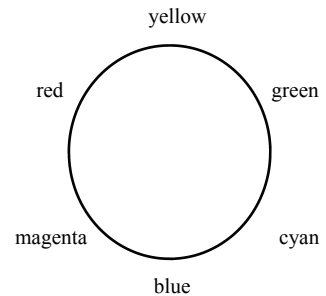


FILTERS

Filters operate on the general principle of lightening their own colours and darkening their complimentary ones. The filter colours most commonly used for colour correction in Black and White photography are yellow, red, orange, green and blue. Each filter absorbs light waves of it's opposite colour. It's compliment, and usually also colours near the compliment.

THE FOUR MAIN TYPES OF FILTER CONSTRUCTION

- Gelatin Sheets
- Gelatin cemented between glass
- Laminated
- Dye Glass



FILTERS FOR LANDSCAPE PHOTOGRAPHY

Clouds against a blue sky Most accurate rendition Sky darker than natural Sky very dark	Yellow Deep Yellow Red
Water and blue sky Most accurate rendition Darker than natural	Yellow Deep Yellow
Landscape Most accurate rendition Reduction of haze Elimination of haze Accentuation of haze or fog	Yellow Deep yellow, Red or UV Infra-Red film with Red Blue
Foliage Most accurate rendition Lighter than normal Darker than normal	Yellow Dark yellowish green Red
Beaches and Snow Natural with texture Enhanced Texture	Yellow Deep Yellow or Red

Filters can modify the way in which a film records colours as monochrome tone values. They are disks of coloured glass or gelatin with controlled transmission characteristics. Placed in front of the camera lens, they preferentially transmit light of their own colour and hold back light of other colours. A yellow or yellow-green filter is often used in landscape photography to prevent overexposure of the blue sky and to bring out detail in cloud formations. Orange and red filters make the sky still darker and cut through haze by absorbing scattered blue light. Contrast filters differentiate between the gray values of objects of different colour but of similar brightness. For instance, a red flower and green foliage record in similar shades of mid-gray. A red filter holds back green light to darken the green foliage, making the flower lighter; a green filter absorbs red light, thus darkening the flower. Such deliberate tone distortion is widely used in photomicrography and other fields.

Other filter types used in photography include ultraviolet, infrared, and polarizing filters. Ultraviolet-absorbing filters screen out ultraviolet rays at high altitudes (e.g., in mountain photography). Because camera lenses are not normally corrected for such rays, the rays can reduce image sharpness, even though the lenses allow only a small amount of ultraviolet to be transmitted. Infrared filters are used with infrared film to hold back visible light. Polarizing filters polarize light and can absorb polarized light if suitably oriented. Light reflected at certain angles from shiny surfaces of nonmetallic media (glass, water, varnish) is polarized; a properly oriented

polarizing filter subdues such reflections in a picture.

Because a filter screens out part of the light, its use calls for extra exposure, the amount of which is indicated by a filter factor--e.g., 2, which means the exposure time must be multiplied by 2.

The factor of a given filter depends on the spectral sensitivity of the film, the colour quality of the lighting, the type of subject, the effect aimed at, and other exposure conditions

FILTER	DAYLIGHT FILTER FACTOR	F-STOP INCREASE
YELLOW	2X	1
DARK YELLOWISH	4X	2
GREEN		
RED	8X	3
DEEP YELLOW	3X	1 2/3
BLUE	8X	3
ND.30	2X	1
ND.60	4X	2
ND.90	8X	3
POLARIZING	2.5X	1 1/3
ULTRAVIOLET	1X	0