# Tray, Drum, and Rotary-Tube Processing with KODAK EKTACOLOR RA Chemicals

This publication includes recommendations for processing the papers and material listed below in trays, small manual tube processors, and rotary-tube and drum processors:

KODAK PROFESSIONAL PORTRA ENDURA Paper

KODAK PROFESSIONAL SUPRA ENDURA Paper

KODAK PROFESSIONAL ULTRA ENDURA Paper

KODAK EDGE Papers

KODAK ROYAL Papers

KODAK PROFESSIONAL DURAFLEX Plus Digital Display Material

It also includes the steps and conditions for processing the following display materials in mechanized rotary-tube and drum processors:

KODAK PROFESSIONAL ENDURA Clear Optical Display Material

KODAK PROFESSIONAL ENDURA Transparency Optical Display Material

Following the recommendations in this publication will produce good results with most drum and tube processors, but you may need to modify the procedures slightly with some processors. With drum and rotary-tube processors, the prewet and the stop-bath steps are necessary for optimum processing uniformity. The stop bath is optional in tray and manual tube processing. For more information, see "Optional Stop Bath and Wash" (for trays) and "Optional Stop Bath and Wash" (for manual tube processors).

## CHEMICALS FOR TRAY, DRUM, AND ROTARY-TUBE PROCESSING

KODAK EKTACOLOR RA Chemicals are available in the convenient sizes listed below. The 1-gallon sizes are appropriate for low-volume manual processing. You may want to use the 10-litre sizes for higher-volume applications.

| | |
|---|---|
| KODAK EKTACOLOR RA Developer | To make 1 gallon |
| KODAK EKTACOLOR RA Bleach-Fix | To make 1 gallon |
| KODAK EKTACOLOR RA Developer Replenisher RT* | To make 10 litres |
| KODAK EKTACOLOR RA Developer Starter† | 80 fl oz concentrate |
| KODAK EKTACOLOR RA Bleach-Fix and Replenisher | To make 10 litres |
| Stop Bath (prepared from KODAK Glacial Acetic Acid) | — |

*Use with KODAK EKTACOLOR RA Developer Starter.
†Use with KODAK EKTACOLOR RA Developer Replenisher RT.

### Chemical Mixing

To prepare a gallon of developer working solution, mix the 1-gallon size of KODAK EKTACOLOR RA Developer according to the instructions on the package. It does not require starter.

If you want to prepare 10 litres of developer working solution, mix the 10-litre size of KODAK EKTACOLOR RA Developer Replenisher RT with KODAK EKTACOLOR RA Developer Starter and water according to the instructions on the starter container. Be sure to use the replenisher and water ratios given for EKTACOLOR RA Developer Replenisher RT.

Prepare the bleach-fix according to the instructions provided with the chemicals. Be especially careful not to contaminate the developer with bleach-fix; even minute amounts of bleach-fix can severely contaminate the developer. To prevent developer contamination, use a separate mixing container for the developer.

**Note:** Observe the precautions on the chemical containers and in the Material Safety Data Sheets for the chemicals.

**Preparing Smaller-Than-Package-Size Volumes:**
You will get the most consistent results from KODAK EKTACOLOR RA Chemicals by mixing them to produce the full volume marked on the package. However, you may want to mix smaller volumes that are more suitable for your equipment and conditions. Although we do not recommend mixing smaller volumes, we provide the splitting information below for your convenience. **Accurate measurement is essential**.

When you split packaged chemicals, the unused concentrates are susceptible to oxidation. Store the remaining concentrates in full, tightly stoppered bottles.

| To Prepare 1 Quart of Working Solution from 1-Gallon Concentrates | | | | | | |
|---|---|---|---|---|---|---|
| **Chemical** | **Mixing Temperature °C (°F)** | **Starting Water (mL)** | **Part A* (mL)** | **Part B* (mL)** | **Part C* (mL)** | **Add Water to Make** |
| Developer | 21 to 37.8 (70 to 100) | 700 | 62.5 | 31.2 | 62.5 | 1 quart (946 mL) |
| Bleach-Fix | 21 to 37.8 (70 to 100) | 600 | 125.0 | 187.0 | — | 1 quart (946 mL) |

**Note:** No starter is required for the 1-gallon EKTACOLOR RA Developer.

*Stir for 2 minutes after adding each part.

