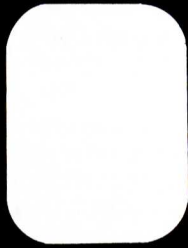
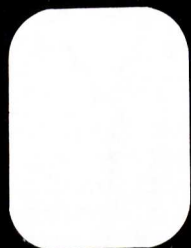


KODAK Products  
for the Enthusiast



KODAK



# Processing Colour Film

with Process C-41  
and Process E-6 Chemicals

## Processing Colour Film with Process C-41 and Process E-6 Chemicals

In recent years, an ever-increasing number of photographers have discovered that they can process colour materials in their own darkroom. It's possible to process both negative and reversal films at home, to attain high quality results, and to enjoy yourself while doing so. Indeed, processing colour film at home is easier than many people think and demands little more equipment than black-and-white processing.

There's a wide range of KODAK colour films that can be processed at home. If you prefer colour negative materials, KODACOLOR II and KODACOLOR 400 Films can be processed in KODAK 'Flexicolor' Chemicals (Process C-41). These chemicals are available in a convenient kit to make sufficient of each solution to process up to eight 135-36 size 'Kodacolor' II films.

The KODAK 'Ektachrome' colour reversal films (Process E-6) give you a choice of daylight or artificial light sensitivities and a large range of film speeds. All of these can be processed at home using KODAK 'Ektachrome' Film Processing Chemicals, Process E-6. There is a kit of these chemicals available which is suitable for processing up to ten 135-36 size films.

These two processing kits contain all the chemicals you will need to process print or slide films respectively. Most of the chemicals in the kits are supplied in liquid concentrate form for convenience of use and accuracy in mixing. Both processes use similar equipment. A small processing tank with a spiral reel, an accurate thermometer, rubber gloves and a dish large enough to hold the processing tank and mixing vessels within a water jacket. You may possess most of these items already if you process your own black-and-white films.

Before starting, read the recommendations on handling chemicals and cautionary information on instruction sheets and labels. Then check your equipment and wash it thoroughly clean. Make sure the spiral and tank are completely dry before loading the film.

### Process C-41

Process C-41 Chemicals consist of Developer, Bleach, Fixer and Stabilizer, all of which are supplied in the 500 ml size kit. Two units of Developer are included with one of each of the other chemicals: this is because the other solutions have double the processing capacity of the Developer solution.

Once mixed, the solutions should be kept in full, stoppered glass bottles. For best results, they should be kept at room temperature, 5–27°C, and used within six weeks for the Developer and eight weeks for the others. Because of the Developer's shorter keeping time, you should not make up the second unit of working solution until the first unit has become exhausted.

### The Processing Cycle

The following table gives the processing cycle for 'Flexicolor' Chemicals (Process C-41). Please note that each step time includes a ten second drain time. If your tank is not a daylight-loading model, you should load it in complete darkness. You will find full details of processing techniques described in the instruction sheet supplied with the chemicals.

When the film has been processed and dried, you are ready to start printing. For making colour prints from negative film, you can use KODAK 'Ektacolor' 78 Paper processed in KODAK 'Ektaprint' 2 Chemicals. Another leaflet in this series, Printing Colour Negatives with KODAK 'Ektacolor' 78 Paper, will give you some details.

An alternative method of producing prints is to use the KODAK 'Ektaflex' PCT Products. A leaflet explaining this revolutionary system for producing colour prints is available on request.



### Process C-41 steps

| Solution              | Temperature °C | Time*     | Total time elapsed |
|-----------------------|----------------|-----------|--------------------|
| Developer             | 37.8±0.2       | 3 min 15s | 3 min 15s          |
| Bleach                | 24–40          | 6 min 30s | 9 min 45s          |
| Wash in running water | 24–40          | 3 min 15s | 13 min             |
| Fixer                 | 24–40          | 6 min 30s | 19 min 30s         |
| Wash in running water | 24–40          | 3 min 15s | 22 min 45s         |
| Stabilizer            | 24–40          | 1 min 30s | 24 min 15s         |
| Dry (off reel)        | 24–43          | 10–20 min |                    |

\*Times include a 10 second drain time.

