

Heliogravure – TP The Tissue Paper

An interesting experience to challenge one's dexterity can be to prepare the Pigment Paper (or Tissue Paper) (= TP), made up with food gelatin, leafgelatin or fishglue, or ... as you use to call it.

As in the traditional photographic film it is an expiring product and therefore safer when recently prepared.

You can however even nowadays buy it in roll (below the link, that in any case it is worth visiting);

the cost is about 70 € for 2 sqm

<https://cape-fear-press.myshopify.com/products/dragon-gravure-pigment-paper-19-5-inch-x-8-feet>

Later I will tell why this particular jelly layer is essential and how this is the pivot of the unparalleled delicacy of the final result.

The TP consists of a fair porous paper base dressed with gelatin. The base has to be able to retain a decent amount of water, resistant to the weight of the absorbed liquid, smooth and poorly glued. All characteristics that are found in the engraving paper which, with a weight of 200-250 gr/m² is excellent for this purpose.

The gelatin coating is made pouring a sort of 'mush', (colloidal solution) gelatine indeed, colored to allow subsequent better visibility of the image on the copper plate plus an anti-mold to delay the organic decay and lengthen the TP deadline and an amount of water to make the mixture suitable to be spread – warm – on the aforementioned base.

The paper, of the desired size, moistened with a quick passage in a basin of water, is laid out on a smooth, leveled surface (4 adjustment screws at the corners) and rolled in any direction, so to eliminate any air bubble eventually trapped under it. Then the sheet is contoured with a thin frame to contain the 'mush' that will be poured (*).

A recipe for the gelly mixture may be as follows, given for 1 squared decimeter to be dressed:

Food Grade gelatin (220 Bloom)	.	.	.	.	1	gr./dm²
Sugar	.	.	.	.	0.15	gr./dm²
Green dye	.	.	.	.	1.2-1.3	drops/dm²
Glycerin	.	.	.	.	0.05	gr./dm²
Sodium benzoate	.	.	.	.	0.04	gr./dm²
Ethyl alcohol	.	.	.	.	1-2	cc./dm²
Water	.	.	.	.	10-12	cc./dm²

- The food gelatin (in leafs) is available in various qualities and gelatinizing strength (Bloom gr.)

<u>Quality</u>	<u>Bloom Grade</u>	<u>Leaf Weight</u>
Titanium	100-120	5g
Bronze	125-155	3.3g
Silver	155-190	2.5g
Gold	190-220	2g
Platinum	220-275	1.6g

Only the last two are suitable for this use.

About the ingredients:

- Sugar increases the adhesiveness of the mixture.
- Dye is trivial concentrated pigment in flasks (for wall painting) as found in every hardware store; it is dosed in drops. Important that it is not a soluble dye but an inert pigment that does not interfere reactively with the

sensitizer later added. Green as the image that will form on copper (reddish) is more visible.

- Sodium benzoate is a food antibacterial (in pharmacies or chemical distributors)
- Glycerin (pharmaceutical or food) reduces the curling of the paper when dry.
- Alcohol is designed to accelerate evaporation and therefore drying, especially in winter and to avoid bubbles to form on the liquid surface. Use 'non-drinking' for saving money.
- Distilled or deionized water as found in supermarkets, for irons and batteries.

The gelatine - cut in fragments - must be swelled in cold water about 10 minutes, then heated in a bain-marie up to 30-35 ° C while stirring, until complete melting. Add the rest of the loose components in little water retained from the total. At these concentrations / temperatures the colloidal emulsion is said to be a 'sol', sufficiently liquid to be spread by pouring the quantity required by the sheet size. As you see, till now all the stuff is safe and even edible.

Picked up the quantity necessary for covering the sheet (about 12-14 cc/dm²) in a spouted container, it is poured into the frame for the whole surface with regular and continuous movement. Any small air bubble formed on the spread layer surface is 'stretched' away to the nearest edge of the paper in the successive instants by gently dragging it with a spatula.

When the stretched out moisture reaches the temperature of about 20°C it form a 'gel' (from the 'sol' it was) remaining grabbed on the paper that can be slipped flat on a gauze frame and transported in a dust-free place until completely dry (about 2 days with a stubborn tendency to curl) .

It is safely stored in a dark, cool and dry place for about 12 months, ... placing the date of preparation on the back.

Understanding not to have been totally exhaustive, I welcome any request of information.

(*) On a surface dressed with a thin sheet of steel you can use magnetic strips overlapping the edges of the sheet that in this way will remain clean for subsequent handling.