| To Prepare 1 Litre of Working Solution from 10-Litre Concentrates | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Chemical** | **Mixing Temperature °C (°F)** | **Starting Water (mL)** | **Part A* (mL)** | **Part B* (mL)** | **Part C* (mL)** | **Starter (mL)** | **Add Water to Make** |
| Developer Replenisher RT | 27 to 32 (80 to 90) | 700 | 40.0 | 17.8 | 40.0 | 25.0 | 1 L |
| Bleach-Fix and Replenisher | 21 to 37.8 (70 to 100) | 658 | 142 | 200.0 | — | — | — |

*Stir for 2 minutes after adding each part

**Solution Storage:**
Store mixed solutions at a temperature between 18 and 24°C (65 and 75°F). Do not use mixed solutions that have been stored longer than the following times:

| Solution | Full, Stoppered Glass Bottles | Partially Filled Glass Bottles | Open Tray |
|---|---|---|---|
| Developer | 6 weeks | 3 weeks | 4 hours |
| Bleach-Fix | 8 weeks | 6 weeks | 4 hours |
| Stop Bath | Indefinite | Indefinite | 4 hours |

## DARKROOM RECOMMENDATIONS

Handle unprocessed papers and materials in **total darkness**. Be sure that your darkroom is lighttight. Eliminate stray light from enlarger heads, timers, LEDs, etc.

**Note:** Using a safelight *will* affect your results. If *absolutely necessary*, you can use a safelight equipped with a KODAK 13 Safelight Filter (amber) and a $7\frac{1}{2}$-watt bulb. Keep the safelight at least 1.2 metres (4 feet) from the paper or material. Run tests to determine that safelight use gives acceptable results for your application.

## WHAT ARE THE STEPS AND CONDITIONS FOR USING *KODAK EKTACOLOR* RA CHEMICALS IN TRAYS?

You can process prints individually or process several prints together in trays. With practice, you should be able to process up to six prints together by using the technique described under "Agitation." For best results with prints larger than 8 x 10 inches (20.3 x 25.4 cm), process no more than three at a time.

**Table 1—Processing KODAK PROFESSIONAL PORTRA, SUPRA, and ULTRA ENDURA Papers; KODAK EDGE and ROYAL Papers; and KODAK PROFESSIONAL DURAFLEX Display Material in Trays**

| Processing Step | Time* min:sec | Temperature °C (°F) |
|---|---|---|
| **TOTAL DARKNESS** | | |
| Developer | 1:00† | 33.3 ± 0.3‡ (92.0 ± 0.5) |
| Optional Stop Bath | 0:30 | 30 to 36 (86 to 96) |
| Optional Wash | 0:30 | 30 to 40 (86 to 104) |
| Bleach-Fix | 1:00‡ | 30 to 36 (86 to 96) |
| You can turn on the room lights after the bleach-fix step. | | |
| Wash | 1:30 | 30 to 40 (86 to 104) |
| Dry | As needed | Not above 96 (205) |

*The time for each step includes a 5-second drain time at the end of the step.
†Various developer time/temperature combinations are acceptable; see Table 2, below.
‡If you increase the development time, increase the bleach-fix time by the same amount. You can use the developer time/temperature combinations listed in Table 2 as guidelines for the bleach-fix.

**Note:** If developer coats the emulsion unevenly and causes streaks on prints, use a 30-second prewet with water before the developer step. If you use a prewet, you will need to use slightly higher solution temperatures. See Table 2.

### Developer Time and Temperature

You can use any of the developer time/temperature combinations listed in Table 2. Maintain the temperature within ± 0.3°C (± 0.5°F) of the temperature you choose.

**Table 2**

| Without Prewet | | With Prewet | |
|---|---|---|---|
| Time min:sec | Temperature °C (°F) | Time min:sec | Temperature °C (°F) |
| 0:45 | 35.0 (95.0) | 0:45 | 36.1 (97.0) |
| 1:00 | 33.3 (92.0) | 1:00 | 34.4 (94.0) |
| 1:30 | 30.0 (86.0) | 1:30 | 31.1 (88.0) |
| 2:00 | 27.2 (81.0) | 2:00 | 28.3 (83.0) |

### Optional Stop Bath and Wash

Excessive developer carry-over into the bleach-fix can cause surface marks or streaks on prints. If this occurs, use a 30-second stop bath followed by a 30-second wash between the developer and the bleach-fix.

To prepare the stop bath, use 28 mL of KODAK Glacial Acetic Acid per litre of water.

