

# KODAK 'Ektaprint' 300 Developer

## Processing instructions for KODAK 'Ektacolor' 37 RC Papers in KODAK Rapid Colour Processors

The chemicals required for drum processing of KODAK 'Ektacolor' 37 RC Papers are:- KODAK 'Ektaprint' 300 Developer, KODAK 'Ektaprint' 3 Bleach-Fix and KODAK 'Ektaprint' 3 Stabilizer.

### Precautions in handling chemicals

The developing agents used in this process may cause skin irritation. In case of contact with solutions, wash at once with a neutral hand cleanser such as Neutrogena soap and rinse with plenty of water. Wear clean, protective gloves when mixing or pouring solutions and when cleaning equipment. Face protection is advisable when mixing colour chemicals. Keep all working surfaces and equipment clean and free from spilled solutions or chemicals.

For detailed precautions see the warning at the back of this leaflet.

### Contamination of solutions

The photographic quality and life of the processing solutions depend on the cleanliness of the equipment in which solutions are mixed, stored and used. Avoid contamination of one solution with another as this will seriously affect the quality of results. Take extreme care to avoid contamination of the Developer with Bleach-Fix during mixing and processing.

Mixing of chemicals in printing and processing areas should be avoided because the chemicals may cause spots on prints. The drum processor and net blanket should be washed very thoroughly after each process.

Flush all waste chemicals down a drain, using plenty of water. Do not allow them to settle in the waste-trap of the sink, especially if the waste-trap is made of copper, brass or mild steel.

### Preparing solutions

Solutions should be mixed and stored in containers made from suitable plastics (such as polythene or rigid PVC), glass or stainless steel to BS316S16. The Bleach-Fix will rapidly corrode brass and copper and all contact with these materials must be avoided. Clean sediment-free water is essential for preparing solutions.

The Developer should not be mixed in the same container as the other solutions.

Note: Developer Part A: The milky cream colour with two apparent layers is normal. This does not affect the quality of the mixed developer. Shake the bottle Part A, and add the contents to 4 litres of water at 27-32°C (81-90°F). Rinse out the bottle with a little water and add this rinse water to the solution. Stir until the solution is uniform and there are no oily droplets on the surface. Repeat this procedure with the bottle Part B, then with Part C. Add sufficient water to make 5 litres; stir until the solution is uniform. Any slight cloudiness of the mixed solution should be ignored.

Note: The Developer is adequately protected to prevent precipitation of calcium deposits from hard water for the majority of processing conditions.

Following the mixing instructions on the package labels, prepare solutions of KODAK 'Ektaprint' 3 Bleach-Fix and KODAK 'Ektaprint' 3 Stabilizer.

### Storage of solutions

For best results, do not use solutions which have been stored longer than the following times:

	Full tightly-stoppered glass bottles	Partially-full tightly stoppered glass bottles
Developer	6 weeks	3 weeks
Bleach-Fix	8 weeks	6 weeks
Stabilizer	Indefinitely	8 weeks

### Processing procedure for KODAK Rapid Colour Processor, Model 11 and KODAK Rapid Color Processor, Model 16

#### Temperature

Good results depend on accurate control of temperature during the development step. Recommended temperatures are given below :

Pre-wet water: 21 to 39°C (70 to 102°F)

Drum temperature during processing

Developer	38±0.3°C (100±0.5°F)
Bleach-Fix	38±1°C (100±2°F)
Stabilizer	38±1°C (100±2°F)
Wash	38±1°C (100±2°F)

The drum temperature will drop slightly as each processing solution is poured into the processor tray, but if the processor instruction manual is followed carefully, results will not be adversely affected by the normal temperature variations occurring after the development step.

All processing solutions should be at room temperature before use. Pour the solutions into numbered beakers or other wide-mouth containers and arrange them in order near the processor.

The Rapid Colour Processor, Model 11 requires 125 ml (4¼ UK fl oz) and the Model 16 requires 250 ml (8½ UK fl oz) of each solution for each processing run, regardless of the size of the print.

The wash water should be at a temperature 38 ±1°C (100±2°F).

#### Wash water flow rate

The wash steps require water flowing at a rate of at least 2.5 litres per minute for the Model 11 Processor and at least 5 litres per minute for the Model 16 Processor. A higher rate, up to 10 litres per minute, is also satisfactory.

