

PHOTOGRAPHIC PAPER

Photographic paper may safely be opened and exposed to light when a darkroom photographic safelight is used. Photographic paper is insensitive when kept 4 feet or more away from the safelight. Following a period of about six minutes of exposure to a safelight, the paper will begin to fog or darken, so keep the paper properly wrapped until ready for exposure.

Emulsion:

Enlarging Paper is a bromide or combination bromide-chloride (warmer print color) paper with faster emulsion speed for use in enlarging of prints. Contact Paper is a chloride paper of slow speed used for contact prints where the emulsion of the negative is in actual contact with the emulsion of the paper. Contact paper is used with larger negatives (4x5, 5x7, or 8x10 inches) by large format camera photographers .

Gradation:

Gradation is the ability of a paper to render contrast. There are usually six gradations ranging from grade 1 to grade 6.

Graded papers are less commonly used, having been replaced by multi-grade or variable contrast papers.

grade 1: soft grade 2 & 3 : normal grade 4 , 5, 6 : hard

All papers are not rated the same. For example, Oriental Seagull papers tend to be more contrasty than Ilford Galerie papers. The rating of GRADE 2 might vary on these two papers by a full grade.

Multigrade or Variable Contrast or Polycontrast:

grade 1: soft grade 2 & 3 : normal grade 4 , 5, 6 : hard

some general starting points for filtration settings to achieve appropriate contrast

grade 0: very low contrast: over 50 yellow

grade 1: low contrast: 30-50 yellow

grade 2: normal contrast : 0 filtration

grade 3: medium contrast: 30-50 magenta

grade 4: high contrast: 100 magenta

grade 5: very high contrast: over 100 magenta

These papers have two emulsions which are sensitive to different colored light, namely **magenta (for the high contrast emulsion) and yellow (for the lower contrast emulsion)**. When using these papers either a colorhead or individual filters are required to fully utilize the full range of grades possible. Working with this paper under white light without filtration approximates a GRADE 2 paper.

For example, Ilford Multigrade papers are coated with a mixture of a blue sensitive

emulsion, and a blue-green sensitive emulsion. These two parts of the emulsion both have the same contrast. They have the same speed under blue light but the blue sensitive layer has a low speed under green light.

HIGH CONTRAST = MAGENTA FILTRATION

When the paper is exposed to blue light both parts of the emulsion react and become part of the final image. A high contrast image is then produced when the magenta filter is used, which blocks green light.

LOW CONTRAST = YELLOW FILTRATION

When the paper is exposed to green light, only the blue-green sensitive part of the emulsion reacts initially. When the yellow filter is used, a low contrast image is produced. The blue sensitive layer has little sensitivity to green light and contrast is lowered. The yellow filter has effectively blocked all blue colored light.

Note: White light is composed of three additive primaries: red, green, and blue. The complements of this set are the subtractive primaries of yellow, magenta, and cyan. This latter set of primaries are used in paint, dyes, and color printing materials. Complements appear opposite one another on the color wheel.

CHOICE of COLOR FILTRATION SETTING or PAPER GRADE :

The more contrast the negative has, the lower the paper contrast (more yellow filtration).

The less contrasty the negative, the higher the paper contrast (more magenta filtration).

The **harder** the paper (the higher the magenta filtration setting) the more it tends to **drop out the middle tones in a print** and leave the blacks and whites. The effect can be harsh and grainy.

The **softest** papers (or higher yellow filtration setting) tend to **increase the overall tonal range** of the print with few pure blacks and whites. The effect can be that of an all over gray or muddy quality.

The choice of the **proper grade paper** is extremely important in obtaining a fine print. The selection of paper grade parallels the **selection of proper filtration** when using multigrade papers. When changing paper grades or increasing magenta filtration, expect to alter the exposure time. For example, an increase of magenta filtration will block the light and necessitate an increase of exposure. Make a test strip. A properly exposed negative with adequate contrast usually can be printed with zero filtration or on grade 2 paper. A good negative usually can be printed with zero filtration when using multigrade paper.

Contemporary Papers available in fiberbase:

Ilford Multigrade (multigrade and warmtone multigrade)
 Oriental Seagull Variable Contrast (also available in grades)
 Forte Polycontrast (warm color multigrade: Polywarmtone Plus)

Image Tone:

The image tone of a paper is the color of its tones. It is described as blue-black, neutral-black, warm-black, and brown-black. The manufacturers use names for their different papers, which indicate the image tone.

Surfaces:

Texture is the smoothness or roughness of the surface of the paper. The surface ranges from smooth to rough, including tapestry, silk, tweed, etc. Most photographers tend to use an "F" surface paper (smooth and glossy). Other photographers prefer matte paper, especially for portraits.

Be sure to check the paper box for verification of paper surface. For example, Oriental uses a "G" to denote a glossy surface paper. Since the scattering of light from glossy, smooth paper is less than from any other surface, prints on it have a longer range of tones between the maximum black and pure white. In addition, the smoothness of the surface interferes least with the visibility of the fine detail. Matte paper tends to produce lower contrast in comparison to glossy paper, and requires some practice in terms of attaining the proper print contrast.

Brilliance ranges from glossy, lustre, semi-matte, matte, etc.

Stock Color is the color of the paper itself, ranging from white, cream-white, snow-white, ivory, etc.

Base weight: Base weight refers to the actual thickness of the paper. The most common weights are single weight and double weight:

SW single weight DW double weight LW light weight MW medium weight

When printing in group darkroom like ours, it is best to use DW / Doubleweight paper.