ORWO C-5168 film development kit

Colour negative film processing instructions

Svema DS, LN, ЦНД, ЦНЛ • ORWO NC

Kit contents

Developer (working solution or concentrate) - red cap.
Bleach (working solution or concentrate) - yellow cap.
Fixer (working solution or concentrate) - green cap.

Use ordinary tap water for the water stop bath.

Kit capacity

Kit volume	Number of 135-36 or 120 rolls
0.5 L	4-5 rolls
1.0 L	8-10 rolls
2.0 L	16-20 rolls
5.0 L	40-50 rolls

Shelf life and storage

Developer working solution, including partially used solution: **2-3 months**. Other solutions: **12 months**.
Store in tightly closed containers at **5-25 °C**. **Keep the developer in a full container with no air space above the solution.** Sediment may form in used solutions; this is normal.

Development time adjustment

I recommend pre-soaking the film, but it is optional. As the developer is reused, increase the development time for each roll already processed:

Kit volume	Add per previously processed roll
0.5 L	15 seconds
1.0 L	8 seconds
2.0 L	4 seconds

Recommendations for aged film

Most films that this kit is designed to process are many years old. I recommend a single addition of **10–20 mL of a 1% benzotriazole solution per litre of developer**. If you plan to add benzotriazole to the developer, use a lower ISO setting on the camera or light meter when shooting to increase the exposure. For the batches listed below, use the amounts shown in the table. A value of 0 means that no benzotriazole should be added.

Film / year	1% solution, ml per litre
Svema DS-5m (1991)	0
Svema DS-5m (1993)	10
Svema LN-9 (1989)	10
Svema Retro (1991)	10

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Processing sequence

No.	Step	Time	Temp.	Agitation
1	Develop	09:00	20 °C	Every 60 seconds
2	Water stop bath (tap water)	05:00	20 °C	Every 60 seconds
3	Water wash, 3-4 changes	02:00	16-22 °C	
4	Bleach	06:00	16-22 °C	Every 30 seconds
5	Water wash, 3-4 changes	01:00	16-22 °C	
6	Fix	05:00	16-22 °C	Every 60 seconds
7	Water wash, 3-4 changes	15:00	16-22 °C	
8	Final rinse in distilled water or Photo-Flo solution			
9	Dry		20-30 °C	

Times are shown as min:sec. Follow the development time precisely, including the adjustment for reuse. For all other steps, the stated times are minimums.

During every wash, change the water at equal intervals, following the stated duration and number of changes. **Bleach only after washing the film thoroughly.**

Bleach bypass effect

After step 2, proceed directly to step 6. To remove the metallic silver from the negative later, repeat the process starting at step 4.

Precautions

Avoid contact with eyes. If any solution gets on your skin, rinse it off immediately with water.

Ingredients

Distilled water; 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP); acetic acid; citric acid; sodium tripolyphosphate; dipotassium hydrogen phosphate; potassium hydroxide; potassium sulfite; potassium carbonate; potassium bromide; potassium hexacyanoferrate(III); benzotriazole; hydroxylamine hydrochloride; N,N-diethyl-p-phenylenediamine sulfate (CD-1); ammonium thiosulfate.