

TECHNICAL INFORMATION

ORWO HF 53 Processing Instruction ORWO holographic film HF 53

Developing:		25-30 °C	5-7 min
	<i>Part A</i>		
	Ascorbic acid		
	Deminerlized water added up to 500 ml	18.0 g	
	<i>Part B</i>		
	Dinatriumhydrogenphosphate (Na ₂ HPO ₄)	28.4 g	
	Sodiumhydroxide (NaOH)	12.0 g	
	Deminerlized water added up to 500 ml		
	Part A and B to be mixed at 1:1 ratio		
Stop bath:	2% acetic acid or 1 % citric acid	25-30 °C	1-2 min
Bleaching:		25-30 °C	10-14 min
	<i>Part A</i>		
	Citric acid	7.65 g	
	Sodiumhydroxide (NaOH)	2.90 g	
	Sodiumsulfate (Na ₂ SO ₄)	20.0 g	
	6.0 ml hydrochloride acid (30%)		
	Deminerlized water added up to 500 ml		
	<i>Part B</i>		
	Sodiumchloride (NaCl)	40.00 g	
	Potassiumdichromate (K ₂ Cr ₂ O ₇)	4.50 g	
	Deminerlized water added up to 500 ml		
	Part A and B to be mixed at 1:1 ratio		
Rinse:	Deminerlized water	25-30 °C	1-2 min
Fixing:		25-30 °C	1-3 min
	Sodiumthiosulfate (without crystal water)	125 g	
	Sodiumsulfite	5.0 g	
	Sodiumhydrogensulfite	15.0 g	
	Deminerlized water added up to 500 ml		
Rinse:	Deminerlized water	25-30 °C	1-3 min
Dewatering 1:	Isopropanol 50 to 70%	20-25 °C	1-2 min
Dewatering 2:	Isopropanol 96 to 100%	20-25 °C	1-2 min
Drying:	Immediately	40-60 °C	



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The hologram has to be protected from any air humidity.
Process can be altered by use of different temperatures and use of alternative bleaching solutions.