How Gum Bichromate Printing Works

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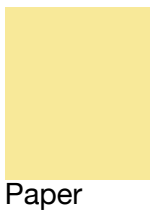
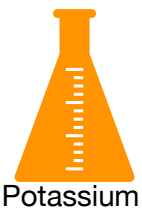
Components of a gum dichromate print:

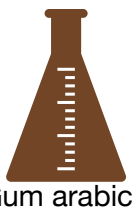

Paper


Negative(s)


UV light source

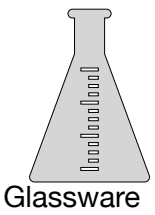

Water (for developing)


Potassium dichromate


Gum arabic


Watercolor pigments

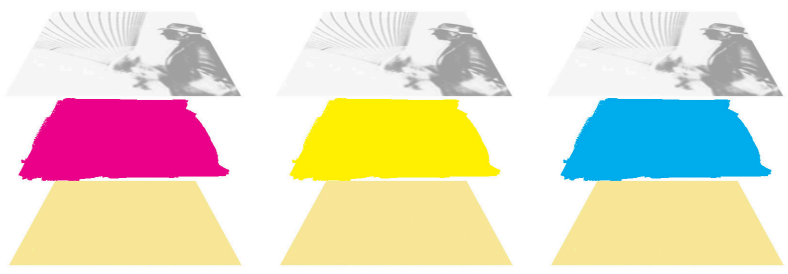

Paintbrushes


Glassware


Gloves

3: A color image is created by printing multiple layers of gum bichromate with different pigments on top of each other in succession.

Various emulsions are mixed and negatives are created for each desired color. The images are then printed and developed in the water baths with their respective color bichromate solution, one after the other.



then then

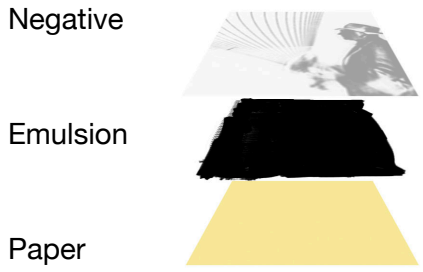
This yields a full color image if printed with cyan, yellow, and magenta or blue, yellow, and red negatives and pigments

That’s how a gum-bichromate image is made… Enjoy the photos!

1: When a dichromate and a gum (from a gum tree) are mixed, they form a light sensitive compound—if exposed to UV light, the mixture hardens.

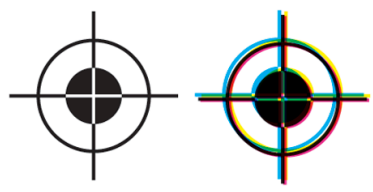
This gum-bichromate can be spread on paper, forming a photographic emulsion. In areas exposed to light, the emulsion sticks to the paper. In contrast, it can be easily washed off if unexposed.

2: Adding a pigment to the emulsion can yield an image. A negative the size of the desired print is placed on top of the paper and exposed to UV light. The places where the negative is clear become hardened and the places where the negative is black get washed away, yielding an image



4: To get accurate color, the images have to be printed directly on top of each other. If they are at all off, it will cause the image to look like this:

Lining the image up is called registration, and to ensure we did it accurately, we printed “registration marks” in the corner of our images which look like this:



The left image shows what proper registration looks like on a registration mark, the right image shows mis-registration