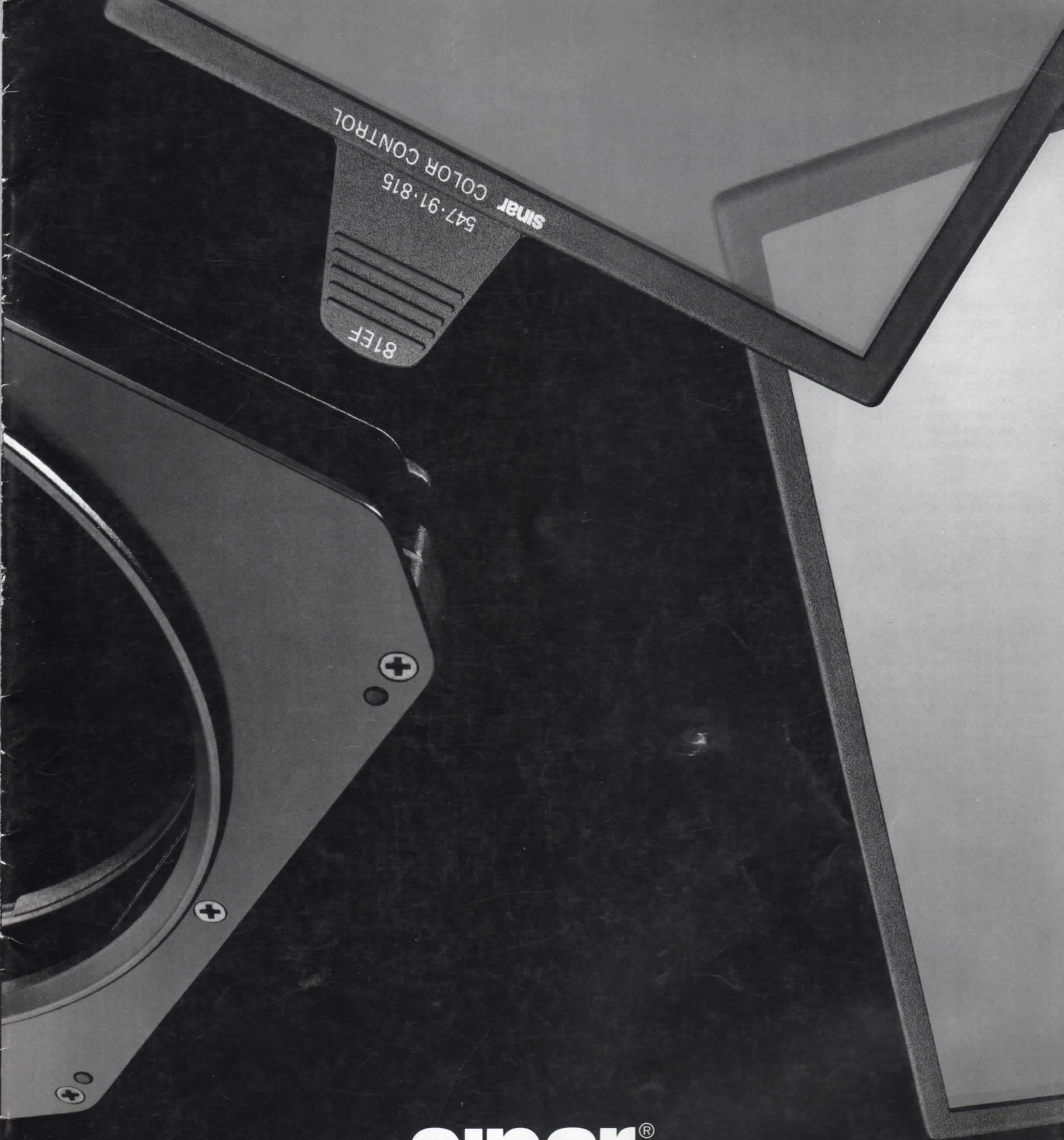


sinar®

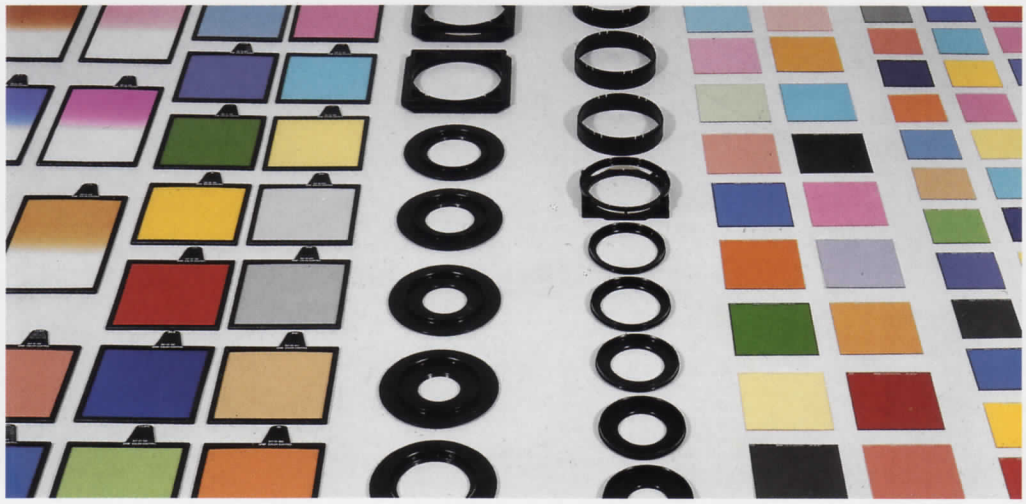
Color Control Filter

What counts with filters.

