FOR YOUR BEST IMAGE

9220 JOBO E-6 Color Positive Developing Kit

JOBO E-6 Color Positive Developing Kit (2,5L working solution) is a chemical processing kit for color reversal films designed especially for rotary processing. The developing kit should only be used in manual processing if temperature and agitation can be fully controlled. Best results may only be expected with precise temperature control and constant agitation.
All the processing chemical is concentrated solution to make max of 2.5L working solution which allows processing up to 40 rolls of film (135-36exp or 120 films). The JOBO E-6 Color Positive Developing Kit combines lower environment load provide with excellent developing performance.

1. Contents of JOBO E-6 Color Positive Developing Kit (2.5L)

Process	Chemicals	Bottles	Stock solution	Working solution	Capacity
First dev.	R1 : FD	1	500ml x 1	For 2,5L	40rolls/ 135-36
Reversal bath	R2 : RV	1	125ml x 1	For 2,5L	
Color dev.	R3 : CD Part-A	1	500ml x 1	For 2,5L	
	R3 : CD Part-B	1	50ml x 1		
Conditioner	R4 : CT	1	250ml x 1	For 2,5L	
Bleach	R5 : BL	2	650ml x 2	For 2,5L	
Fixer	R6 : FX	1	325ml x 1	For 2,5L	
Stabilizer	R7 : STB	1	25ml x 1	For 2,5L	

- 2,5L of working solutions can be made by diluting the stock solutions above.
- It is possible to make the needed amount of working solutions by measuring corresponding volume of stock solutions according to the amount of films to be processed.

Please note that

- The stock solution of R3: CD bottles are divided into Part-A and Part-B bottles.
- There are 2 bottles of 650ml R5: BL stock solution packed in each kit.
- The precautions are indicated on each label on bottles or package.

JOBO International GmbH
Kölner Straße 58a
51645 Gummersbach
Germany
WWW.JOBO.COM

9220 JOBO E-6 Color Positive Developing Kit

2. How to make working solutions

- Please measure the amount of water accurately and warm up water to 30±5℃ before diluting the stock solutions.
- In case working solution needs to be stored for a while, it should be stored in an airtight bottle in order to avoid oxidization.
- Don't mix chemicals with each other to avoid possible toxic gas and heat from being generated.
- Appropriate results cannot be given even if only a very small amount of other processing solution is contaminated into "First developer solution" or "Color developer solution".
- If any precipitate appeares in the concentrated solution, please dip the closed bottle in warm water to resolve any precipitate before use.
- Please always prepare water amount first. Then pour part 1 into water and mix well (about 30 sec.) before mixing with part 2 (in case of more than 1 part).

How to make 2,5L working solutions

Process	Chemicals	water		Part-A		Part-B		Total
First dev.	R1 : FD	2000ml	+	500ml		-	=	2500ml
Reversal bath	R2 : RV	2375ml	+	125ml		-	=	2500ml
Color dev.	R3 : CD	1950ml	+	500ml	+	50ml	=	2500ml
Conditioner	R4 : CT	2250ml	+	250ml		-	=	2500ml
Bleach	R5 : BL	1200ml	+	650mlx2		-	=	2500ml
Fixer	R6 : FX	2175ml	+	325ml		-	=	2500ml
Stabilizer	R7 : STB	2475ml	+	25ml		-	=	2500ml

- **First Dev**: Pour 500ml (1 bottle) of R1: FD stock solution into 2000ml of water and stir it to be 2500ml of working solution. Always be sure to mix the First Developer before mixing the other chemicals to avoid contamination ot the first developer. Firmly tighten mixed chemistry and stock solution containers before opening other chemistry bottles
- **Reversal bath**: Pour 125ml (1 bottle) of R2: RV stock solution into 2375ml of water and stir it to be 2500ml of working solution.

JOBO International GmbH
Kölner Straße 58a
51645 Gummersbach
Germany
WWW.JOBO.COM

9220 JOBO E-6 Color Positive Developing Kit

- **Color Dev**: Pour R3: CD Part-A 500ml (1bottle) into 1950ml of water and stir to be clear solution. Then add R3: CD Part-B 50ml (1bottle) and stir it to be 2500ml of R3: CD working solution.
- **Conditioner**: Pour 250ml (1bottle) of R4: CT stock solution into 2250ml of water and stir it to be 2500ml of working solution.
- **Bleach**: Pour 2 bottles (650ml x 2) of R5: BL stock solution into 1200ml of water and stir it to be 2500ml of working solution.
- **Fixer**: Pour 325ml (1bottle) of R6: FX stock solution into 2175ml of water and stir it to be 2500ml of working solution.
- **Stabilizer**: Pour 25ml (1bottle) of R7: STB stock solution into 2475ml of water and softly stir it to be 2500ml of working solution.
- The working solution can be stored according to the instructions 4 below.