### Agitation

**Single Prints.** If you process only one print at a time, agitate by gently rocking the tray alternately from side to side and end to end, taking care not to establish standing waves in the solution. Five seconds before the end of the solution time, remove the print, drain it for 5 seconds, and transfer it to the next solution. Follow this procedure throughout all the processing steps.

**Multiple Prints.** Immerse each print in the solution emulsion side down, and then turn it emulsion side up before putting the next print into the solution. After all the prints are in the solution, interleave them continuously by pulling the bottom print from the stack, placing it on top without draining, and reimmersing it in the solution. Use a consistent interleaving technique that will be repeatable throughout the process and from batch to batch. Keep track of the prints so that you end up with the first print on the bottom. You can determine the position of the first print in the stack by counting the number of times you interleave the prints or by clipping one corner of the first print.

Five seconds before the end of the solution time, remove the first (bottom) print from the solution, drain it for 5 seconds, and immerse it in the next solution. Immediately transfer the other prints in the same way, always removing the prints from the bottom of the stack. Follow this procedure throughout the remaining processing steps.

### Solution Capacity

You can reuse the chemicals without increasing the time in the developer for subsequent processes. The recommended number of 8 x 10-inch (20.3 x 25.4 cm) prints is 15 per quart (946 mL) or 16 per litre (33.8 fl oz). In some noncritical applications, you may be able to process up to 40 prints. However, do not use developer that has been in an open tray for more than 4 hours.

## WHAT ARE THE STEPS AND CONDITIONS FOR USING *KODAK EKTACOLOR* RA CHEMICALS IN SMALL MANUAL TUBE PROCESSORS?

Small tube processors are designed for processing individual prints—usually 8 x 10 inches (20.3 x 25.4 cm). Follow the tube manufacturer's instructions for procedures specific to your processor.

**Table 3—Processing KODAK PROFESSIONAL PORTRA, SUPRA, and ULTRA ENDURA Papers; KODAK EDGE and ROYAL Papers; and KODAK PROFESSIONAL DURAFLEX Display Material in Small Tube Processors**

| Processing Step | Time* min:sec | Temperature °C (°F) |
|---|---|---|
| Prewet | 0:30 | 30 to 36 (86 to 96) |
| Developer | 1:00† | 34.4 ± 0.3‡ (94.0 ± 0.5) |
| Optional Stop Bath | 0:30 | 30 to 36 (86 to 96) |
| Optional Wash | 0:30 | 30 to 40 (86 to 104) |
| Bleach-Fix | 1:00‡ | 30 to 36 (86 to 96) |
| Wash | 1:30 | 30 to 40 (86 to 104) |
| Dry | As needed | Not above 96 (205) |

*The time for each step includes a 5-second drain time at the end of the step.
†Various developer time/temperature combinations are acceptable; see Table 4, below.
‡If you increase the development time, increase the bleach-fix time by the same amount. You can use the developer time/temperature combinations listed in Table 4 as guidelines for the bleach-fix.

### Developer Time and Temperature

You can use any of the developer time/temperature combinations listed in Table 4. Maintain the temperature within ± 0.3°C (± 0.5°F) of the temperature you choose.

**Table 4**

| Time min:sec | Temperature °C (°F) |
|---|---|
| 0:45 | 36.1 (97.0) |
| 1:00 | 34.4 (94.0) |
| 1:30 | 31.1 (88.0) |
| 2:00 | 28.3 (83.0) |

### Preliminary Steps for Small Tube Processors

Adjust the temperature of the water bath to the processing temperature you have selected. Pour the processing solutions into containers and set them in the water bath. Wait until they reach the processing temperature and the temperature has stabilized.

*Be sure that the tube is clean and dry*. In total darkness, load the exposed paper or material into the tube with the emulsion side facing away from the sides of the tube. Be sure that the tube is securely closed before turning on the room lights.

Begin the processing sequence with the prewet; follow the tube manufacturer's instructions for injecting water into the tube. Then continue with the processing steps given in Table 3.

### Optional Stop Bath and Wash

Excessive developer carry-over and insufficient agitation can cause surface marks or streaks on prints. If increasing agitation does not eliminate streaks, use a 30-second stop bath followed by a 30-second wash between the developer and the bleach-fix.

To prepare the stop bath, use 28 mL of KODAK Glacial Acetic Acid per litre of water.

### Agitation

Be sure to provide sufficient agitation to ensure even distribution of solution across the surface of the print. Roll the tube in the water bath and rock it back and forth from end to end, or follow the manufacturer's instructions for agitation procedures specific to your processor.