It may not be immediately obvious, but many shots need various filters for perfect light control. These include:

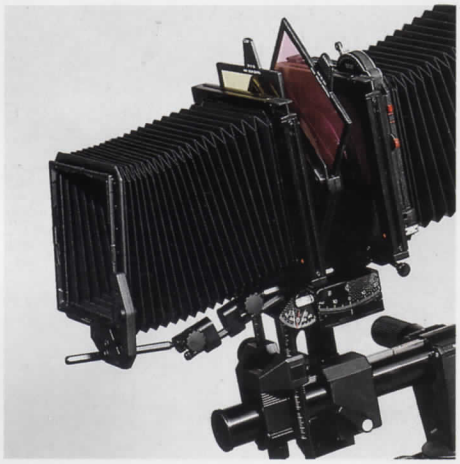
- Neutral density filters
- Correction filters
- Conversion filters
- Contrast filters
- Graduated filters
- Special effect filters
- Polarizing filters

Filters are inevitable. But filters should not interfere with an optical system. They must never affect the image quality of modern high-performance lenses.
On the other hand they should not be so thin and delicate that they need frequent (and expensive) replacement.



Professional requirements

So when you need filters, they must maintain the characteristics of the camera system. They have to be tough, durable and reasonably scratchproof. Their material should stand simple mechanical cleaning. Only then can a filter last for years without replacement.
Further, you need a complete filter system to cover all professional requirements. And a filter system should be designed for easy camera mounting.



SINAR COLOR CONTROL filters
- are plane-parallel
- are light, unbreakable and largely scratchproof
- are uniform in density and colour over their whole area
- are dyed in the mass and therefore optically homogeneous
- carry standard Kodak designations
- come in 75 × 75, 100 × 100 and 125 × 125 mm (approx. 3 × 3, 4 × 4 and 5 × 5 in.) sizes
- fit all camera systems and formats
- can also be used with video and movie cameras

The professional filter system

The SINAR COLOR CONTROL filter system is intended for professional use. The filters are made of a special synthetic resin of better light transmission than glass and a significantly lower refractive index.
The optical characteristics of SINAR COLOR CONTROL filters are similar to those of best quality dyed-in-the-mass glass filters. They are however lighter, cheaper and unbreakable.

Filter mounting

The type 100 filter holder holds 100 mm SINAR COLOR CONTROL filters on the camera.
Adapter rings in turn mount the filter holder on the lens. These rings are available with screw threads from M40.5 × 0.5 to M95 × 1 and with Rollei and Hasselblad bayonet filter fittings. You can also mount the filter holder on the rear lens mount; inside the bellows the filter is then perfectly protected against stray light and dust.
The type 100 filter holder takes up to three filters. Its design permits simple and handy fitting of different filter types. Filters are movable in the

"Filters, filters and more filters – that's all I am prepared to tell you."

Dennis Savini, Zurich, Switzerland

front slot – convenient for graduated filters. In the two rear channels you push down the filters to a mechanical stop. The front and rear channels also have a gentle clamping system to prevent movement of the filter when you rotate the holder.
There are two filter holders for 125 mm SINAR COLOR CONTROL filters: The filter holder 1 takes one filter, the filter holder 2, two filters. You can mount several filter holders on top of each other and also rotate them against each other. Again, adapter rings – with screw threads from M40.5 × 0.5 to M127 × 1 – mount 125 mm filter holders on all view camera lenses. The filters also fit in any SINAR standard.
Always use a bellows hood with filters – to avoid reflections and light scatter, only actual image-forming rays should hit a filter. Versions of the SINAR universal bellows made since 1987 directly attach to the filter holder to form a perfect bellows hood.

Storing filters

Filters should never impair the quality of a modern high-performance lens. So proper protective storage is important.
Filter wallets, designed for studio storage, hold 75 and 100 mm filters. For greater protection there are also wooden filter boxes in two sizes, each holding ten 100 mm filters.
The best way of storing 125 mm filters is in aluminium-reinforced plastic 125 mm filter cases. These cases provide heavy-duty protection.

Colour correction filters.

Purpose

Colour correction filters (CC filters) serve to correct colour casts in colour photographs. Such casts can arise from various causes: colour bias of an emulsion or of a lens, reciprocity failure, predominant ambient colour (spatial colour) etc. (For instance, the example shown needed a CC15Y filter for correct rendering of the golds.)
Numerical values indicate the density of a CC filter: the higher the number, the higher the density. The letter after the density number indicates the filter colour:

Y = Yellow
M = Magenta
C = Cyan
B = Blue
G = Green
R = Red

Colour correction filters can be used singly or in combination. Accumulating filters in front of a lens may however affect definition and increase light scatter. So it is better to use the last number of filters that can provide a given correction. As every filter holds back light, you must allow extra exposure. But spot readings in the film plane automatically compensate for any filter in position on the lens.
To eliminate a colour cast in the final picture, the filter colour must be complementary to the cast:

Colour cast	Colour of CC filter required
Yellow	Blue
Magenta	Green
Cyan	Red
Blue	Yellow
Green	Magenta
Red	Cyan

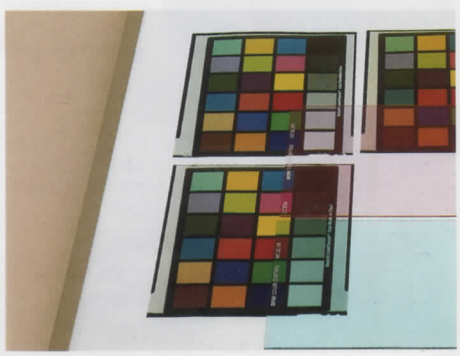
with filter

Emulsion batch tests

In conjunction with a lab's processing characteristics, different colour film emulsion batches show slight variations in colour response. To allow for that, it is worth buying a given type of colour film in larger amounts of the same batch number. Use a few of these films for an emulsion batch test to check the colour balance of the batch.
To do this, photograph a test chart (e.g. a Macbeth test chart) under standard conditions, at the measured exposure and also with a ½ f-stop under- and overexposure. Make such an exposure set without a filter and with CC 10 filters of each colour. Check the processed transparencies visually over a light table with standard 5000 K illumination. Select the films showing the most neutral rendering of the chart's grey scale. Usually that provides the required basic filtration at first go. If exceptionally this method does not yield a truly neutral result, you can easily estimate a possibly stronger filtration as follows:
Cover the transparency on the light table with CC filters complementary to a residual cast and check when the image looks neutral to the eye. Note however that such a correction estimate is in fact too high. As colour transparencies are processed to a gamma of around 1.7, divide the filter density assessed visually also by 1.7. That yields the actual CC value required.