How to make 1,25L of working solutions

Process	Chemicals	water		Part-A		Part-B		Total
First dev.	R1 : FD	1000ml	+	250ml		-	=	1250ml
Reversal bath	R2 : RV	1187,5ml	+	62,5ml		-	=	1250ml
Color dev.	R3 : CD	975ml	+	250ml	+	25ml	=	1250ml
Conditioner	R4 : CT	1125ml	+	125ml		-	=	1250ml
Bleach	R5 : BL	600ml	+	650ml		-	=	1250ml
Fixer	R6 : FX	1087,5ml	+	162,5ml		-	=	1250ml
Stabilizer	R7 : STB	1237,5ml	+	12,5ml		-	=	1250ml

- Stock solution can be measured to make needed working solutions in accordance with the amount of films to be processed.
- It is possible to processes 20 rolls of films at most with 1,25L of working solutions.
- The remaining stock solutions can be stored in the original bottles.

JOBO International GmbH
Kölner Straße 58a
51645 Gummersbach
Germany
WWW.JOBO.COM

9220 JOBO E-6 Color Positive Developing Kit

How to make 1L of working solutions

Process	Chemicals	water		Part-A		Part-B		Total
First dev.	R1 : FD	800ml	+	200ml		-	=	1000ml
Reversal bath	R2 : RV	950ml	+	50ml		-	=	1000ml
Color dev.	R3 : CD	780ml	+	200ml	+	20ml	=	1000ml
Conditioner	R4 : CT	900ml	+	100ml		-	=	1000ml
Bleach	R5 : BL	480ml	+	520ml		-	=	1000ml
Fixer	R6 : FX	870ml	+	130ml		-	=	1000ml
Stabilizer	R7 : STB	990ml	+	10ml		-	=	1000ml

- In case a small amount of film is to be processed, it is possible to make as little working solution as possible.
- For instance, the chart above shows to make 1L of working solutions to process 16 rolls of film at the most.
- In case you want to process less film, the amount of water and stock solutions can be calculated accordingly, but please note a certain minimum amount of working solution may be required depending on the processing methods you use.

3. Processing condition (with 1L of working solution, 135-36exp)

- **Capacity: To ensure repeatable and optimal results of your slide processing, both first developer (R1: FD) and color developer (R3: CD) should be used as one-shot processors for single use only.** The minimum filling quantity of the JOBO drum system is about 120 ml per film. This means a maximum of 20 films can be processed with the 2.5 L kit in perfect quality**.** For one-shot processing the times of 1-4 rolls and 5- 8 rolls apply respectively.
- Higher capacity may be achieved using the extended capacity times in the table (columns 9-12 and 13- 16) with the following caveats: If users choose to reuse 1L of chemicals for additional 4 films (totaling 12 films to be processed with 1L), the times setting for 9-12 rolls apply, and the quality of the process will still be quite good. It is possible to use the same 1L working solution to process a total of 16 films, however the process will show less reproducible results in terms of maximum density and color precision. (Here the times for 13-16 rolls of film apply). After processing a maximum of 40 rolls of film, the chemistry will be utterly depleted.

JOBO International GmbH
Kölner Straße 58a
51645 Gummersbach
Germany
WWW.JOBO.COM

9220 JOBO E-6 Color Positive Developing Kit

process	Chemicals	temp.(℃)	Times setting & number of films			
			1～4rolls	5～8rolls	9～12rolls	13～16rolls
Pre wash	water	38.0 ± 0.6	3'00"	3'00"	3'00"	3'00"
First dev.	R1 : FD	38.0 ± 0.3	6'15"	6'30"	6'45"	7'00"
First wash	water	38.0 ± 0.6	2'30"	2'30"	2'30"	2'30"
Reversal bath	R2 : RV	38.0 ± 0.6	2'00"	2'00"	2'00"	2'00"
Color dev.	R3 : CD	38.0 ± 0.6	6'00"	7'00"	8'00"	9'00"
Conditioner	R4 : CT	36 ± 3	2'00"	2'00"	2'00"	2'00"
Bleach	R5 : BL	36 ± 3	6'00"	6'30"	7'00"	7'30"
Fixer	R6 : FX	36 ± 3	4'00"	4'00"	4'00"	4'00"
Second wash	water	24 - 41	3'00"	3'00"	3'00"	3'00"
Stabilizer*	R7 : STB	24 - 26	1'00"	1'00"	1'00"	1'00"

