

# TECHNICAL INFORMATION

## ORWO Instruction no. 1102

### ORWO black & white surveillance films ORWO black & white traffic surveillance film

**Application:** ORWO Instruction no. 1102 is recommended for processing of the Surveillance Films ORWO P 100, ORWO P 400 and traffic surveillance film ORWO TC 27.

#### Procedure:

no.	process	bath	time (min)	temperature (°C)
1	developing	ORWO 19 or Kodak D 76	4 ... 8	20 ± 1
2	spray-washing	-	½ ... 1	20 ... 24
3	fixing	Calbe A 300 * or RF 90 *	5 ... 7	20 ... 24
4	spray-washing	-	5 ... 8	20 ... 24
5	wetting	F 905 * (1 + 200)	1 ... 2	20 ... 24
6	drying			max. 40

1 - 3 dark-room processing

#### Comment:

Depending on the processing equipment, deviations of time and temperature are practicable, if a comparable processing quality is guaranteed.

Lower temperatures for spray-washing are practicable too, if the washing time is extended (i.e. 30 ... 40 % at 12 ... 15°C).

Other b & w developer will have similar results, but get them tested before.

#### Formulae:

##### Developer ORWO 19

Water	750 ml
Pentasodiumtriphosphate *	2,0 g
Metol *	2,0 g
Sodiumsulphite	100,0 g
Hydroquinone *	5,0 g
Sodium tetraborate 10 hydrate	2,0 g
Potassiumbromide	0,5 g
...fill up water to	1.0 litre
pH - value	8,8 ± 0,1

##### Replenisher ORWO 19 R

Water	750 ml
Pentasodiumtriphosphate *	2,0 g
Metol *	2,5 g
Sodiumsulphite	100,0 g
Hydroquinone *	6,0 g
Sodium tetraborate 10 hydrate	12,0 g
...fill up water to	1,0 litre
pH - value	8,9 ± 0,1



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### Fixing Bath Calbe A 300 \*

Water	750,0 ml
Sodium thiosulphate 5 hydrate	200,0 g
Potassium bisulphite <sup>1)</sup>	20,0 g
...fill up water to	1,0 litre
pH-value	5,2 ± 0,2

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<sup>1)</sup> 20 g potassium bisulphite can be replaced by 40 ml of a sodium hydrogen sulphite solution (37 %).

#### \* Explanations:

Pentasodiumtriphosphate	Anticalcium agent based on polyphosphate
Hydroquinone	Developing agent
Metol	Developing agent (monomethyle-p-aminophenol sulphate)
F 905	Calbe Wetting agent
A 300	Calbe Rapid fixing based on ammonium thiosulphate
RF 90	Calbe Rapid fixing based on ammonium thiosulphate

We reserve the right to change the ORWO-Instruction no. 2182 to improve the characteristics of film and perfect the safety of processing bathes.



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