EN

Rollei

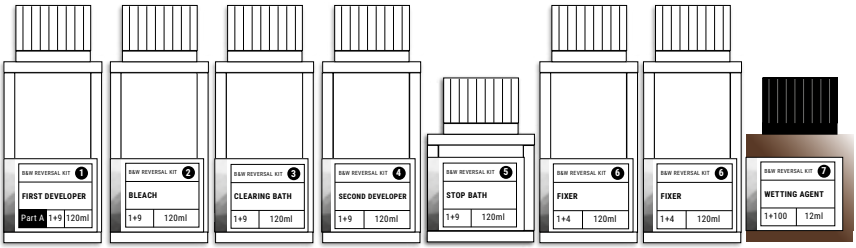
BLACK & WHITE

REVERSAL PROCESSING KIT

---

transform your negatives into positives

In a classic negative the light parts are black and the shadows are white. Only once it is printed onto paper or film do you receive an accurate image. The reverse transformation is an elegant way to bypass the negative and transform the film into a positive or slide.



Which films are compatible with reverse development?

The reverse processing places particular demands on the film material. Accordingly, not every film that delivers clear, sharp negatives is suitable for reverse development. Brilliant slides require a low emulsion fog level and high density. Suitable films have a high silver content, which is poured in a thin layer over a transparent substrate.

The Rollei Black & White Reversal Kit has been specially optimized for the following films:

ROLLEI

Superpan 200* | Retro 80S | Retro 400S | RPX 25
Ortho 25 | Infrared

further manufacturers

Agfa Copex Rapid | Ilford Delta 100 | Ilford Delta 400
Kodak Tri-X Pan 400

This list is not exhaustive, other films may also produce excellent results.

*Agfa Scala 200X successor

The B/W film reversal process is based on the process that has been used for over a decade by Agenzia Luce in Trieste, Italy. Compared to standard products this process features greater processing tolerance, higher lifetime and yield of the baths, and a lower impact on the environment and health. The print tone is neutral, the maximum black and tone reproduction is optimized.

NOTES:

– Use tap water for dilution of the concentrate, unless is it is very cont aminated or highly chlorinated in which case we recommend distilled or demineralized water.

– The rinse in running water should occur with an upward flow and with very low pressure (tap only slightly opened).

– Tolerance of the processing temperatures: For primary and secondary developer ± 0.5 °C, in the other baths ± 2 °C, though the temperature should not go below 20 °C.

INSTRUCTIONS – SEVEN STEPS TO A SLIDE

Please note: The exposed, undeveloped film may under no circumstances be exposed to light.

1 **First development**
The exposed silver halide film will be developed into a B/W negative. The length and temperature of the initial development is determined by the film speed. This step has the greatest influence on the overall result.

1.1 **Rinse**
The primary developer is stopped and the residues are rinsed off the film.

2 **Bleach**
The primary developer bleaches the silver that is created out of the layer, so that only the unexposed silver halides remain, which later create the negative film image. After this step you can theoretically continue in the light.

3 **Clearing bath**
In a wash bath the fogginess that is secondarily produced by the bleach bath is reversed, and remaining bleach residues are deactivated.

3.1 **Second exposure**
The silver halide remaining after the bleaching, which was originally unexposed, is now fully exposed.

How the second exposure works: Place the film for approx. 3 minutes at a distance of 30 - 50 cm under a 100-200 Watt light source.
It must be ensured that the film is completely and evenly exposed to light. A wash in this phase is also recommended. To meet both of these conditions we recommend that the loaded spirals are placed in a container filled with water (at the processing temperature). 35 mm and roll film can be placed in a transparent bowl; due to their height flat film coils should be placed, for example, in a measuring jug. As well as the wash this also improves diffusion of the light. Turning the spiral half way through also guarantees a perfect second exposure.

4 **Second development**
The exposed silver image will be developed into silver. The reverse image that will be visible later appears at this point!

5 **Stop bath**
Second developer is stopped.

6 **Fixer**
Any remaining undeveloped silver halide is now made water-soluble. The developed positive is fixed to the substrate.

7 **Final rinse**
The silver halide, which was made water-soluble in the fixer bath, is now transported by diffusion towards the concentration gradient (water) to make the film durable.

7.1 **Wetting agent**
An optional step that reduces the surface tension of the water and has a fungicidal effect. Prevents drying marks on the film and the formation of fungus.

THE FOLLOWING TABLE GIVES INFORMATION ABOUT THE MIXING RATIOS AND THE RECOMMENDED TIP/TURNING MODE FOR THE RESPECTIVE DEVELOP MENT STEPS.

PRODUCT	TIME	TURNING MODE	MIXING RATIO	NOTES
First developer 1	depends on film	Invert the tank 10x at the beginning, then each 30 seconds invert 1x.	1 Part A+1 Part B + 8 water	See table „Developing Times“ (p. 8)
Rinse	2:00 min			Rinse with running water
Bleach 2	5:00 min	1x each 30 sek or change water 3-5 times	1+9	
Clearing bath 3	3:00 min	1x each 30 sek	1+9	
Second exposure	3:00 min			100-200 W at 30-50 cm
Second developer 4	depends on film	Invert the tank 10x at the beginning, then each 30 seconds invert 1x.	1+9	See table „Developing Times“ (p. 8)
Stop bath 5	1:00 min	Invert slowly	1+19	
Fixer 6	7:00 min	Invert the tank 10x at the beginning, then each 60 seconds invert 1x.	1+4	
Rinse	Carry out rinses with running water or change water 10-15 times			
Final rinse 7	1:00 min	Invert very slowly, constantly	1+100	
Dry				

- Chemical preparation at: 24 °C ± 2 °C
- Processing temperature: 24°C *(see notes p.3)*
- The processing kit is enough for 1200 ml of solution
- The yield is for 15-20 films 135/36 or roll film 120, or 54-72 sheet films 4x5“

SPECIFIC ROLLEI FILMS DEVELOPMENT TIMES

The development times are determined so that the white areas on the slides still have an adequate thickness (approx. 0.23) to guarantee differentiation of the subject.

If you want lighter slides or slides with a lower density, for example for scanning, then the development time in the primary and secondary developer can be increased by 5% each.

If you want darker slides or slides with a higher density, for example for copying for alternative techniques (platinum/palladium print), then the development time in the primary and secondary developer can be reduced by 5% each.

FILM	film speed	first developer min.	second developer min.
Rollei Superpan 200	ISO 200/24°	9:00	6:45
Rollei Retro 400S	ISO 400/27°	9:30	7:15
Rollei RPX 25	ISO 25/15°		
Rollei Retro 80S	ISO 80/20°	15:30-16:00	11:30-12:00
Rollei RPX 100	ISO 100/21°	15:30-16:00	11:30-12:00
Rollei RPX 400	ISO 400/27°	16:00-16:30	12:00-12:30
Agfa Copex Rapid	ISO 50/18°		
Ilford Delta 100	ISO 100/21°	16:00-17:00	12:00-13:00
Ilford Delta 400	ISO 400/27°	16:00-17:00	12:00-13:00
Kodak TX 400	ISO 400/27°	16:00	12:00

Manufactured and produced by Agenzia Luce,
Triest, Italy – www.agenzialuce.it
Filled and bottled in Germany.

Hans O. Mahn GmbH & CO. KG
Brookstieg 4 / 22145 Stapelfeld / Germany

T +49 (0)40 23 70 0888
F +49 (0)40 23 700 8488
E photo@mahn.net
W www.maco-photo.de