

## **PUSH PROCESSING**

All color negative films suitable for the C-41 process can be underexposed and processed for higher than normal film speeds by extending the development time (push processing). As a rule, pushing should be done only when necessary (i.e., when higher film speed is needed) because negative quality does suffer somewhat. When pushing is required, start with the highest speed film available. In other words, pushing an ISO 100 film two stops to ISO 400 offers no benefit since an ISO 400 film is already available.

### **When Exposure Change is:**

2 stops under  
1 stop under

### **ISO Speed**

4x normal  
2x normal

### **Increase Development Time:**

1.5x (i.e. 3.5 min x 1.5 = 5.25 min)  
1.25x (i.e. 3.5 min x 1.25 = 4.40 min)

## **CHROMOGENIC B&W FILMS**

When exposing these films in the range of ASA 100-400, use the standard development times given in the time/temperature chart. When exposing these films at ASA 800, increase development time by 40% and, when exposing at ASA 1600, increase development time by 80%. For different times and temperatures consult the film instruction sheet.

## **TROUBLESHOOTING**

<b>PROBLEM</b>	<b>PROBABLE CAUSE</b>	<b>REMEDY</b>
Thin negatives	-Low development temperature -Underexposure in camera -Developer exhausted	Reread and follow all instructions carefully on temperature control, solution, capacity, etc.
Negatives appear more magenta than more normal with higher density near sprocket holes.	-Developer too warm -Overly-vigorous agitation in conventional tank	Maintain temperature control. Use only agitation methods prescribed.
Black "dirt" specks on negatives which print as white spots.	-Improperly washed 5247 films	Remove ALL carbon jet backing during final rinse
Negatives look OK but prints are a bit too flat.	-Too little development	Increase development time and increase temperature
Negatives look OK but loss of highlight and shadow detail.	-Too much development	Decrease development time and decrease temperature.
Reddish cast to film	-Exhausted Blix -Blix temperature too low -Blix time too short	Reblix film in film solution for recommended time and temperature.

## **SAFETY NOTES**

**WARNING** This kit contains chemicals that may be hazardous if misused. Always wear safety glasses, rubber gloves and protective clothing, such as a lab coat or plastic apron, when working with chemicals. While the hazard rating of this kit is low, caution should be exercised. Do not allow children to use this kit without adult supervision.

### **DEVELOPER**

**Contains: Sodium Carbonate, Pentasodium DTPA Ethanol, 2-[(4-Amino-3-Methylphenyl) Ethylamino]-, Sulfate (1:1) Salt, Sodium Sulfite, Hydroxylamine Sulfate.** May cause irritation and burns to the eyes. May cause irritation to the skin, respiratory tract, and gastrointestinal tract. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Contact a physician immediately. In case of skin contact, flush skin with plenty of water and wash with a non-alkaline skin cleaner. Wash contaminated clothes before reuse. Contact a physician immediately. If accidentally swallowed, drink a glass of milk or water. Contact a physician immediately.

### **BLIX A**

**Contains: Ammonium Thiosulfate, Sodium Carbonate.** May cause severe irritation to the eyes. May cause irritation to the skin, respiratory tract, and gastrointestinal tract. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Contact a physician immediately. In case of skin contact, immediately wash skin with plenty of soap. Remove contaminated clothing and wash before reuse. Contact a physician immediately. If accidentally swallowed, drink a glass of water or milk. DO NOT INDUCE VOMITING. Contact a physician immediately.

### **BLIX B**

**Contains: Sodium Iron EDTA, Sodium Sulfite, PDTA.** May cause severe irritation to the eyes. May cause irritation to the skin, upper respiratory tract, and gastrointestinal tract. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Contact a physician immediately. In case of skin contact, immediately wash skin with plenty of soap. Remove contaminated clothing and wash before reuse. Contact a physician immediately. If accidentally swallowed, drink a glass of water or milk. DO NOT INDUCE VOMITING. Contact a physician immediately.

# ARISTA 41

## C-41 PROCESSING COLOR NEGATIVE CHEMISTRY

## INSTRUCTIONS

### FOR 1 QUART POWDER KIT

You may use this kit to process any C-41 compatible films, including chromogenic black and white films (like BW400CN™). These instructions will show you how to process the film and how to reuse the chemicals for extended life.

## **WARNING**

**This kit contains chemicals that may be harmful if misused. Do not allow children to use this kit without adult supervision. Read all safety notes before proceeding.**

## **MIXING NOTES**

- Use water well above the temperature you want to use to develop your film. This allows for shorter warm-up time.
- Stir continuously while mixing.
- Keep everything very clean. A few drops of Blix, soap or other contaminate can destroy the developers.
- Mark your containers clearly. This will prevent confusion and processing out of order.
- Use safety glasses and rubber gloves while working with chemicals. Wear a lab coat or other protective clothing. **Do not allow children to use this kit without adult supervision.**

SDS (Safety Data Sheets) for this kit are available by written request.

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## MIXING CHEMICALS

### **DEVELOPER**

Place 800 ml of water at 110°F (43.5°C) into a clean glass or plastic container. While stirring, add the contents of the packet marked **Developer**. Stir well. Add water to make 1000 ml. Temperature may be adjusted +/- on this volume of water to make working solution come out at or as near to your processing temperature as possible.

