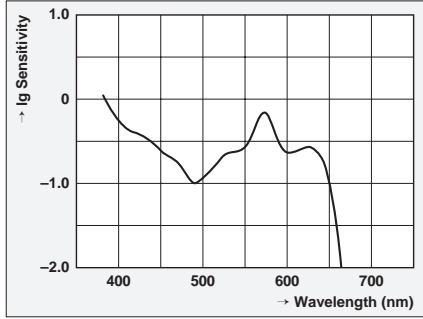
Push/pull behaviour

Step	Push 1	Push 2	Push 3	Pull 1
Speed (ISO)	400/27°	800/30°	1600/33°	100/21°
Contrast	increasingly steeper			flatter
Maximum density	decreasing			in-creasing
Granularity	increasingly coarse-grained			finer

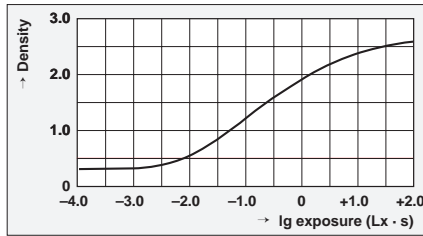
Speed (standard): **ISO 200/24°**
 Granularity (x 1000): **RMS 11.0**
 Resolving power (reference: ISO 200/24°)
 Contrast 1000 : 1 **120 lines/mm**
 Contrast 1.6 : 1 **50 lines/mm**
 Layer thickness: **7 µm**
 Film base: **135 = 120 µm**
120 = 95 µm
sheet film = PET 175 µm

AGFAPAN APX 25

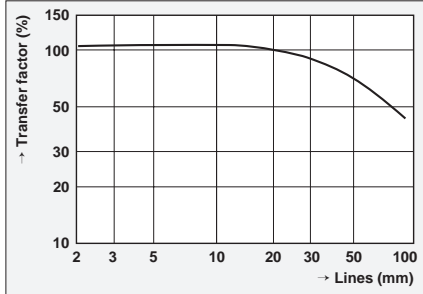
Spectral sensitivity



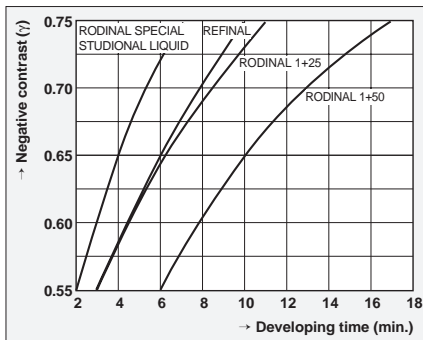
Characteristic curve



Sharpness



Gamma-time curves



Speed: **ISO 25/15°**

Granularity (x 1000): **RMS 7.0**
(REFINAL, 6 min, 20°C)

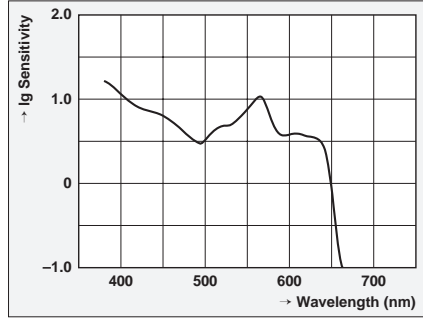
Resolving power:
Contrast 1000 : 1 **200 lines/mm**

