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Oil prints on glass or on slate

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I – ON GLASS

A recurrent problem with works on glass is the lack of adhesion of the gelatin layer. The same applies to oil printing on glass, where the gelatin tends to come off during the inking phase. The problem is that glass has a very smooth impervious surface, whereas paper has a somewhat rough surface.

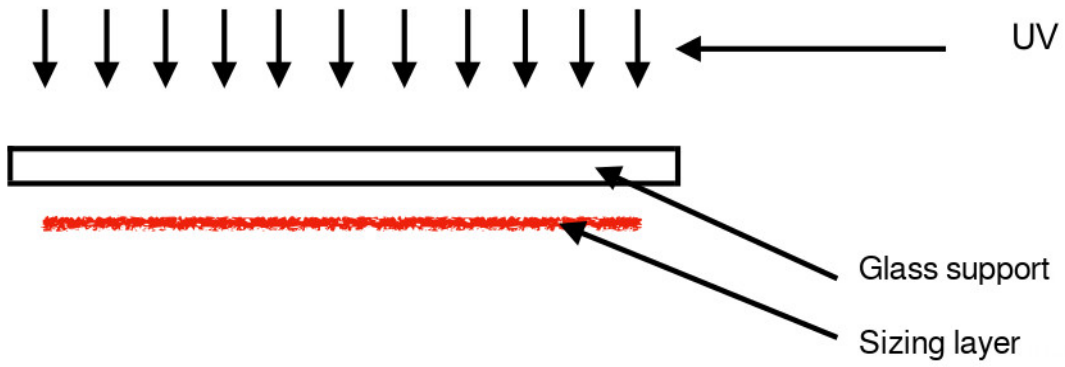
As a result, the slightest imperfection in the gelatin matrix allows water to seep in some places between the glass and the gelatin, with the result that the gelatin is extremely weakened. After reading a number of articles on the subject, particularly this one: https://www.phototypie.fr/wordpress/couche-adhesive/ , I came up with the following solution.

It is necessary to proceed in two stages:

1- Pour a **first layer of gelatin** on the well degreased glass (2 washes with washing-up liquid, or 3 when the glass is new, then wipe with cotton wool or absorbent paper soaked in pure ammonia).

This first layer is tanned so that the gelatin no longer allows water to infiltrate between it and the glass support. The tanning method is classic: with bichromates, ammoniacal iron citrate, potassium or chromium alum, or formalin (as recommended by René Smets in this article:: https://www.picto.info/Fgendoc/encollage.pdf). This layer must then be exposed through the support, as shown in the sketch below:

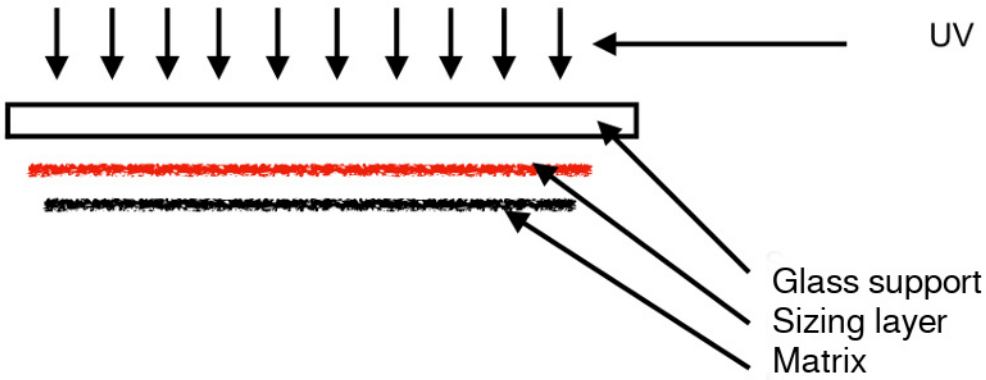
Exposure of the sizing layer through the glass



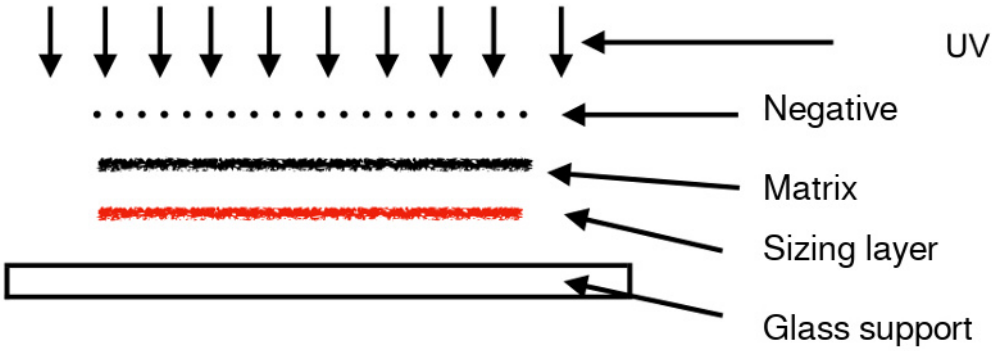
2 - Once this subbing layer has been rinsed and dried, I coat it with a second layer of gelatin which will the matrix to be inked in the classic way. I then proceed to a double exposure, once on the reverse side, once on the front side. On the Collotype website, it is recommended to start with the reverse side. I have not noticed any difference when starting with the front side instead of the reverse one.

Whatever the order, the exposure time of the sensitised gelatin through the negative is your usual one. As for the back side, it will be exposed without negative through the glass substrate so as to tan the surface of the matrix in direct contact with the subbing layer.
As an indication, in my UV lighting unit, my exposure through a 2 mm glass substrate is 2 minutes, while the matrix is exposed for 1 minute 15 seconds to 1 minute 30 seconds through an inkjet negative

Exposure of the matrix through the glass



Exposure of the matrix through the negative



In this way, there is no longer any worry about the gelatin coming off during the inking.

This method applies to the cyanotype and Van Dycke processes on glass.

On the right :
"Cairn" © Armand Benedic – oil print on glass - front view on yellow background, reverse side shown on black background.

II – ON SLATE

On slate, exposure through the substrate is of course not possible. However, the subbing layer allows the matrix to adhere well.

Slates are not as flat as a glass plates. There may be unevenness in the coating. This is not a hindrance from an aesthetic point of view – on the contrary, it brings this particular medium to life.

Finally, to obtain the white gelatin, I have adopted, after much research and testing, a procedure that gives me convincing results.

I use titanium oxide pigment. For the size of the slate – 15 x 23 cm – I mix 0.3 grams of pigment with 2 or 3 drops of washing-up liquid. With a painter's knife I knead these two components until I obtain a homogeneous paste, without lumps. I place this paste in a small cup, add 19 grams of demineralised water and with a moistened stencil brush I dilute the paste.
(https://www.creastore.com/pinceaux-loisirs-pochette/551-pochoir-brosses-leonard.html)

Next, I add 1 gram of powdered gelatine which I leave to swell for at least 1 hour.
Once swollen, I melt it in a bain-marie, homogenise it again with the moistened stencil brush and filter it through a nylon stocking or woman's sock into a second container. The purpose of this operation is to eliminate any lumps of pigment on the one hand, and the micro-bubbles that appear in the water bath on the other. I do not use alcohol to remove these bubbles. Finally, I add the dichromate, heat the emulsion up and pour it onto the slate.

Cairn" © Armand Benedic – oil print on slate

Armand Benedic – April 2022

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