### **BLIX**

Place 800 ml of water at 110°F into a clean glass or plastic container. While stirring add the contents of the packet marked **Blix A** and follow with **Blix B**. Stir well. Add water to make 1000 ml. Adding Blix powder to water creates an endothermic reaction as it goes into solution.

## PROCESSING STEPS FOR HAND TANK OR DIP & DUNK

For use with Arista (or similar) plastic or steel film processing tanks using inversion or agitation wand method. **Tanks should be partially submerged in a hot water bath to insure temperature consistency.**

		TIME	TEMP	AGITATION
Step 1	<b>Pre-Soak</b>	1 min	102°F	None
Step 2	<b>Developer</b>	3.5 min	102°F	Continuous for first 10 sec., then 4 lifts or 4 inversion cycles* every 30 sec. thereafter
Step 3	<b>Blix</b>	6.5 min.	95°F - 105°F	Same as above
<b>THE REMAINING STEPS CAN BE DONE IN ROOM LIGHT WITH THE TANK LID OFF</b>				
Step 4	<b>Wash</b>	3 min.	95°F - 105°F	Running water
Step 5	<b>Dry</b>	n/a	< 140°F	n/a

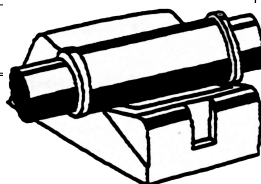
\* 1 inversion cycle = 1 back and forth motion as shown in the graphic at the right



## PROCESSING STEPS FOR ROTARY-TUBE

For use with rotary style drum processors.

	75°F	80°F	85°F	90°F	95°F	104°F *
Step 1	<b>COMPLETELY FILL FILM DRUM WITH WATER</b>					
<b>Pre-soak</b>	60 sec.	60 sec.	60 sec.	60 sec.	60 sec.	60 sec.
Step 2						
<b>Developer</b>	17.5 min	14.25 min	10.25 min	8 min	5.75 min	3.5 min
Step 3						
<b>Blix</b>	8 min.	8 min.	8 min.	8 min.	7 min.	6.5 min.
<b>THE REMAINING STEPS CAN BE DONE IN ROOM LIGHT WITH THE TANK LID OFF</b>						
Step 4	Fill and empty the tank at least seven times, minimum time required: 3 minutes.					
Step 5	Not over 140°F.					
<b>Dry</b>						



\* Recommended time and temperature

## PROCESSING STEPS FOR AUTOMATIC ROTARY TUBE TYPE TEMPERATURE CONTROLLED PROCESSORS

Optimized for rotary drum processing

		TIME	TEMPERATURE †
Step 1	<b>Pre-warm</b>	5 min	100.4°F
Step 2	<b>Developer</b>	3.25 min	100.4°F
Step 3	<b>Blix</b>	6 min	100.4°F
Step 4	<b>Wash</b>	3 min	100.4°F
Step 5*	<b>Dry</b>	n/a	< 140°F

† All machine temperature settings are fixed using either a pre-set circuit card or external temperature line

\* These steps are performed outside the processor

## SOLUTION CAPACITIES

The solution capacities given in the chart below show how many films can be reliably processed in various quantities of working solutions. If you are interested in extracting more capacity from the solutions, please read the statements under the heading "More Chemistry Capacity."

FILM SIZE	110 (20 exp.)	126	135 (24 exp.)	135 (36 exp.)	120	220	4 x 5 (sheet)	8 x 10 (sheet)
Rolls or sheets/ 960 ml (32 oz.)	36	16	12	8	8	4	32	8
Rolls or sheets/ 480 ml (16 oz.)	18	8	6	4	4	2	16	4
Rolls or sheets/ 240 ml (8 oz.)	9	4	3	2	2	1	8	2

## MORE CHEMISTRY CAPACITY

You should always be concerned about chemistry life and capacity. It may seem that chemistry manufacturers are arbitrary about the number of films that can be processed before discarding chemicals. This is because manufacturers can only make educated guesses on four different factors affecting longevity: how many films will be processed in freshly mixed chemicals; storage manner and length between processing sessions; if any contaminants are in the water supply or from unintentional chemical intermixing; and, what each user considers acceptable results. All developers begin to exhaust the moment they are mixed, and exhaust faster with the presence of air, contaminants, high temperatures and every time films are processed in the same batch of working solution.

### **Here are some observations and recommendations:**

- Understanding you are the sole arbiter of acceptable results, it is possible to process 25%, 50%, or even more rolls of film than what is listed in the capacity chart - as long as all processing takes place within several days of mixing the chemicals. The main rule to exercise is to process films until you no longer find the results satisfactory. Results will not usually go drastically from ideal to unusable, the decline is gradual.
- **Results are NOT guaranteed**, but it is possible to process more film over a longer period of time. Processing more films than recommended is risky unless you process film every day and monitor the performance of the chemistry. Partially used working solutions left untouched for a week or more can change significantly and you could suffer a drastic loss in the quality of your results. We recommend doing a snip test with a small piece of film before each processing session if you are worried about the state of the chemistry.