A special case: fluorescent tubes

On most colour films, fluorescent discharge tube lighting leads to colour casts which can be largely corrected by colour correction filters. (See page 6 on colour temperature.) However, even individual tubes of nominally the same type do not necessarily match exactly in colour and intensity. The colour balance may also change as the tube ages. Moreover, the colour is liable to fluctuate during warming up, so fluorescent lighting should be switched on at least 100 minutes before shooting. The table



without filter

below suggests basic filter values for the commonest discharge tube types. For more precise standard values preferably measure the light with a colour temperature meter that uses three-colour readings (e.g. a Minolta Color Meter II).
Indoor shots by fluorescent lighting may occasionally require different filters for every exposure. Filter matching is particularly difficult with mixed lighting (e.g. fluorescent tubes combined with daylight or tungsten sources) because you can only correct for one light source at a time.

"Different film emulsion batches vary slightly in their colour rendering, which should be corrected. If for instance gold is reproduced slightly colder than it is, it loses its character. Certain hues must be 100% correct."

Dennis Savini, Zurich, Switzerland

Filter guide for fluorescent tube lighting

Type of tube	Daylight type film	Tungsten film
Daylight	40Y + 40M	30Y + 40M + 85B (CTC)
White	30M + 20C	50Y + 60M
Warm white	40M + 40C	40Y + 50M
Warm white Deluxe	30M + 60C	10Y + 10M
Cool white	30M	50R + 10R
Cool white Deluxe	10M + 20C	40Y + 20M

The SINAR COLOR CONTROL CC filter range

CC filters are available in subtractive primary colours (yellow, magenta, cyan) and additive primaries (blue, green, red), each in densities from 0.025 to 0.5. The filters carry the standard Kodak designations.

Filter specification	Density/colour	Absorbs	Approx. exposure increase, f-stops*
CC025C	0.025 cyan	red	0
CC05C	0.05 cyan		+ 1/3
CC10C	0.10 cyan		+ 1/3
CC15C	0.15 cyan		+ 1/3
CC20C	0.20 cyan		+ 1/3
CC30C	0.30 cyan		+ 2/3
CC40C	0.40 cyan		+ 2/3
CC50C	0.50 cyan		+ 1
CC025M	0.025 magenta	green	0
CC05M	0.05 magenta		+ 1/3
CC10M	0.10 magenta		+ 1/3
CC15M	0.15 magenta		+ 1/3
CC20M	0.20 magenta		+ 1/3
CC30M	0.30 magenta		+ 2/3
CC40M	0.40 magenta		+ 2/3
CC50M	0.50 magenta		+ 2/3
CC025Y	0.025 yellow	blue	0
CC05Y	0.05 yellow		0
CC10Y	0.10 yellow		+ 1/3
CC15Y	0.15 yellow		+ 1/3
CC20Y	0.20 yellow		+ 1/3
CC30Y	0.30 yellow		+ 1/3
CC40Y	0.40 yellow		+ 1/3
CC50Y	0.50 yellow		+ 2/3
CC025R	0.025 red	cyan	0
CC05R	0.05 red		+ 1/3
CC10R	0.10 red		+ 1/3
CC15R	0.15 red		+ 1/3
CC20R	0.20 red		+ 1/3
CC30R	0.30 red		+ 2/3
CC40R	0.40 red		+ 2/3
CC50R	0.50 red		+ 1
CC025G	0.025 green	magenta	0
CC05G	0.05 green		+ 1/3
CC10G	0.10 green		+ 1/3
CC15G	0.15 green		+ 1/3
CC20G	0.20 green		+ 2/3
CC30G	0.30 green		+ 2/3
CC40G	0.40 green		+ 2/3
CC50G	0.50 green		+ 1
CC025B	0.025 blue	yellow	0
CC05B	0.05 blue		+ 1/3
CC10B	0.10 blue		+ 1/3
CC15B	0.15 blue		+ 1/3
CC20B	0.20 blue		+ 2/3
CC30B	0.30 blue		+ 2/3
CC40B	0.40 blue		+ 1
CC50B	0.50 blue		+ 1 1/3

* These corrections are approximate. For exact values especially when combining several filters, use spot exposure readings in the film plane.

Conversion filters.

with filter

"This was shot on a SINAR p 4 x 5", using a 150 mm lens. Using an 81EF colour conversion filter, I was able to take out a general daylight blue cast. The filter warmed up the shadows and enhanced the whole mood of the picture."

Pe'e Seaward, London, UK

Purpose

Colour temperature conversion (CTC) filters eliminate colour casts caused by the light source. Such filters compensate the difference between the spectral energy distribution of a given single light source and the spectral sensitivity distribution of a colour film. Conversion filters can also serve for colour temperature matching with fluorescent tubes but – depending on the type of tube – may require additional magenta or green CC filters.

What is colour temperature?

