



Wolfgang Moersch
Am Heideberg 48
50354 Hürth

++49 (0)2233 943137

MT12 Cobalttoner

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Instructions for Kit 1 with Cobalt and Ammonium iron (III) sulphate toner.
Alternatively Kit 2 with Cobalt and Ammonium iron(III) citrate toner.

Cobalt toning produces reddish brown image tones. Over-toning with ferrous sulphate toner produces warm to cool red or blue-violet tones. If green or blue tones are desired, Cobalt can also be over-toned with MT7 iron blue toner (ammonium iron III citrate). The resulting colour is more subtle than with direct blue toning.

1. Cobalt toning

Before toning, the print must be completely washed out.

It is recommended to use demineralised water for the preparation because of higher durability.

The given order of the solution should be followed.

For silver gelatine paper

Bromide papers require a slightly stronger preparation than chloride silver papers.
Preparation for 400 - 500ml:

Water	200 ml
Part 1	20 - 25 ml
Part 2	10 - 16 ml
Part 3	7 - 14 ml
Part 4	6 - 8 ml
Water	to vol. 400 – 500 ml

A stronger dilution is possible. The toner solution can only be used for one to three hours, so it should be prepared immediately before use. As soon as the solution appears cloudy and reddish-brown precipitations appear on the front or back of the paper, the solution should be discarded.

500ml toner is sufficient for toning 15 to 20 prints in 24x30cm format.

Toning time is between 30 seconds and four minutes. Depending on the paper used, the image tone is warm brown to cold brown. The highlights become lighter, but come back to a large extent during the subsequent iron toning.

Wash for 5 minutes before iron toning.

With some baryta papers, hardening before toning is advantageous to make the gelatine more resistant for the second toning step.

The hardener is diluted 1+5, the treatment time is one minute, then wash for 5 minutes.

With hardened gelatine, a continuous reddish to blue-violet tone appears in the iron sulphate toner. Without hardening, the shadows usually show a different colour than the highlights.

When using the MT7 Iron blue toner, hardening is not necessary.

For Kallitypes

Water	200 ml
Part 1	12 ml
Part 2	8 ml
Part 3	8 ml
Part 4	4 ml
Water	to vol. 400 – 500ml

Toning time 1 - 3 minutes.

The final image tone is only achieved after overtoning with iron toner.

Water for 5-10 minutes before subsequent iron toning!

2.1 Toning with Ammonium iron(III) sulphate after cobalt for magenta tones with Kallitypes and blue or violet tones with silver gelatine (Kit 1)

Prints should be slightly softer and darker for this toning. The toner solution can be used as long as the solution colour does not tilt towards green. If a green precipitate appears, the solution was either too acidic or not sufficiently washed after cobalt toning.

Preparation for 500ml

Water	400 – 500 ml
Part 1 Iron sulphate	20 - 25 ml
Part 2 Hydrochloric acid	2 – 25 ml

With the addition of 2 ml hydrochloric acid, a warm red tone is produced With Kallitypes, with higher quantities the colour tone becomes cooler. The colour of silver gelatine prints also shifts to cooler nuances up to blue-violet when more acid is added.

Toning times are between one and three minutes. After Iron sulphate toning, Kallitypes should be rinsed for 1 to 2 minutes, FB prints for 5 minutes.

With some silver gelatine papers, the gelatine can take on a slightly brownish tone. In such cases, the print should be treated in a Hydrogen sulphate clearing bath for 2-3 minutes and then washed again for 5-10 minutes.

2.2 Alternative toning with Ammonium iron (III) citrate (Kit 2)

If green or blue image tones are desired, Cobalt can be over-toned with MT7 Iron Blue Toner.

Preparation for 400 - 600ml: MT7 Iron Blue

Water	200 ml
Part 1	4 ml
Part 2	2 ml
Part 3	4 ml
Part 4	3 ml
Water	to vol. 400 – 600ml

The reddish brown Cobalt tone changes to cyan. For blue tones treat the print in the Lead acetate bath for one to two minutes, then rinse both sides and wash for 5 minutes.

With FB prints, the gelatine may appear yellowish. Before the final wash, or toning with lead acetate, the image whites should be clarified in the MT7 clearing bath. This step is not necessary for Kallitypes on not gelatinised papers.