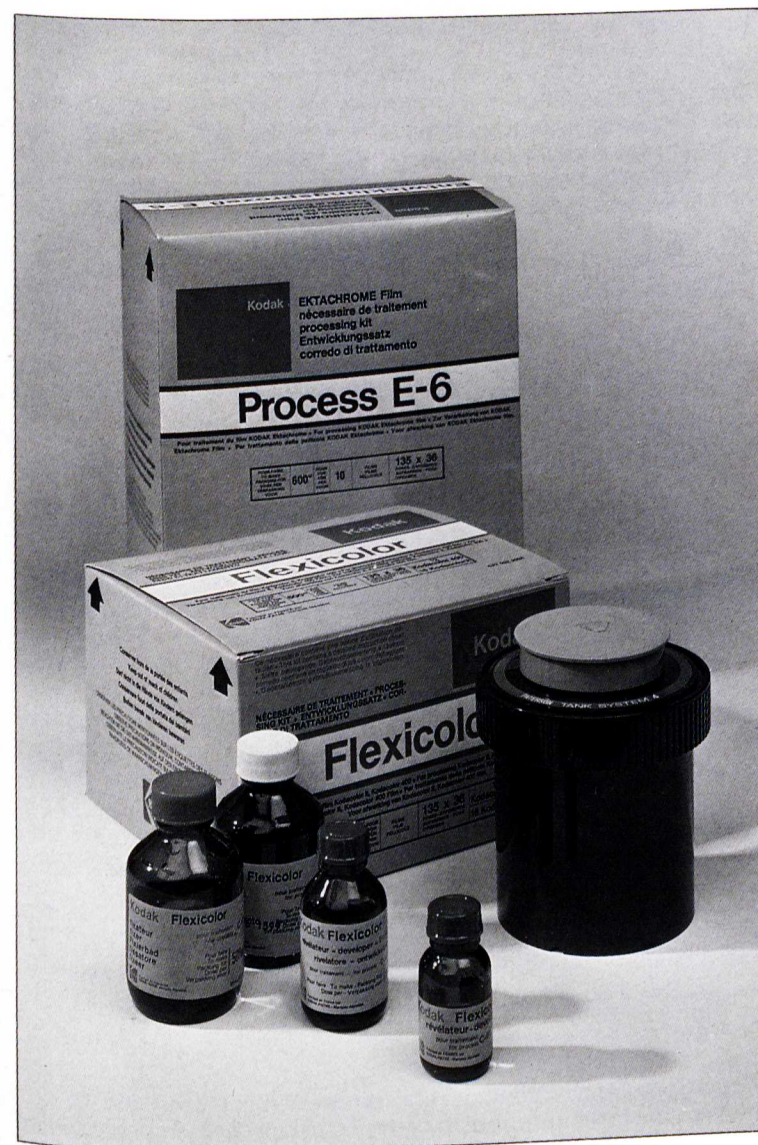
### Process E-6

The KODAK 'Ektachrome' Film Processing Kit, Process E-6, for colour slide films consists of seven solutions: First Developer, Reversal Bath, Colour Developer, Conditioner, Bleach, Fixer and Stabilizer. All the chemicals in the 600 ml size kit are supplied as liquid concentrates.

Two units of each of the First Developer and Colour Developer are included as the other solutions have double their processing capacity.

You will find full details of mixing and processing techniques in the instructions supplied with the kit.

Once mixed, the solutions should be stored in full, tightly stoppered, glass bottles. For best results they should be kept at room temperature (5 to 30°C) and not kept longer than 4 weeks for the First Developer, Reversal Bath and Conditioner, 8 weeks for the Colour Developer, and 24 weeks for the Bleach, Fixer and Stabilizer.





## The Processing Cycle

The following table provides a summary of steps for Process E-6 in 600ml processing tanks. The times shown include a ten second drain time at the end of each step. If your tank is not a daylight-loading model, you should load it in complete darkness, but for convenience of filling, emptying and agitating with solution, it is acceptable to remove the lid of the tank at the end of step 4.

### Process E-6 steps

| Step                | Temperature<br>°C                                | Time†<br>(min) | Total time<br>elapsed (min) |
|---------------------|--|----------------|-----------------------------|
| 1. First Developer  | 38±0.3   | 7*             | 7                           |
| 2. Wash             | 33–39  | 1              | 8                           |
| 3. Wash             | 33–39  | 1              | 9                           |
| 4. Reversal Bath    | 33–39  | 2              | 11                          |
| 5. Colour Developer | 38±1.1   | 6              | 17                          |
| 6. Conditioner      | 33–39  | 2              | 19                          |
| 7. Bleach           | 33–39  | 7              | 26                          |
| 8. Fixer            | 33–39  | 4              | 30                          |
| 9. Wash             | 33–39  | 6              | 36                          |
| 10. Stabilizer      | 33–39  | 1              | 37                          |
| 11. Dry             | Film removed from reel, maximum temperature 50°C |                |                             |

\*This time is for initial films through the process. See instruction leaflet for time adjustment to subsequent films through the process.

†These times include a 10 second drain time.

After processing, the film should be removed from the reel and air dried in a dust-free atmosphere or drying cabinet at a temperature not

higher than 50°C. Your film is then ready for cutting and mounting in slide mounts if required.

For optimum quality, Process E-6 films should be exposed at the exposure index marked on the box, but they can be uprated by one or two stops, in conjunction with a modified process procedure, if a slight reduction in quality is acceptable. Also, when films are wrongly exposed by accident, this makes it possible to provide some compensation for the incorrect exposure. The following table gives guide values to show how the first development time can be adjusted to compensate for camera exposures other than at the normal exposure index.

| Camera exposure adjustment guide    | First Developer time   |
|-------------------------------------|------------------------|
| Two stops under (uprated two stops) | Increase by 5½ minutes |
| One stop under (uprated one stop)   | Increase by 2 minutes  |
| Normal                              | Normal                 |
| One stop over (downrated one stop)  | Decrease by 2 minutes  |

If you wish, it's possible to produce colour prints from your slides. When selecting slides for printing, it's best to view them by reflected light from a light coloured surface. KODAK 'Ektachrome' 14 Paper is suitable for making prints from slides and may be processed in KODAK 'Ektaprint' R14 Chemicals. To find out more, see the companion leaflet in this series, Printing Colour Slides with KODAK 'Ektachrome' 14 Paper.

An alternative method of producing prints is to use KODAK 'Ektaflex' PCT Products. A leaflet explaining this revolutionary system for producing colour prints is available on request.