If you heat a piece of black steel, it glows in a continuously changing range of colours. The glow is red at about 700 °C, becomes white at around 5000 °C and blue at 15000 °C. As the temperature rises, so does the proportion of blue light emitted, compared with the red wavelengths present at lower temperatures. The temperature, in Kelvin degrees, at which light of a given spectral distribution is emitted is the colour temperature of that light.
Absolute zero on the Kelvin scale is −273 °C. The colour temperature of the heated body is therefore its temperature in °C + 273.
Thermal radiators emit a continuous spectrum of radiation. The colour of their emission is characterized by their Kelvin temperature – e.g. a tungsten filament lamp may have a colour temperature of 3200 K.

without filter

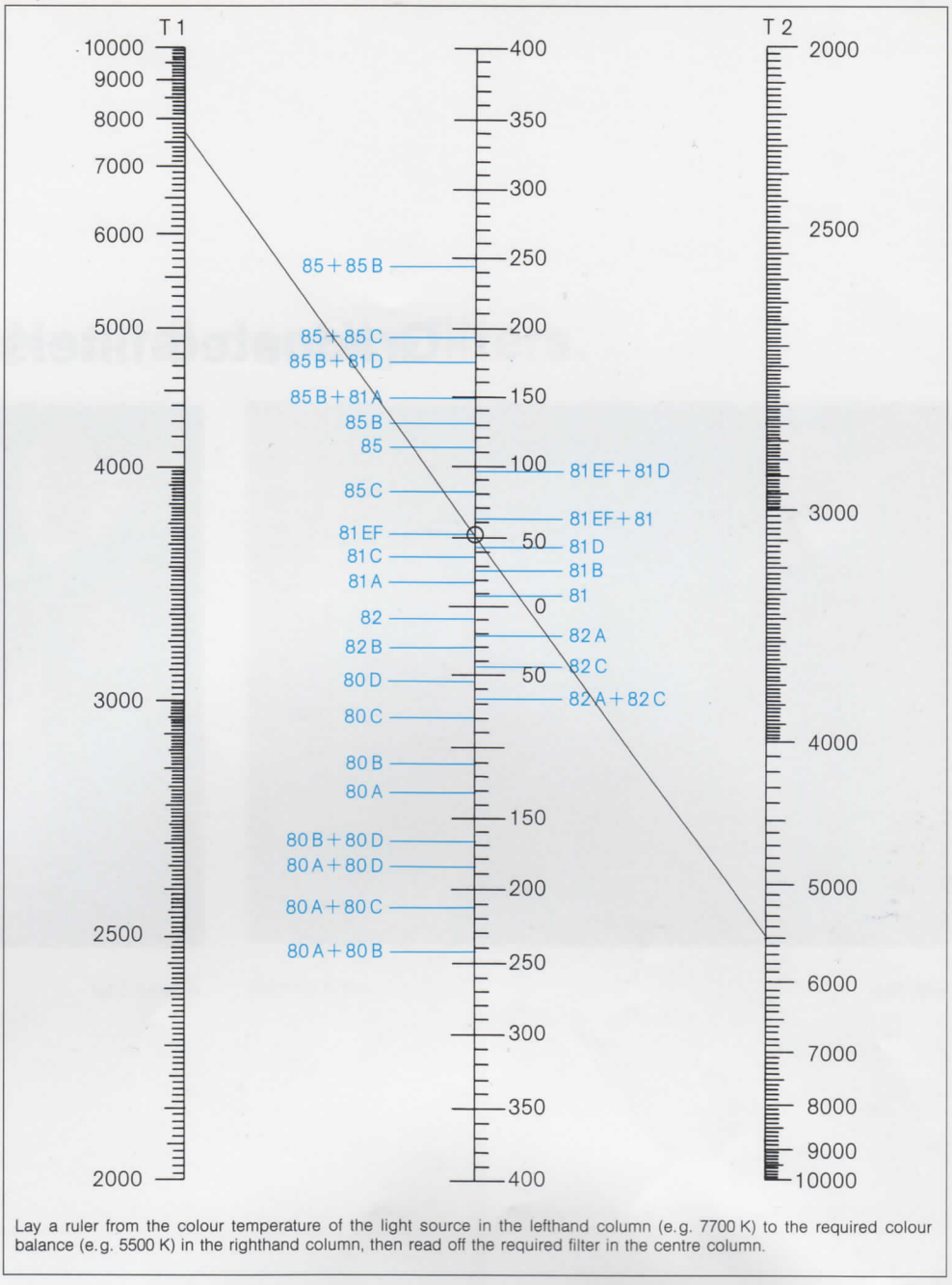
Non-thermal radiators such as fluorescent tubes yield a discontinuous spectrum whose energy distribution can be compared only approximately with that of a thermal radiator. They are therefore assigned an equivalent colour temperature – defined as the temperature to which you would have to heat a thermal radiator to obtain a visually similar light emission. On their own, CTC filters can therefore only be used for exposures by thermally radiating light sources.
Daylight type colour films are balanced for 5500 K light. The colour temperature of the light for a shot may however be for instance 7700 K. The nomogram above right shows the filters required to correct colour casts arising from such differences.

Effective correction

The correction of a CTC filter is quoted in mireds (micro-reciprocal degrees), obtained by dividing the Kelvin temperature into one million:

$$\frac{1000000}{\text{Kelvin colour temperature}} = \text{mired value}$$

If you work out the mired value of the initial colour temperature (T1) and of the required corrected colour temperature (T2), the difference between the two is the mired value of the filter correction.



Lay a ruler from the colour temperature of the light source in the lefthand column (e.g. 7700 K) to the required colour balance (e.g. 5500 K) in the righthand column, then read off the required filter in the centre column.

Example:

T1: A Color Meter reading of the daylight in our example indicates a colour temperature of 7700 K. So its mired value is

$$\frac{1000\,000}{7700} = 130 \text{ mireds}$$

T2: Daylight colour film is balanced for 5500 K. So its mired value is

$$\frac{1000\,000}{5500} = 182 \text{ mireds}$$

To correct T1 to T2 you therefore need a +52 mired conversion filter (the difference between 182 and 130). You achieve this correction with yellow 81EF conversion filter (see example), as indicated below right.