## WHAT ARE THE STEPS AND CONDITIONS FOR USING *KODAK EKTACOLOR* RA CHEMICALS IN ROTARY-TUBE AND DRUM PROCESSORS?

In addition to KODAK PROFESSIONAL PORTRA, SUPRA, and ULTRA ENDURA Papers; EDGE and ROYAL Papers; and PROFESSIONAL DURAFLEX Display Material, you can process PROFESSIONAL ENDURA Clear and Transparency Optical Display Materials in rotary-tube and drum processors. These materials require longer developer, bleach-fix, and final-wash times than the papers and DURAFLEX Display Material (see Table 6).

**Table 5—Processing KODAK PROFESSIONAL PORTRA, SUPRA, and ULTRA ENDURA Papers; KODAK EDGE and ROYAL Papers; and KODAK DURAFLEX Display Material in Rotary-Tube and Drum Processors**

| Processing Step | Time* min:sec | Temperature °C (°F) | Comments |
|---|---|---|---|
| Prewet | 0:30 ± 0:05 | 35 ± 1 (95 ± 2) | In processor with clean water. |
| Developer | 0:45† | 35.0 ± 0.3 (95.0 ± 0.5) | See "Temperature." |
| Stop Bath | 0:30 ± 0:05 | 35 ± 1 (95 ± 2) | — |
| Wash | 0:30 ± 0:05 | 35 ± 1 (95 ± 2) | See "Wash." |
| Bleach-Fix | 0:45† | 35 ± 1 (95 ± 2) | You can handle paper or material in room light after this step. |
| Wash | 1:30 | 35 ± 1 (95 ± 2) | Continuous flow with one complete change every 30 seconds, or three 30-second batch washes. Longer times are acceptable. |
| Dry | As needed | Not above 96 (205) | — |

*The time for each step includes a 10-second drain time at the end of the step.
†This is the recommended time; however, you can use a time that is 1 second less or 5 seconds more than this time with satisfactory results. For consistent results, use the same time for each run.

**Table 6—Processing KODAK PROFESSIONAL ENDURA Clear and Transparency Optical Display Materials in Rotary-Tube and Drum Processors**

| Processing Step | Time* min:sec | Temperature °C (°F) | Comments |
|---|---|---|---|
| Prewet | 0:30 ± 0:05 | 35 ± 1 (95 ± 2) | In processor with clean water. |
| Developer | 1:50† | 35.0 ± 0.3 (95.0 ± 0.5) | See "Temperature." |
| Stop Bath | 0:30 ± 0:05 | 35 ± 1 (95 ± 2) | — |
| Wash | 0:30 ± 0:05 | 35 ± 1 (95 ± 2) | See "Wash." |
| Bleach-Fix | 1:50† | 35 ± 1 (95 ± 2) | You can handle material in room light after this step. |
| Wash | 3:40 | 35 ± 1 (95 ± 2) | Continuous flow with one complete change every 30 seconds, or seven 30-second batch washes. Longer times are acceptable. |
| Dry | As needed | Not above 96 (205) | — |

*The time for each step includes a 10-second drain time at the end of the step.
†This is the recommended time; however, you can use a time that is 1 second less or 5 seconds more than this time with satisfactory results. For consistent results, use the same time for each run.

## Temperature

Maintain a temperature of 35°C (95°F) in the processing chamber. Adjust the chemicals and wash water to 35°C (95°F) before using them. Inserting drums and tubes that are at room temperature into a heated processor will lower the temperature of the processing chamber. One or two heater cycles are usually needed to return the processor to the processing temperature. Determine how many heater cycles are required for your processor by checking the temperature with a process thermometer during a trial run.

If you have difficulty maintaining the processor at the processing temperature, use the "drift-by" method. With this method, you preheat the solutions to a temperature higher than the normal processing temperature to compensate for cooling that occurs during processing.

You can use Table 7 as a guide for determining the correct **starting** temperature for your processor and conditions. Select the appropriate starting temperature from the table. Then check the solution temperature after a normal processing run. Average the starting and ending temperatures. The average should equal the recommended processing temperature of 35°C (95°F). If it does not, adjust the starting temperature as necessary until the average temperature consistently matches the recommended processing temperature.

**Table 7**

| Processor Temperature °C (°F) | Solution Starting Temperature °C (°F) |
|---|---|
| 32.3 (90.0) | 36.1 (97.0) |
| 30.0 (86.0) | 37.1 (98.7) |
| 25.0 (77.0) | 39.1 (102.3) |
| 20.0 (68.0) | 41.1 (106.0) |

Wipe away any condensation on the processor lid before inserting the drum or tube. Condensation that drips on the print or material before processing can cause spots.

