ADOX C-TEC 41 DEVELOPING KIT



ADOX C-TEC 41 is a true C-41 process for all color negative films.
The kit is easy to use, delivering films which look as if they were dropped off at a professional lab.

With the C-TEC 41 kit, you can process up to 16 rolls of 35mm or 120 film.

Color development is not much more difficult than B&W. You can use ADOX C-TEC 41 between 24°C and 38°C - whichever temperature is the best for you to keep constant over the development time.

Lower temperatures are easier to control because they are similar to the ambient room temperatures, but the development time increases.

A rotary processor with a temperature-controlled water bath is the best choice, but a simple tank can be kept in a water bath, maintaining the development temperature constant.
The water bath should be either temperature controlled (e.g. with a Sous Vide stick), or large enough, not to cool down more than 1°C over the processing time (CD).

After the development step is over, the temperature and times are much less critical.

MIXING

The C-TEC 41 box contains six labeled bottles of 200ml each, filled and packed with love by our awesome production team.

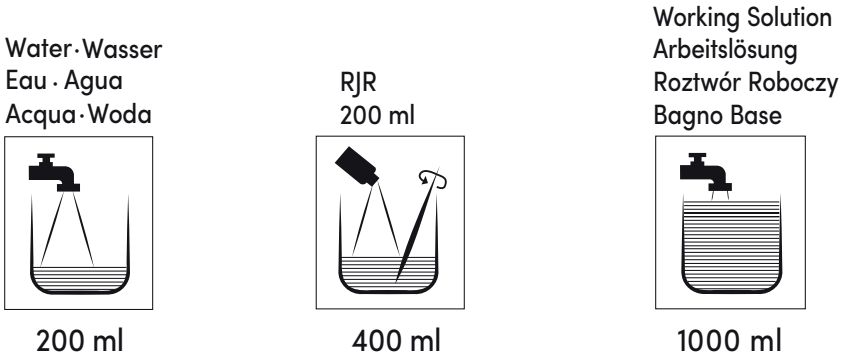
Color Developer CD Part 1	200 ml conc.
Color Developer CD Part 2	200 ml conc.
Color Developer CD Part 3	200 ml conc.
Bleach Fix BX Part 1	200 ml conc.
Bleach Fix BX Part 2	200 ml conc.
Stabiliser STAB	200 ml conc.

Remark: We are assembling the kits by hand. Please check if your kit is complete. If you have not received three different parts of developer and two different parts of BX contact us and do not develop any film!
These bottles have to be mixed to create three baths:

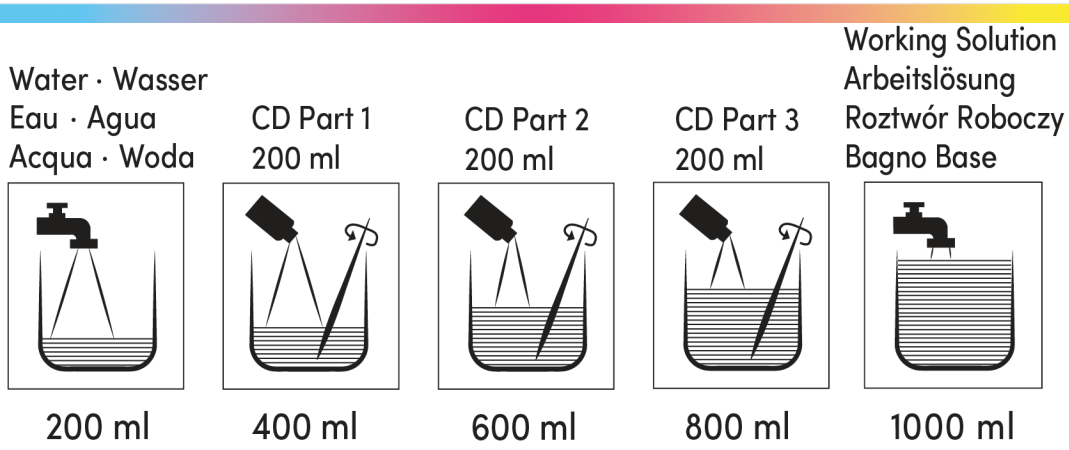
The color developer is to be mixed from the three CD bottles
The combined bleach-fix - from the two BX bottles
The stabiliser - from a STAB bottle
The reason we supply them in multiple bottles instead of pre-mixed solutions, is that the kit lasts longer in storage with separated components.

The **Remjet-Remover** RJR is available to be purchased separately and needed to remove the Remjet-layer on motion picture (ECN-2) films.