The SINAR COLOR CONTROL CTC filter range

SINAR CTC filters are available in a mired-increasing yellowish to orange range and in a mired-reducing pale blue to blue range.
The yellowish series 81 filters are weaker than the orange series 85. Similarly, the pale blue series 82 provide less correction than the blue series 80 filters.
The CTC filters follow standard Kodak designations.

Filter specification	Colour	MIRED correction/exposure increase (approx. f-stops)
80A	80A blue	− 131 / + 2
80B	80B blue	− 112 / + 1⅔
80C	80C blue	− 81 / + 1
80D	80D blue	− 56 / + ⅓
82	82 blue	− 10 / + ⅓
82A	82A blue	− 21 / + ⅓
82B	82B blue	− 32 / + ⅔
82C	82C blue	− 45 / + ⅔
81	81 orange	+ 9 / + ⅓
81A	81A orange	+ 18 / + ⅓
81B	81B orange	+ 27 / + ⅓
81C	81C orange	+ 35 / + ⅓
81D	81D orange	+ 42 / + ⅔
81EF	81EF orange	+ 52 / + ⅔
85	85 orange	+ 112 / + ⅔
85B	85B orange	+ 131 / + ⅔
85C	85C orange	+ 81 / + ⅓

Graduated filters.

with filter

without filter

"Graduated filters used in a different way for once: In order to give the picture more spatial depth, I worked with an ND graduated filter. But of course you can also use graduated filters to darken or colour certain picture areas."

Dennis Savini, Zurich, Switzerland

Pu se

Gr filters are available as neutral density sit that increase smoothly from fully tr at one end to the indicated density a . There are also coloured graduated fi aduated filter can locally darken im- ac for instance to reduce overall bright- ne ge, tint selected image portions or yiel cial effects. SINAR graduated filters are ular and are thus adjustable in the filt You can also rotate them through 360 locate the effect in any section of the ass screen image.
The ty varies from 0 to its maximum in hat you can achieve any graduation from r to abrupt by different combinations of g aperture and focal length and by the filter closely or less close in front of ens.

The SINAR COLOR CONTROL graduated filter range

Three SINAR graduated neutral density filters cover three different density gradients. Further, there are nine coloured filters graduated in density from 0 to 0.6.

Filter specification	Density	Colour, approx. exposure increase in f-stops	
Y.G.	0...0.6	Graduated yellow	0... +2
B.G.	0...0.6	Graduated blue	0... +2
S.G.	0...0.6	Graduated sepia	0... +2
T.G.	0...0.6	Graduated tobacco	0... +2
V.G.	0...0.6	Graduated violet	0... +2
C.G.	0...0.6	Graduated coral pink	0... +2
Ch.G.	0...0.6	Graduated chocolate	0... +2
Sunset	0...0.6	Comb. graduated copper/yellow	0... +2
Twilight	0...0.6	Comb. graduated blue/pink	0... +2
3NDG	0...0.3	Graduated neutral density	0... +1
6NDG	0...0.6	Graduated neutral density	0... +2
9NDG	0...0.9	Graduated neutral density	0... +3

Neutral density filters.

with filter

without filter

"ND filters for longer exposure times. In order to blur the people in the background (so that they become almost invisible) I used ND filters for a longer shutter speed. In the same way you can use a wider aperture at the same shutter speed for a shallower depth of field."

Hans Günter Ulmer, Giessen, Germany

The SINAR COLOR CONTROL ND filter range

SINAR ND filters are available in densities from 0.1 to 0.9. You can also combine several filters for cumulative densities.

Filter specification	Density	Transmission in %	Approx. exposure increase in f-stops
1 ND	0.1 neutral	80	+ 1/3
2 ND	0.2 neutral	63	+ 2/3
3 ND	0.3 neutral	50	+ 1
3 ND + 1 ND	0.4 neutral	40	+ 1 1/3
3 ND + 2 ND	0.5 neutral	32	+ 1 2/3
6 ND	0.6 neutral	25	+ 2
6 ND + 1 ND	0.7 neutral	20	+ 2 1/3
6 ND + 2 ND	0.8 neutral	16	+ 2 2/3
9 ND	0.9 neutral	13	+ 3

Purpose

Neutral density (ND) filters have – as the name – an even overall neut Their purpose is to absorb all light low, for instance, exposures at cc large aperture or slower shutter spe liant light. The neutral colouring of means that the light absorption throughout the spectrum. ND filters a in optical density units. Thus a 1 ND density of 0.1 and needs an expos of 1/3 f-stop. A 3 ND filter of 0.3 de light equivalent to 1 f-stop, and s

Black-and-white contrast filters.

without filter

8Y

11YG

16O

25R

38LB

58G

Filter effects and filter factors

The exact effect of a filter and the filter factor with hand-held exposure metering depend on the film's colour sensitivity. Not every panchromatic film is sensitized in exactly the same way; there are considerable differences, especially in red response. So get exact filter factors from the film makers' data sheets.

Purpose

The applications of filters in black-and-white photography are too numerous to be listed here in detail. But if you know how contrast filters operate, it is easy to select the right filter for any given job:
A contrast filter for black-and-white film freely passes light of its own colour and holds back light of the other spectral bands. In other words, objects of the same colour as the filter appear lighter in the final picture, objects of complementary colours darker.
The filter specifications and descriptions follow standard Kodak designation.