Layer thickness: **3 μm**

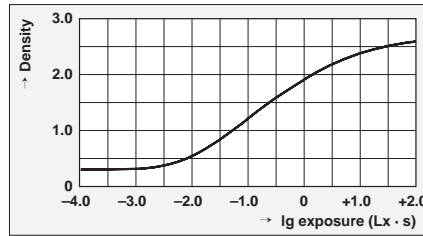
Film base: **135 = 120 μm**
120 = 95 μm

AGFAPAN APX 100

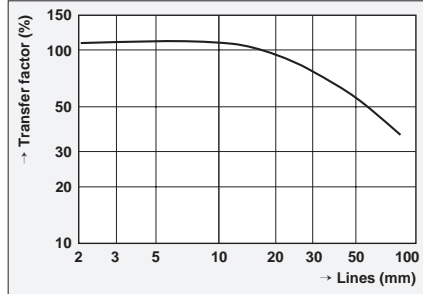
Spectral sensitivity



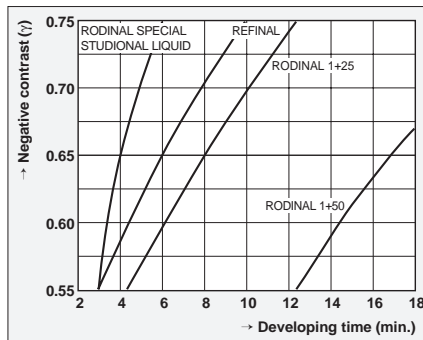
Characteristic curve



Sharpness



Gamma-time curves



Speed: **ISO 100/21°**

Granularity (x 1000): **RMS 9.0**
(REFINAL, 6 min, 20°C)

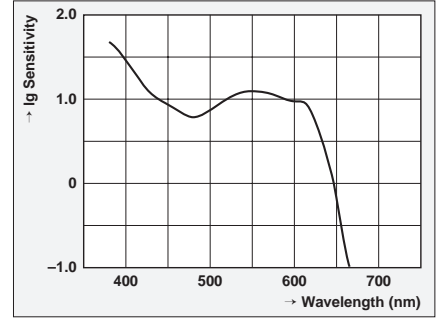
Resolving power:
Contrast 1000 : 1 **150 lines/mm**

Layer thickness: **7 μm**

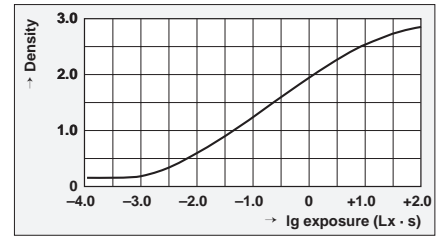
Film base: **135 = 120 μm**
120 = 95 μm

AGFAPAN APX 400

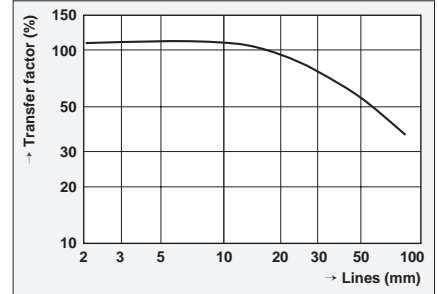
Spectral sensitivity



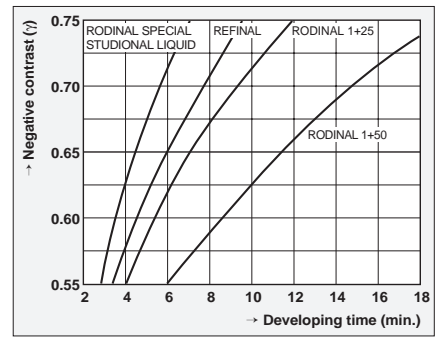
Characteristic curve



Sharpness



Gamma-time curves



Speed: **ISO 400/27°**

Granularity (x 1000): **RMS 14.0**
(REFINAL, 6 min, 20°C)

Resolving power:
Contrast 1000 : 1 **110 lines/mm**

Layer thickness: **10 μm**

Film base: **135 = 120 μm**
120 = 95 μm

Processing AGFAPAN APX 25

Developer	Developing time in min.			
	18 °C	20 °C	22 °C	24 °C

Processing in trays

REFINAL	8	6	4 ½	4
RODINAL 1 + 25	7	6	5	4
RODINAL 1 + 50	12	10	9	8
RODINAL SPECIAL	4 ½	4	3	–
STUDIONAL LIQUID	4 ½	4	3	–

Processing in drums

REFINAL	8	5	4	3 ½
RODINAL 1 + 25	5	4	3 ½	3
RODINAL 1 + 50	11	9	8	7
RODINAL SPECIAL	3 ½	3	–	–
STUDIONAL LIQUID	3 ½	3	–	–

Processing in tanks

ATOMAL FF	10	8	6	5
REFINAL	9	7	5	4

Exposure index AGFAPAN APX 25

Developer	Time*	Speed
REFINAL	6 min.	ISO 25/15°
RODINAL 1 + 25	6 min.	ISO 20/14°
RODINAL 1 + 50	10 min.	ISO 25/15°
RODINAL SPECIAL	4 min.	ISO 25/15°
STUDIONAL LIQUID	4 min.	ISO 25/15°