With the Model 11 Processor, the wash steps can be completed by using two 1 litre containers, filled in advance with water at 39°C (102°F); one container can then be used for each of the wash steps.

During each wash step, allow the water to flow over the entire area of the net blanket and back of the print while holding the tray in the drain position. Before completing each wash step, give the processor tray a quick rinse and then, 5 seconds before the end of the wash time, stop washing but continue to drain the processor tray.

## Timing

The time for each processing step includes the draining time - 5 seconds. Start draining, by raising the front edge of the processor tray, in time to end each processing step and start the next step on time. Start each processing step by lowering the tray and quickly pouring in the next solution.

## Drying

To minimize drying time, squeegee off surplus moisture from the print. Dry prints in a dust-free drying cabinet at a temperature not above 85°C (185°F) or by laying them, emulsion upwards, on muslin-covered frames. KODAK 'Ektacolor' 37 RC Papers should **NOT** be glazed, or dried on glazers with the emulsion surface in contact with the cloth.

## PRELIMINARY STEPS

### 1. Pre-wet the net blanket in the water dish

Use a dish wide enough to hold the blanket with the ends of the bar resting on the edges of the dish and large enough to pre-wet the print. Fill the dish to overflowing with clean water. Immerse the blanket, by letting it fall in folds into the dish, with the bar at the back of the dish and the blanket coming towards you. The bar must face the correct way: bar lugs upwards with the Model 11 blanket, screw heads downwards for the Model 16 blanket. Then turn the bar over once, away from you, so that the attached end of the blanket is covering the bar.

### 2. Switch on the drive motor and turn on the water

Check the water temperature - it should be 38°C (100°F).

### 3. Pour the developer into the processor tray

Use a sweeping motion so that it is distributed evenly over the length of the tray.

### 4. Turn out the room lights

KODAK 'Ektacolor' 37 RC Papers can be handled, for a limited period only, under a safelight fitted with a KODAK Safelight Filter, No. 10H, and a 25 watt pearl lamp, or No. 13 with a 15 watt lamp. The lamp must be kept at least 4 feet or 1.2 metres from the paper and used for no longer than 4 minutes.

Two safelights are suggested, one over the processor and one over the pre-wet dish.

### 5. Pre-wet the print in the water dish

Immerse the print, emulsion down, and agitate it for 30 seconds. Then turn the print over (so that it is emulsion up) and position its edge on the top of the bar so that it covers about one half of the bar. Using your thumbs to hold the print lightly against the blanket and your fingers to hold the bar, lift the bar and print together from the dish. While continuing to hold the print with the thumbs, rotate the bar half-a-turn towards you so that it is no longer covered by the attached end of the blanket; the edge of the print will now be spaced away from the bar. Drain the print for 10 seconds; then move directly to the processor.

**CAUTION** : Kinks and cracks in the emulsion will affect the uniformity of development of the print.

Handle the paper carefully.

Holding the print in place on the blanket, lower the blanket until it makes contact with the drum surface. Then quickly bring the bar down and around the drum to the slots in the front of the processor. Begin timing development immediately the emulsion of the print comes into contact with the drum.

## PROCESSING STEPS for KODAK 'Ektacolor' 37 RC Papers on KODAK Rapid Colour Processor, Model 11 and KODAK Rapid Color Processor, Model 16

**Timing**: Include 5 seconds draining time in each step.

**Temperature**: The temperature of the processor drum during development must be 38±0.3°C (100±0.5°F).

Step	Remarks	Drum temperature		Time (minutes)	Total time (minutes) at end of step
		°C	°F		
Use KODAK Safelight Filter, No. 10H or No. 13 through to the first 30 seconds of the Bleach-Fix step.					
1. PRE-WASH	See "Preliminary steps"			½	½
2. DEVELOPER		38±0.3	100±0.5	2	2½
3. WASH	Running water	38±1	100±2	½	3
4. BLEACH-FIX		38±1	100±2	1	4
Remaining steps may be done in normal room lighting					
5. WASH	Running water	38±1	100±2	½	4½
6. STABILIZER		38±1	100±2	½	5
7. DRYING	See "Drying" para	NOT ABOVE 85      185			

**Important**: After each process, rinse blanket, drum and tray with running water. Wipe drum and tray before starting new process. The pre-wet solution should also be discarded and the **dish** thoroughly rinsed.