- The chart above shows the necessary processing condition in case 1L of working solution is used to process films in rotary processing.
- The processing times change in accordance with the amount of film to be processed in a working solution to be prepared.
- It may be required to adjust the First Dev (R1: FD) time if a different developing method is being applied.
- In case of tray processing the films must be processed in complete darkness until the end of Reversal bath processing (R2: RV).
- The times indicated in the chart include 10 sec of the interval time while draining solutions between the single processing steps.
- In case failure is found in the color balance, it may be suspected that small amounts of other processing solutions have contaminated into First Dev (R1: FD) or Color Dev (R3: CD).
- *PLEASE NOTE: We strongly recommend to apply the stabilizer bath outside the rotary processor in a separate tray. The stabilizier does not require rotary processsing or other agitation as long as the whole film is being immersed for 1 minute. In case stabilizer comes into contact with drum or reels, these must immediately be thoroughly cleaned with water. The stabilizer should NEVER be poured into the Lift for use in the processor!

JOBO International GmbH
Kölner Straße 58a
51645 Gummersbach
Germany
WWW.JOBO.COM

9220 JOBO E-6 Color Positive Developing Kit

- Prewash allows to adjust film, reels and tank to the critical working temperature required for the color developer. At the same time the prewash will allow for an equal distribution of the developer on the film emulsion. The larger the film format, the more critical it is to use a water prebath.It may be required to adjust the First Dev (R1: FD) time if a different developing method is being applied.
- The prewash water does not need to be renewed during the whole 3 minutes. During the first and final wash the water should be renewed every 30 to 45 seconds to ensure good and archival proof washing of the film.In case failure is found in the color balance, it may be suspected that small amounts of other processing solutions have contaminated into First Dev (R1: FD) or Color Dev (R3: CD).

4. Storage condition

Process	Chemicals	Stock solution in bottles opened once	Working solution
First dev.	R1 : FD	12 weeks	1 week
Reversal bath	R2 : RV	12 weeks	1 week
Color dev.	R3 : CD	12 weeks	1 week
Conditioner	R4 : CT	12 weeks	1 week
Bleach	R5 : BL	24 weeks	24 weeks
Fixer	R6 : FX	24 weeks	24 weeks
Stabilizer	R7 : STB	24 weeks	24 weeks

- Once the original bottles have been opened, please store the stock solutions in the original bottles in a dark and cool place.

5. Disposal

- Please contact your local government authorities on the appropriate disposal of used or remaining chemistry. Immediately rinse completely emptied chemistry containers while mixing the last kit of chemistry so that plastic bottles can be recycled or re-used.

JOBO International GmbH
Kölner Straße 58a
51645 Gummersbach
Germany
WWW.JOBO.COM

9220 JOBO E-6 Color Positive Developing Kit

6. Safety precautions

- Keep chemistry out of reach of children. In case chemistry comes into eye contact, please rinse with water. In case of symptoms please contact your doctor.

7. Trouble shooting

Fault	Possible Cause	Remedy
Slides too dark	Over exposure	Check cameras and exposure
	Developing time of first developer too long	Shorten developing time by 15-30 s
	Contamination of first developer with bleach or fixer	Rinse equipment and reels thoroughly
Slides too light	Under exposure	Check camera and exposure
	Prewash/Prewarming of the tank has been omitted	Add a prewash time of 3 to 5 min. to the program
	Developing time of first developer too short	Extend developing time by 15-30 s
Uneven color areas, streaks and stripes	Insufficient filling quantity or poor agitation.	Check filling amounts and sufficient rotation.
	Prewash has been omitted	Add a prewash time of 3 to 5 min. to the program
	First developer or color developer was pored in too slowly	Fill in the first developer and color developer quickly
Color fog	Mixing vessels of the processor are not clean. Contamination of the developer by other chemicals.	Use individual mixing vessels and mixing rod for each bath
Drying spots on the dry film	Tap water is too hard when preparing the stabilizer bath	Mix tap water with distilled or demineralized water in the proportion 1:2.
Maximum density green / green shadows	Contamination of first developer or color developer with stabilizer	Use individual mixing vessels and mixing rod for each bath. Keep bottles of stock solution and working solutions tightly closed and separated from the other chemicals. **Never fill the stabilizer into the Lift of the JOBO processor to avoid permanent contamination.** Film should be put into stabilizer without drum and reel in a separate tray.
Maximum density too light: blue (depending on degree of contamination)	Contamination of first developer with color developer	Use individual mixing vessels and mixing rod for each bath. Keep individual bottles of stock solutions and working solutions tightly closed and separated from each other.

JOBO International GmbH
Kölner Straße 58a
51645 Gummersbach
Germany
WWW.JOBO.COM

2022.10