The SINAR COLOR CONTROL filter range for black-and-white

Filter specification	Filter colour	Transmits	Holds back	Applications
8Y	8 Yellow	Green + Red Yellow	Blue	Sky, clouds, foliage
25R	25 Red	Red	Blue + Green	Cuts haze, holds back blue in IR shots; contrast filter
16O	16 Orange	Orange	Blue	Contrast filter, darkens sky
38LB	38 Light Blue	Light Blue	Yellow/Orange	Contrast filter, improves yellow and orange tone differentiation
11YG	11 Yellow/Green	Yellow/Green	Red	Improves artificial light, rendering of portraits, also foliage
58G	58 Green	Green	Red + Blue	Lightens grey tones, darkens magenta and reddish blues
1A	1A Skylight			Absorbs UV, eliminates blue cast in open shade
2B	2B Ultraviolet			Absorbs UV below 390 nm

Apart from their response to light of various colours, film emulsions are fairly highly sensitive also to ultraviolet radiation. It is therefore often advisable to use an ultraviolet-absorbing filter. The no. 1A (Skylight) and 2B (ultraviolet) are equally suitable for black-and-white and colour shots.

The SINAR COLOR CONTROL filter system

This list can also be used as order form. Copy the pages and fill in the desired order quantity in the space provided for this purpose.

Colour correction (CC) filters

Filter specification	Density/colour	Code No. 75 mm	100 mm	125 mm	Exposure increase in f-stops (approx.)
CC025C**	0.025 Cyan	547.93.103	547.92.103	547.91.103	0
CC05C*	0.05 Cyan	547.93.105	547.92.105	547.91.105	+1/3
CC10C*	0.10 Cyan	547.93.110	547.92.110	547.91.110	+1/3
CC15C**	0.15 Cyan	547.93.115	547.92.115	547.91.115	+1/3
CC20C*	0.20 Cyan	547.93.120	547.92.120	547.91.120	+1/3
CC30C**	0.30 Cyan	547.93.130	547.92.130	547.91.130	+2/3
CC40C	0.40 Cyan	547.93.140	547.92.140	547.91.140	+2/3
CC50C	0.50 Cyan	547.93.150	547.92.150	547.91.150	+1
CC025M**	0.025 Magenta	547.93.203	547.92.203	547.91.203	0
CC05M*	0.05 Magenta	547.93.205***	547.92.205***	547.91.205	+1/3
CC10M*	0.10 Magenta	547.93.210***	547.92.210***	547.91.210	+1/3
CC15M**	0.15 Magenta	547.93.215	547.92.215	547.91.215	+1/3
CC20M*	0.20 Magenta	547.93.220***	547.92.220***	547.91.220	+1/3
CC30M**	0.30 Magenta	547.93.230***	547.92.230***	547.91.230	+2/3
CC40M	0.40 Magenta	547.93.240***	547.92.240***	547.91.240	+2/3
CC50M	0.50 Magenta	547.93.250	547.92.250	547.91.250	+2/3
CC025Y**	0.025 Yellow	547.93.303	547.92.303	547.91.303	0
CC05Y*	0.05 Yellow	547.93.305	547.92.305	547.91.305	0
CC10Y*	0.10 Yellow	547.93.310	547.92.310	547.91.310	+1/3
CC15Y**	0.15 Yellow	547.93.315	547.92.315	547.91.315	+1/3
CC20Y*	0.20 Yellow	547.93.320	547.92.320	547.91.320	+1/3
CC30Y**	0.30 Yellow	547.93.330	547.92.330	547.91.330	+1/3
CC40Y	0.40 Yellow	547.93.340	547.92.340	547.91.340	+1/3
CC50Y	0.50 Yellow	547.93.350	547.92.350	547.91.350	+2/3
CC025R**	0.025 Red	547.93.403	547.92.403	547.91.403	0
CC05R*	0.05 Red	547.93.405	547.92.405	547.91.405	+1/3
CC10R*	0.10 Red	547.93.410	547.92.410	547.91.410	+1/3
CC15R**	0.15 Red	547.93.415	547.92.415	547.91.415	+1/3
CC20R*	0.20 Red	547.93.420	547.92.420	547.91.420	+1/3
CC30R**	0.30 Red	547.93.430	547.92.430	547.91.430	+2/3
CC40R	0.40 Red	547.93.440	547.92.440	547.91.440	+2/3
CC50R	0.50 Red	547.93.450	547.92.450	547.91.450	+1
CC025G**	0.025 Green	547.93.503	547.92.503	547.91.503	0
CC05G*	0.05 Green	547.93.505***	547.92.505***	547.91.505	+1/3
CC10G*	0.10 Green	547.93.510***	547.92.510***	547.91.510	+1/3
CC15G**	0.15 Green	547.93.515	547.92.515	547.91.515	+1/3
CC20G*	0.20 Green	547.93.520***	547.92.520***	547.91.520	+1/3
CC30G**	0.30 Green	547.93.530***	547.92.530***	547.91.530	+2/3
CC40G	0.40 Green	547.93.540***	547.92.540***	547.91.540	+2/3
CC50G	0.50 Green	547.93.550	547.92.550	547.91.550	+1
CC025B**	0.025 Blue	547.93.603	547.92.603	547.91.603	0
CC05B*	0.05 Blue	547.93.605	547.92.605	547.91.605	+1/3
CC10B*	0.10 Blue	547.93.610	547.92.610	547.91.610	+1/3
CC15B**	0.15 Blue	547.93.615	547.92.615	547.91.615	+1/3
CC20B*	0.20 Blue	547.93.620	547.92.620	547.91.620	+2/3
CC30B**	0.30 Blue	547.93.630	547.92.630	547.91.630	+2/3
CC40B	0.40 Blue	547.93.640	547.92.640	547.91.640	+1
CC50B	0.50 Blue	547.93.650	547.92.650	547.91.650	+1 1/3

