

Lobotype (June 2021)

The combination of ammonium iron(III) oxalate and silver nitrate for a printing out process is obvious, even if the mixture of the two solutions does not look promising at first glance. However, this was one of the reasons why I considered initial attempts to have failed about 20 years ago. It is quite likely that other printers have already looked into this possibility. I would like to point out that I do not want to give the impression that I have found something completely new. The term lobotype merely serves to distinguish it from related processes such as Vandyke, Argyrotype, Kallitype and Athenatype.

Over the years, the publications of the great masters of the past century have always been a help. From more recent times, the work of Mike Ware should be highlighted, which has produced invaluable knowledge and is always a source of inspiration. Of course, one also learns from one's own mistakes and errors, but it would be a waste of time and money if all users were to fall into the same error traps again and again in their attempts. Perhaps my experiences will be helpful to other printers in avoiding the many pitfalls.

At least two solutions are mixed, ammonium iron(III) oxalate in a concentration of 40 - 45% and silver nitrate in concentrations between 10 - 15%. A higher concentration than 10% is not necessary, but can be used to increase contrast and maximum blackening. As with other alternative processes, Tween can be added dropwise to facilitate uniform application, but this is not absolutely necessary. Adding a few drops of concentrated citric acid can be beneficial to facilitate clarification and shift the image tone to a slightly cooler shade.

A first hurdle can arise already during the preparation of the ammonium iron(III) oxalate solution. While dissolving the substance in water, the solution cools down considerably. One should not try to accelerate the solving by heating; when cooling down to room temperature, crystals could form, which can be filtered out, but the concentration would then possibly be considerably lower.

When mixing ammonium iron(III) oxalate and silver nitrate, the result is not a clear homogeneous solution, but a milky emulsion with a tendency to segregate again quite quickly. If a larger quantity is prepared for coating several sheets, the preparation beaker should be swirled slightly before taking a partial quantity each time.

For an area of 20x25cm 2 ml of emulsion are needed.

The application can be done with a foam or hair brush. A dry hair brush (Hake Brush) is absolutely necessary for an even, streak-free application. The coating should be levelled with short brush strokes in all directions until the initially moist glossy layer appears matt like a grained leather surface.

- Developer bath: Demineralised water or tap water slightly acidified with a few drops of citric acid (50%). Because this water bath, unlike developer, should only once be used for developing a print, tap water is preferable for cost reasons.
- The print remains in the first bath, whether water or developer, for three to four minutes.

- Claring bath: citric acid 1% 30 seconds to 2 minutes
- Fixer bath: ATS Fixer acidic 1+10 3 to 4 minutes

Some of the developers for the Kallitype can also be used. However, a clear change in the image tone could only be observed in a few cases. In any case, these developers should be used more diluted.

Tested so far are:

Sodium citrate 10%

Potassium citrate 1,5%

Ammonium citrate 5 %

Sodium acetate 2% - 10%

Potassium oxalate and phosphates are unsuitable.

Additives to the sensitizing solution to change the image tone and contrast:

- Citric acid 50% or Tartaric acid 50% 2-8 drops per 2ml
- Sodium platinate (Na₂) 5% 1 drop per 2ml
- Potassium platinate 20% 1-2 drops per 2ml
- Sodium tungstate 40% 1-3 drops per 2ml
- Sodium palladium 10% 1 drop per 2ml + Ammonium dichromate 0,5% 1 drop
- Gold chloride 1% 1 drop per 2ml + Ammonium dichromate 0,5% 1 drop

Toners:

- MT10 Thiourea/Gold before or after fixing
- Platinum and Palladium before fixing
- MT6 Nelson Gold toner after fixing
- MT3 Vario toner after fixing
- MT7 Iron Blue after fixing
- MT12 Cobalt toner after fixing
- alkaline Copper toner after fixing