Controlling Contrast in Printing

Contrast is the relationship of light and dark areas in a photograph. A low contrast image contains a smooth range of grays, a high contrast image contains a hard range of tones that are primarily blacks and whites.

A typical image has a range from absolute black to pure white. If the negative is exposed and developed correctly, a *"normal contrast print"* can be made.

Contrast in the print can be controlled or altered by the choice of "paper grade" or selecting the proper contrast through *"polycontrast paper"* and filters.

Graded Papers

only one contrast per paper

Graded papers have a single contrast emulsion coated on the paper.
A normal contrast paper (grade 2) is for a normal contrast .
A **low contrast paper (1)** is for a high contrast negative.
A **high contrast paper (5)** is used for a very low contrast negative.

Polycontrast paper
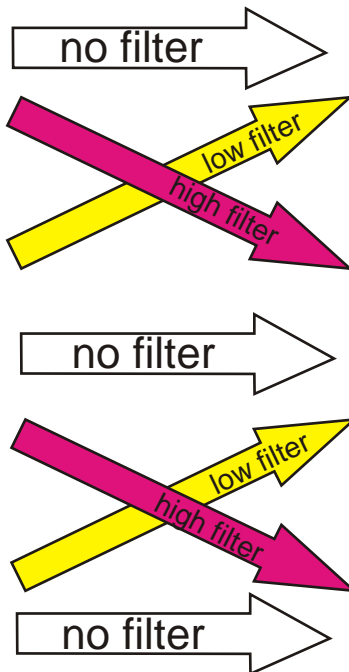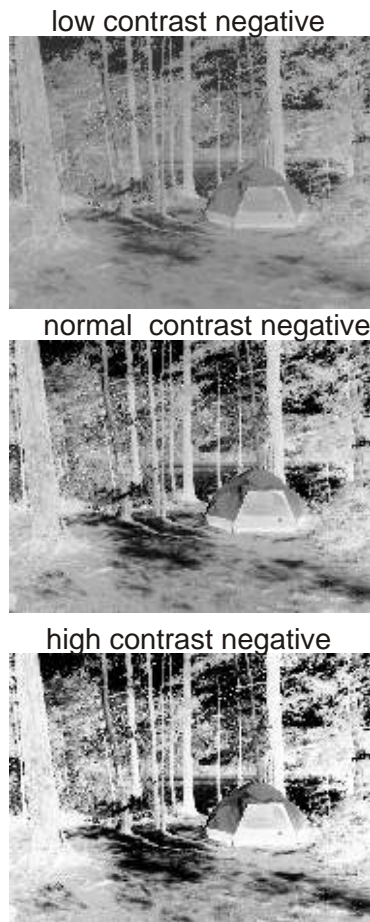
2 different contrast emulsions on one paper

Polycontrast (multigrade) paper contains two layers of emulsion on the same paper.
Each layer gives a different contrast and is sensitive to different colors of light.
When exposed to white light, polycontrast paper acts the same as a graded number 2 paper - normal contrast.
Yellow light exposes the low contrast layer, magenta exposes the high contrast layer of the emulsion.
Polycontrast filters are placed in the light path to change the color of the light. The filters are numbered from 00 through 5 in increments that give many different contrast options in the same paper.
Using a filter also changes the exposure which requires a new test strip to determine the proper exposure time.

< --Lower------------------Print Contrast Change -------------Higher-->

00 **0** **1** **2** **3** **4** **5**

Using No filter is the same as # 2

FILTER
negative

low contrast negative → no filter → low contrast print

low filter / high filter

normal contrast negative → no filter → normal contrast print

low filter / high filter

high contrast negative → no filter → high contrast print

It is better to place the filter above the negative than in the holder below the lens which might distort the image.

Some enlargers have built-in filters that you can dial in.

Dial in Filtration
negative