Filter specification	Density	Code Nr. 75 mm	100 mm	125 mm	Colour/exposure increase (approx. f-stops)	
Y.G.	0...0.6	–	547.92.903	547.91.903	Yellow gr.	0...+2
B.G.**	0...0.6	–	547.92.906	547.91.906	Blue gr.	0...+2
Ch.G.	0...0.6	–	547.92.910	547.91.910	Chocolate gr.	0...+2
S.G.	0...0.6	–	547.92.911	547.91.911	Sepia gr.	0...+2
T.G.*	0...0.6	–	547.92.912	547.91.912	Tobacco gr.	0...+2
V.G.	0...0.6	–	547.92.913	547.91.913	Violet gr.	0...+2
C.G.	0...0.6	–	547.92.914	547.91.914	Coral gr.	0...+2
Sunset	0...0.6	–	547.92.915	547.91.915	Comb. gr. copper/yellow	0...+2
Twilight	0...0.6	–	547.92.916	547.91.916	Comb. gr. blue/pink	0...+2
3NDG**	0...0.3	–	547.92.930	547.91.930	ND gr.	0...+1
6NDG*	0...0.6	–	547.92.960	547.91.960	ND gr.	0...+2
9NDG**	0...0.9	–	547.92.990	547.91.990	ND gr.	0...+3

Conversion or colour temperature control (CTC) filters

Filter specificatioon	Colour	Code No. 75 mm	100 mm	125 mm	Mired correction/exposure increase (approx. f-stops)
80A*	80A Blue	547.93.801	547.92.801	547.91.801	−131/+2
80B	80B Blue	547.93.802***	547.92.802***	547.91.802	−112/+1 2/3
80C	80C Blue	547.93.803***	547.92.803***	547.91.803	− 81/+1
80D	80D Blue	547.93.804***	547.92.804***	547.91.804	− 56/+1/3
82	82 Blue	547.93.820***	547.92.820***	547.91.820	− 10/+1/3
82A**	82A Blue	547.93.821***	547.92.821***	547.91.821	− 21/+1/3
82B	82B Blue	547.93.822***	547.92.822***	547.91.822	− 32/+2/3
82C	82C Blue	547.93.823***	547.92.823***	547.91.823	− 45/+2/3
81	81 Orange	547.93.810***	547.92.810***	547.91.810	+ 9/+1/3
81A**	81A Orange	547.93.811***	547.92.811***	547.91.811	+ 18/+1/3
81B	81B Orange	547.93.812***	547.92.812***	547.91.812	+ 27/+1/3
81C	81C Orange	547.93.813***	547.92.813***	547.91.813	+ 35/+1/3
81D	81D Orange	547.93.814***	547.92.814***	547.91.814	+ 42/+2/3
81EF	81EF Orange	547.93.815***	547.92.815***	547.91.815	+ 52/+2/3
85**	85 Orange	547.93.850***	547.92.850***	547.91.850	+112/+2/3
85B*	85B Orange	547.93.852	547.92.852	547.91.852	+131/+2/3
85C	85C Orange	547.93.853***	547.92.853***	547.91.853	+ 81/+1/3

* = Standard filter kit * and ** = Expert filter kit *** = COLOR Meter filter kit

Contrast filters for black-and-white photography

Filter specification	Colour	Code No. 75 mm		100 mm		125 mm		Applications
8Y**	8 Yellow	547.93.703		547.92.703		547.91.703		Sky, cloud, green foliage
25R**	25 Red °	547.93.704		547.92.704		547.91.704		Cuts haze, absorbs blue in infrared shots, contrast filter
58G**	58 Green °	547.93.705		547.92.705		547.91.705		Lightens green tones, darkens magenta and red tones
1A*	1A Skylight	547.93.710		547.92.710		547.91.710		Eliminates blue cast in open-shade subjects, absorbs UV
2B**	2B Ultraviolet	547.93.715		547.92.715		547.91.715		Absorbs UV below 390 nm
16O*	16 Orange	547.93.720		547.92.720		547.91.720		Contrast filter, darkens sky
38LB**	38 Light Blue	547.93.725		547.92.725		547.91.725		Contrast filter, improves yellow and orange gradation
11YG*	11 Yellow/Green	547.93.730		547.92.730		547.91.730		Improves rendering by tungsten light on pan film, also portraits, foliage, etc.

Neutral Density (ND) filters

Filter specification	Density	Code No. 75 mm		100 mm		125 mm		Exposure increase in f-stops (approx.)
1ND	0.1 Neutral	547.93.010		547.92.010		547.91.010		+1/3
2ND	0.2 Neutral	547.93.020		547.92.020		547.91.020		+2/3
3ND*	0.3 Neutral	547.93.030		547.92.030		547.91.030		+1
6ND*	0.6 Neutral	547.93.060		547.92.060		547.91.060		+2
9ND**	0.9 Neutral	547.93.090		547.92.090		547.91.090		+3

Special effect filters

Filter specification	Density	Code No. 75 mm		100 mm		125 mm		Type: exposure increase (approx. f-stops)
LP*	0.4	–		547.92.750		547.91.750		Linear polarizer, cuts out reflections, rotary: +1⅓
1SF*		547.93.751		547.92.751		547.91.751		Soft-focus attachment
03D		–		547.92.756		547.91.756		Diffuser for slight soft-focus effect
06D		–		547.92.757		547.91.757		Diffuser for medium soft-focus effect
1D**		547.93.752		547.92.752		547.91.752		Diffuser for strong soft-focus effect
1F		547.93.753		547.92.753		547.91.753		Fog filter
44S		–		547.92.758		547.91.758		4 mm, 4pt star filter
46S*		547.93.754		547.92.754		547.91.754		4 mm, 6pt star filter
48S**		547.93.755		547.92.755		547.91.755		6 mm, 8pt star filter