*) Processing in small tank at 20 °C

Processing AGFAPAN APX 100

Developer	Developing time in min.			
	18 °C	20 °C	22 °C	24 °C

Processing in trays

REFINAL	8	6	4 ½	4
RODINAL 1 + 25	10	8	6	5
RODINAL 1 + 50	20	17	14	12
RODINAL SPECIAL	5	4	3	–
STUDIONAL LIQUID	5	4	3	–

Processing in drums

REFINAL	8	5	4	3 ½
RODINAL 1 + 25	8 ½	7	6	5
RODINAL 1 + 50	18	14	12	10
RODINAL SPECIAL	4	3 ½	3	–
STUDIONAL LIQUID	4	3 ½	3	–

Processing in tanks

ATOMAL FF	10	8	6	5
REFINAL	9	7	5	4

Exposure index AGFAPAN APX 100

Developer	Time*	Speed
REFINAL	6 min.	ISO 125/22°
RODINAL 1 + 25	8 min.	ISO 100/21°
RODINAL 1 + 50	17 min.	ISO 125/22°
RODINAL SPECIAL	4 min.	ISO 125/22°
STUDIONAL LIQUID	4 min.	ISO 125/22°

*) Processing in small tank at 20 °C

Processing AGFAPAN APX 400

Developer	Developing time in min.			
	18 °C	20 °C	22 °C	24 °C

Processing in trays

REFINAL	8	6	4 ½	4
RODINAL 1 + 25	8	7	5 ½	4
RODINAL 1 + 50	13	11	9	8
RODINAL SPECIAL	5	4 ½	3 ½	3
STUDIONAL LIQUID	5	4 ½	3 ½	3

Processing in drums

REFINAL	6	5	4	3 ½
RODINAL 1 + 25	7	5	4	3 ½
RODINAL 1 + 50	11	9	8	7
RODINAL SPECIAL	5	4	3 ½	3
STUDIONAL LIQUID	5	4	3 ½	3

Processing in tanks

ATOMAL FF	10	8	6	5
REFINAL	9	7	5	4

Exposure index AGFAPAN APX 400

Developer	Time*	Speed
REFINAL	6 min.	ISO 400/27°
RODINAL 1 + 25	7 min.	ISO 320/26°
RODINAL 1 + 50	11 min.	ISO 320/26°
RODINAL SPECIAL	4 ½ min.	ISO 400/27°
STUDIONAL LIQUID	4 ½ min.	ISO 400/27°

*) Processing in small tank at 20 °C

Further processing details are given in the Technical Data P-16-C.

Note

The information given here is based on the evaluation of typical products at the time of printing. Slight deviations are possible due to production tolerances. Agfa-Gevaert constantly endeavours to improve product quality, and therefore reserves the right to alter the product specifications without notice.

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Summary of the Agfa Professional film range

	AGFACOLOR					AGFACHROME			AGFAPAN			AGFA
	OPTIMA II 100	OPTIMA II 200	OPTIMA II 400	PORTRAIT XPS 160	ULTRA 50	RSX II 50	RSX II 100	RSX II 200	APX 25	APX 100	APX 400	SCALA 200x
ISO	100/21°	200/24°	400/27°	160/23°	50/18°	50/18°	100/21°	200/24°	25/15°	100/21°	400/27°	200/24°
35 mm 135												
1 x 24	•	•	•	•	•					•		
1 x 36	•	•	•	•	•	•	•	•	•	•	•	
5 x 36												•
50 x 36										•	•	
17 m DP ***									•	•	•	
30,5 m DP ***	•						•			•	•	
Roll films 120												
1 x 120	•	•	•	•	•	•	•	•	•	•	•	•
5 x 120	•			•			•					•
50 x 120	•						•					
Roll films 220												
5 x 220			•	•								
Sheet films *												
6,5 x 9 cm 2½ x 3½ inch										•		
9 x 12 cm 3½ x 3¾ inch	•						•			•		
10,2 x 12,7 cm 4 x 5 inch	•**						•**			•		•
13 x 18 cm 5⅛ x 7⅛ inch	•						•			•		
20,3 x 25,4 cm 8 x 10 inch	•						•					

Ranges vary from country to country.

* AGFACOLOR / AGFACHROME: 10-sheet packs
 AGFAPAN: 25-sheet packs
 SCALA: 10-sheet packs

** Also available in 50-sheet packs

*** DP = bilateral perforation

Technical Data PF

Date: 09/1998

1st edition

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Printed on oxygen-bleached paper.

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