## Solution Volume

For good uniformity, be sure to use enough solution. Using insufficient solution volumes can result in clip marks, unprocessed areas, and nonuniform patterns. Use enough solution so that it flows evenly over any agitation vanes, paper-retention clips, moldings, etc., when the tube or drum is rotating. A minimum volume of 1200 mL/$m^2$ (110 mL/$ft^2$) is required for good sensitometric results.

## Wash

**Tube Processors.** Be sure to use sufficient water. See the manufacturer's recommendations for your processor.

**Drum Processors.** When you wash the print (or display material), allow the water to flow over the entire blanket and the back of the print with the tray in the fill position. Rinse the processing tray and dump it every 10 to 15 seconds during the wash step. Be sure to rinse the processor tray, bar, and outer ends of the drum well to remove any residual processing solution. Do not hold the processor tray in the drain position; it will interfere with washing the emulsion side of the print. Stop washing 5 seconds before the end of the wash step to drain the processor tray and prepare for the next step.

## WHAT ARE THE STEPS AND CONDITIONS FOR USING *KODAK EKTACOLOR* RA CHEMICALS IN *KODAK* RAPID COLOR PROCESSORS?

Table 8 gives a summary of processing steps and conditions for papers and DURAFLEX Display Material. See Table 9 for steps and conditions for ENDURA Display Materials.

**Table 8—Processing KODAK PROFESSIONAL PORTRA, SUPRA, and ULTRA ENDURA Papers; KODAK EDGE and ROYAL Papers; and KODAK DURAFLEX Display Material in KODAK Rapid Color Processors**

| Processing Step | Time* min:sec | Temperature °C (°F) | Solution Volume | | |
|---|---|---|---|---|---|
| | | | Model 11 | Model 16-K | Model 30A |
| Prewet | 0:30 ± 0:05 | 34 to 36 (93 to 97) | — | — | 946 mL (32 fl oz) |
| Developer | 0:45† | 35.0 ± 0.3 (95.0 ± 0.5) | 118 mL (4 fl oz) | 237mL (8 fl oz) | 946 mL (32 fl oz) |
| Stop Bath | 0:30 ± 0:05 | 35 ± 1 (95 ± 2) | 118 mL (4 fl oz) | 237mL (8 fl oz) | 946 mL (32 fl oz) |
| Wash | 0:30 ± 0:05 | 35 ± 1 (95 ± 2) | Minimum Water Flow Rate‡ | | One batch wash of 946 mL (32 fl oz) |
| | | | 1.9 L/min (0.5 gal/min) | 3.8 L/min (1 gal/min) | |
| Bleach-Fix** | 0:45† | 35 ± 1 (95 ± 2) | 118 mL (4 fl oz) | 237mL (8 fl oz) | 946 mL (32 fl oz) |
| Wash | 1:30 | 35 ± 1 (95 ± 2) | Minimum Water Flow Rate‡ | | Three batch washes of 946 mL (32 fl oz) |
| | | | 1.9 L/min (0.5 gal/min) | 3.8 L/min (1 gal/min) | |
| Dry | As needed | Not above 96 (205) | — | — | — |

*Each step, except the prewet, includes a 5-second drain time. Start draining in time to end the step and begin the next step on schedule.
†This is the recommended time; however, you can use a time that is 1 second less or 5 seconds more than this time with satisfactory results. For consistent results, use the same time for each run.
‡Maximum flow rate for the running-water wash in the Model 11 and 16-K processors is 5.7 L/min (1.5 gal/min).
**After the bleach-fix step, you can handle the paper or material in room light.

**Table 9—Processing KODAK PROFESSIONAL ENDURA Clear and Transparency Optical Display Materials in KODAK Rapid Color Processors**