## Processing procedure for KODAK Rapid Color Processor, Models 30 and 30A

These processors, with the KODAK 3040 or 3040A Processing Tube, will process a 30 x 40 inches (76.2 x 101.6 cm) print on KODAK 'Ektacolor' 37 RC Paper. Prints ranging in size from 16 x 20 inches (40 x 50 cm) to 20 x 24 inches (50 x 60 cm) can be processed if a KODAK 2024 or 2024A Processing Tube and KODAK 2024 or 2024A Processing Tube Adapter are used.

**Note:** The operation of the processor is given in greater detail in the manual supplied with the processor.

### Temperature

Good (and repeatable) results depend on accurate temperature control of the processing solutions. The tempering unit, when properly adjusted, will automatically bring the processing solutions and washes in the containers to the proper temperatures (see processing manual). For example if the ambient temperature is 24°C (75°F), the tempering unit will maintain a wash bath temperature range of 44 to 44.5°C (111 to 112°F). The processing solutions are ready for use when their temperatures read 0.3 to 0.9°C (0.5 to 1.5°F) lower than the tempering unit water. The tempering unit automatically compensates for changes in the ambient room temperature.

### Timing

All steps including drain times, are ½ minute long except the Developer step which is 2½ minutes long. The Timing Disk for Processor, Model 30A automatically times each processing step. For the Processor, Model 30, obtain a KODAK 'Ektacolor' 37 Timing Disk, Model 30/30A (available specially for KODAK 'Ektacolor' 37 RC Papers). The name and process step appears in the window of the timer. The process start-button is pressed at the beginning of the process cycle. Ten seconds before the end of each process step, a buzzer will sound for 10 seconds. During these 10 seconds, the processing tube is pivoted to the vertical position to drain off the used solution and the next container (or wash water) is added to the top of the tube. When the buzzing stops, the tube is pivoted to the horizontal position to begin the next processing step on time.

### Agitation

The correct agitation is provided by a processing drive roller which automatically revolves the processing tube when it is pivoted to the horizontal position.

#### Filling the containers with processing solutions

The containers are numbered and should be used for the processing solutions and water washes corresponding to the step number except for containers 9 and 10 (see note below).

To avoid contamination, do not interchange containers or container positions in the tempering bath.

#### Container

Container	Solution
No. 1	Pre-wash water
2	Developer
3	Stop Bath (use 'Ektaprint' 3 Stabilizer)
4	Wash water
5	Bleach-Fix
6	Wash water
7	Wash water
8	Stabilizer
9	Wash water
10	Wash water

**Note:** Wash waters from containers 9 and 10, required only if a "smooth" processing tube is used. (See section headed Special washing technique, for details.)

When using the KODAK 3040 or 3040A Processing Tube, fill to the "1 quart" line. For the KODAK 2024 or 2024A Processing Tube, fill to the "13 fl oz" line.

Fill the wash containers (1, 4, 6, 7, 9 and 10) with warm water at 38 to 43.5°C (100 to 110°F) and place them in the correct compartments of the tempering unit.

While the solutions are being brought to the required temperature, proceed to load the processing tube.

### Loading the processing tube

The manual for the processor explains in detail how to load the tube. Load the processing tube in total darkness or, briefly, by the light of a safelight fitted with a KODAK Safelight Filter, No. 10H and a 25 watt pearl lamp, or No. 13 with a 15 watt lamp. The lamp must be kept at least 4 feet or 1.2 metres from the paper. Once the processing tube cover is in place, the tube can be handled in room lighting without danger of fogging the paper. Handle the tube carefully to avoid disturbing the position of the paper.

### Processing steps

Place the loaded processing tube vertically in the cage of the processor. Check the temperature of the tempering unit and the temperature of the Stop Bath (container No. 3). If the temperature of the Stop Bath is 0.3 to 1°C (0.5 to 1.5°F) below that of the tempering bath water, the processing solutions are ready to use. The "Pre-wash" legend should be visible in the window of the timer.