* = Standard filter kit * and ** = Expert filter kit *** COLOR Meter filter kit

Adapters

Adapter type	Code No. 75 mm		Code No. 100 mm		Code No. 125 mm		Remarks
M40.5×0.5	–		547.81.050		547.81.035☆		With older lenses use a ruler to measure the internal diameter of the front lens mount. If this is for instance 67 mm, the M67×0.75 adapter is likely to fit. ☆Also usable with filter system 100, but involves inconveniently large adapter rings.
M49×0.75	–		547.81.051		547.81.036☆		
M52×0.75	–		547.81.052		547.81.037☆		
M55×0.75	–		547.81.060		547.81.044☆		
M58×0.75	–		547.81.053		547.81.038☆		
M62×0.75	–		547.81.054		–		
M67×0.75	–		547.81.055		547.81.039☆		
M72×0.75	–		547.81.061		547.81.045☆		
M77×0.75	–		547.81.056		547.81.040☆		
M82×0.75	–		547.81.057		547.81.041☆		
M86×1	–		547.81.058		547.81.042☆		
M95×1	–		–		547.81.043☆		
M100×1	–		–		547.81.019		
M105×1	–		–		547.81.020		
M110×1	–		–		547.81.021		
M112×1.5	–		–		547.81.024		
M120×1	–		–		547.81.022		
M127×1	–		–		547.81.023		
∅ 42 mm	–		547.81.579				Adapter rings to fit filters on rear lens element; maximum diameters 42, 60 and 80 mm respectively.
∅ 60 mm	–		547.81.587				
∅ 80 mm	–		547.81.595				
Hasselblad 50	–		547.81.069		547.81.067		For Hasselblad 50
Hasselblad 60	–		547.81.070		547.81.068		For Hasselblad 60
Rollei	–		547.81.071		–		

Filter holders and cases

	Code No. 75 mm		Code No. 100 mm		Code No. 125 mm		Remarks
Filter holder 100 mm	–		547.51		–		With lens hood sections
Lens hood sections	–		547.51.013		–		
Filter holder 1/125	–		–		547.11		
Filter holder 2/125	–		–		547.21		
Wallet 75 mm	547.73		–		–		
Wallet 100 mm	–		547.72		–		
Filter case 125 mm	–		–		547.71		
Filter box small, 100 mm	–		547.62.001		–		
Filter box large, 100 mm	–		547.62.002		–		
Filter cleaning set	547.79		547.79		547.79		

Filter kits

	Code No. 75 mm		Code No. 100 mm		Code No. 125 mm		Remarks
Standard filter kit	596.93		596.92		596.91		
Expert filter kit	597.93		597.92		597.91		
COLOR Meter filter kit	598.93		598.92		–		

Special filters.

Polarizing filters

The effect of a polarizing filter depends on its ability to selectively absorb light waves oscillating in specific planes and to transmit waves oscillating in other planes. Such a filter can enhance colour saturation in the picture and increase contrast. It can also subdue or eliminate reflections from shiny surfaces. Rotating the polarizing filter adjusts its effect. A polarizing filter can make a blue sky appear darker without changing the colour or brightness of other subject portions.

"The use of a polarizing filter in the studio can help to control unwanted reflections or eliminate them altogether.
Since reflections can at times interfere with pictorial impact, this technique is important to note."

Neil Molinaro, Clark, USA

with filter

without filter

Diffusion filters

SINAR has diffusion filters of varying strengths, a soft focus attachment and a fog filter. These all act similarly, with a controlled deliberate softening of the sharp definition of the lens. The SINAR soft focus attachment and diffusion filters achieve this effect by a textured surface. These filters are not coloured and thus cannot produce unwanted colour casts in the picture. In the fog filter the effect is due to a slightly milky layer in the filter body.

"When used creatively, a soft-focus filter is sometimes all that is required to achieve a special mood. The softening effect brings warmth into the image – and of course also generates a certain delicate yet romantic atmosphere."

Jan Habal, Toronto, Canada

with filter

without filter

Star filters

The designation is largely self-explanatory: Every spot of light in the subject appears as a star. The filter needs judicious use, otherwise the effect can become too contrived.

with filter

"The carefully planned use of a sta… can add a certain something to a pict… star conveys glamour, highlights an im… im-age point or enhances the surface c… of certain materials."

Studio Ose huit 10, Montréal, Canac

The SINAR COLOR CONTROL filter range for special filters

Filter specification	Density	Type; exposure increase (approx. f-stops)
LP	0.4	Linear polarizer, cuts out reflections, rotary; + 1⅓
1SF		Soft-focus attachment
03D		Diffuser for slight soft-focus effect
06D		Diffuser for medium soft-focus effect
1D		Diffuser for strong soft-focus effect
1F		Fog filter
44S		4 mm, 4pt star filter
46S		4 mm, 6pt star-filter
48S		4 mm, 8pt star-filter
LPF	0.5	Linear polarizer foil

The SINAR brochures

The camera

The SINAR p line
The SINAR f line
The SINAR system
The world of SINAR
The nineties

SINAR Code

The Code illustrates and describes the function of every single SINAR component. The Code is the indispensable key to the SINAR system. It offers a clear overview over the world of SINAR.

Lenses and shutters

Why SINARON lenses for SINAR cameras?
The SINARON lens range
Which focal length is suitable to which format?
The SINAR behind-lens shutters

Exposure meters

Spot readings in the film plane
Contrast control in practice
The SINAR booster 1
The electronic light metering system

Film holders

The SINAR 4×5″ precision sheet film holder
The SINAR rollfilm holders
Sheet film holders

SINAR COLOR CONTROL filters

Vital points of filter use
Filters and the view camera
The SINAR COLOR CONTROL system

Extending the system

Stretching the limits
Making the most of the cameras settings
Easier operation with sensible accessories

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