| Processing Step | Time* min:sec | Temperature °C (°F) | Solution Volume | | |
|---|---|---|---|---|---|
| | | | Model 11 | Model 16-K | Model 30A |
| Prewet | 0:30 ± 0:05 | 34 to 36 (93 to 97) | — | — | 946 mL (32 fl oz) |
| Developer | 1:50† | 35.0 ± 0.3 (95.0 ± 0.5) | 118 mL (4 fl oz) | 237mL (8 fl oz) | 946 mL (32 fl oz) |
| Stop Bath | 0:30 ± 0:05 | 35 ± 1 (95 ± 2) | 118 mL (4 fl oz) | 237mL (8 fl oz) | 946 mL (32 fl oz) |
| Wash | 0:30 ± 0:05 | 35 ± 1 (95 ± 2) | Minimum Water Flow Rate‡ | | One batch wash of 946 mL (32 fl oz) |
| | | | 1.9 L/min (0.5 gal/min) | 3.8 L/min (1 gal/min) | |
| Bleach-Fix** | 1:50† | 35 ± 1 (95 ± 2) | 118 mL (4 fl oz) | 237mL (8 fl oz) | 946 mL (32 fl oz) |
| Wash | 3:40 | 35 ± 1 (95 ± 2) | Minimum Water Flow Rate‡ | | Three batch washes of 946 mL (32 fl oz) |
| | | | 1.9 L/min (0.5 gal/min) | 3.8 L/min (1 gal/min) | |
| Dry | As needed | Not above 96 (205) | — | — | — |

*Each step, except the prewet, includes a 5-second drain time. Start draining in time to end the step and begin the next step on schedule.
†This is the recommended time; however, you can use a time that is 1 second less or 5 seconds more than this time with satisfactory results. For consistent results, use the same time for each run.
‡Maximum flow rate for the running-water wash in the Model 11 and 16-K processors is 5.7 L/min (1.5 gal/min).
**After the bleach-fix step, you can handle the material in room light.

# Tray, Drum, and Rotary-Tube Processing with KODAK EKTACOLOR RA Chemicals

### Preliminary Steps for Models 11 and 16-K

1. Place the blanket in a large tray. Fill the tray to overflowing with clean water at 34 to 36°C (93 to 97°F). Immerse the blanket with the bar away from you, and turned as described in the processor manual.
2. Turn on the drive-motor switch to start the drum rotating.
3. Pour the developer into the processor tray with a sweeping motion to distribute it evenly over the length of the tray.
4. Turn out the room lights. Do the initial processing steps in total darkness; *do not* use a safelight.
5. Prewet the print (or display material) in the large tray of water by immersing it emulsion side down and agitating it continuously for 20 seconds. Then turn it over and position it on the blanket assembly. Holding the edge of the print in contact with the blanket, lift the bar and the print from the tray simultaneously. Drain for 10 seconds. Handle the print carefully to avoid kinks, cracks, or emulsion breaks that will affect processing or the appearance of the final print.

### Preliminary Steps for Model 30A

1. Make a final check of the developer temperature. Check the temperature of the bleach-fix and wash water.
2. Turn out the room lights and load the paper or material into the processing tube.
3. Start the tube rotating.
4. Pour the water in and start the timer for the prewet step.
5. Begin draining the water 10 seconds before the end of the prewet time.

### Wash

With the Model 11 and 16-K processors, use running-water washes. When you wash the print (or display material), allow the water to flow over the entire blanket and the back of the print with the tray in the fill position. Rinse the processing tray and dump it every 10 to 15 seconds during the wash step. Be sure to rinse the processor tray, bar, and outer ends of the drum well to remove any residual processing solution. Do not hold the processor tray in the drain position; it will interfere with washing of the emulsion side of the print. Stop washing 5 seconds before the end of the wash step to drain the processor tray and prepare for the next step.

With the Model 30A processor, use batch washes as indicated in Table 8 (for papers and DURAFLEX Material) or Table 9 (for ENDURA Display Materials). Be sure to use at least the volume of water and the number of batches indicated.

## DRYING

The maximum drying temperature for PORTRA, SUPRA, and ULTRA ENDURA Papers; EDGE and ROYAL Papers; DURAFLEX Display Material; and ENDURA Display Materials is 96°C (205°F).

You can dry prints and display materials on racks or air-impingement dryers. Squeegee off excess water and use circulated warm air to reduce drying times. You can also dry them emulsion side out on double-belt dryers equipped with a special liner to prevent the emulsion from sticking to the belts. **Do not** ferrotype PROFESSIONAL ENDURA Papers or EDGE and ROYAL Papers, and do not dry them in contact with plastic sheeting.

PROFESSIONAL ENDURA Clear and Transparency Display Materials require longer drying times than the papers and DURAFLEX Display Material because of the thicker emulsion.

## CLEANING PROCESSING EQUIPMENT

After draining processing equipment, clean it thoroughly and flush it with warm water before reusing it. Dry tube processors completely before loading them for the next process; wet surfaces can cause spots and nonuniformity.

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