Start by pouring the water of container No. 1 into the processing tube cover. Avoid splashing by holding the container inside the rim of the cover. (The solution will stay inside the cup of the processing tube cover until the tube is pivoted to the horizontal position.) Gently pivot the tube to the horizontal position and immediately press the process start button. The processing tube will start revolving and the process is under way. When the timer buzzer sounds (lapse time of 20 seconds), immediately return the tube to the vertical position and add the Developer in container No. 2 to the tube.

When the buzzer stops, immediately pivot the tube to the horizontal position. The time for this step is 2½ minutes. When the buzzer sounds again, immediately return the tube to the vertical position and add the solution in container No. 3 to the tube.

Continue this same procedure each time the buzzer sounds. The time for the remaining steps of the process is ½ minute each.

At the end of the process, remove the processing tube cover and very gently grasp the edges of the print. Bring the base side of the ends of the print together and carefully remove the print from the tube. (See picture and description in processor manual.)

### Special washing technique

Best results are obtained when the processor is equipped with the "spiral" processing tube. If a "smooth" processing tube is used, the processing chemicals especially the Bleach-Fix, may be retained on the back of the print. These chemicals should be removed to avoid transferring them to the front of the print or to other prints and possibly affecting print stability. To eliminate the retained chemicals, follow this procedure:

1. Following the first wash after the Bleach-Fix step, stop the processor drive motor and remove the cover from the processing tube. Lower the tube to the horizontal position. Rotate the tube so that the leading edge of the print is near the bottom.
2. Pour the wash water from the container No. 9 into the tube. Lift the leading edge of the print away from the drum surface and start the processor so that the tube begins to rotate. The wash water will then flow behind the print. Drop the leading edge of the print as soon as the tube begins turning. Allow the tube to rotate several times. Stop the processor and repeat the lifting of the leading edge, allowing water to flow behind the print again.
3. Turn the processing tube upright and drain.
4. Repeat the above steps with the wash water from container No. 10.
5. Replace the cover on the tube and continue the process with the second wash after the Bleach-Fix step.

An alternate approach to removing retained chemicals is to rinse the back of the print after it is removed from the tube at the end of the process. However, this is awkward to do with large prints and it risks transferring chemicals to the emulsion side when removing the print from the tube.

### Drying

To minimize drying time, squeegee off surplus moisture from the print. Dry prints in a dust-free drying cabinet at a temperature not above 85°C (185°F) or by laying them, emulsion side upwards, on muslin-covered frames. KODAK 'Ektacolor' 37 RC Papers should **NOT** be glazed, or dried on glazers with the emulsion surface in contact with the cloth.

### Post-process tube cleaning

After each process, rinse the processing tube and the cover with warm water, not above 43.5°C (110°F). Before loading the tube for the next process, be sure that the inside of the tube and the cover are dry. Wet surfaces can prevent correct positioning of the paper.

### PROCESSING STEPS for KODAK 'Ektacolor' 37 RC Papers in KODAK Rapid Color Processor, Models 30 and 30A

Processing step	Remarks	Time* (minutes)
1. PRE-WASH		$\frac{1}{2}$
2. DEVELOPER		2 $\frac{1}{2}$
3. STOP BATH		$\frac{1}{2}$
4. WASH		$\frac{1}{2}$
5. BLEACH-FIX		$\frac{1}{2}$
6. WASH WASH WASH	These two steps are only required if the special washing technique is used (see above).	$\frac{1}{2}$ ( $\frac{1}{2}$ ) ( $\frac{1}{2}$ )
7. WASH		$\frac{1}{2}$
8. STABILIZER		$\frac{1}{2}$
9. DRY		$\frac{1}{2}$

\*These times include draining time. (See paragraph headed Timing.)

### SUMMARY OF CAUTIONARY NOTICE

#### Developer

Part A contains benzyl alcohol and hydroxylamine sulphate.

Part C contains 4-amino-N-ethyl-N-(3-methanesulphonamidoethyl)-m-toluidine sesquisulphate monohydrate.

**WARNING** : Irritants. Avoid contact with skin and eyes. In case of contact, flush immediately with plenty of water; for eyes flush for at least 15 minutes and get medical attention. If swallowed, give milk or water. Get medical attention.

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