Mixing of the optional Remjet Remover

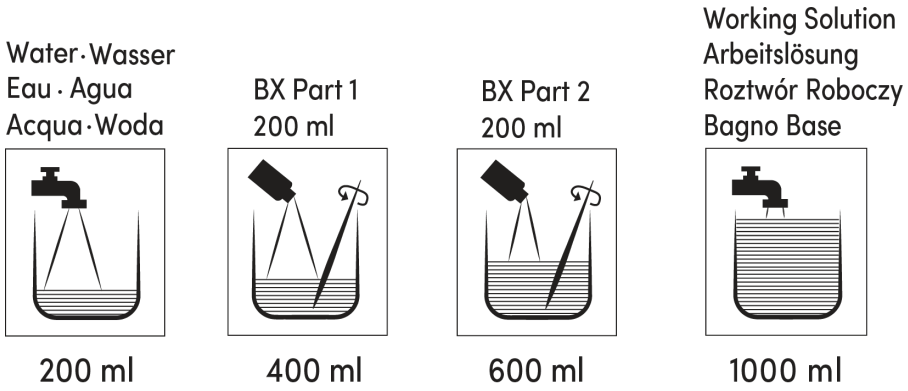


Mixing of the Color Developer

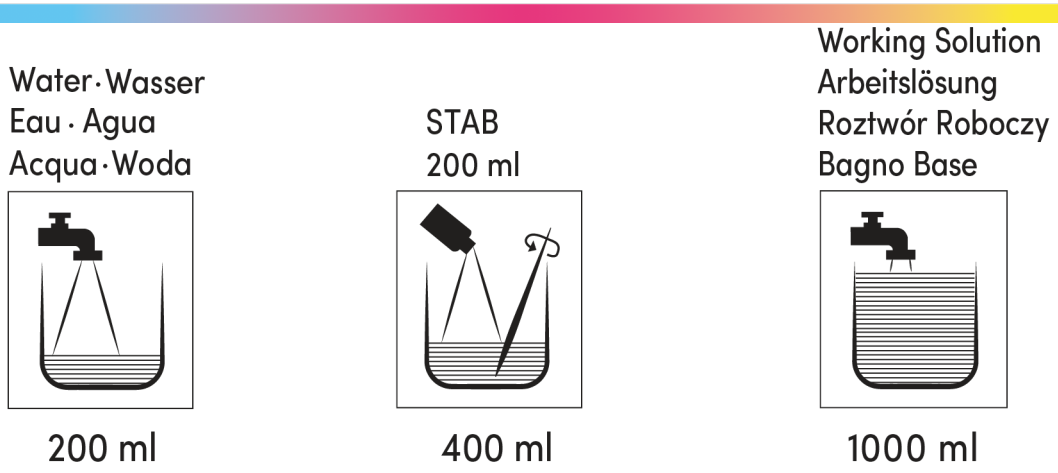


After you have poured the first little bottle the solution stays clear. After the second it magically turnes pink and after the third yellowish.

Mixing of the Bleach Fixer



Mixing of the Stabilizer



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Table for Partial Mixings

Chemicals can be mixed partially to process less than 16 films.
This way, the remaining concentrates keep for 12 weeks. Once mixed, the working solutions can be stored in air-tight, brown and fully filled bottles for up to 6 weeks.
Chemicals can be re-heated by immersing the bottles into a water bath.
! The temperature should be measured inside of the bottle!

	Water	Part 1	Part 2	Part 3	Final
Color developer CD	200ml	100ml	100ml	100ml	500ml
	400ml	200ml	200ml	200ml	1.000ml
Bleach fix BX	300ml	100ml	100ml	-	500ml
	600ml	200ml	200ml	-	1.000ml
Stabilizer STAB	400ml	100ml	-	-	500ml
	800ml	200ml	-	-	1.000ml

The water temperature can be between 20°C and 45°C. If you want to start immediately use water about 10°C above your chosen temperature and let the solutions cool down.
The standard processing temperature for C-41 is 38°C.
ADOX C-TEC 41 can be used at 38°C or 30°C.
For other temperatures, see the temperature conversion chart.

Mixed chemicals are best stored in fully filled brown glass bottles.

Re heat the chemicals by immersing the bottles into a water bath.
Measure the temperature inside of the bottle!

PROCESSING

After the chemistry is mixed and brought to the desired temperature, films can be loaded and processing can start!

PROCESSING OF ECN-2 FILMS (Motion Picture Films)

If you want to process ECN-2 films (Motion Picture Films) you need to wash off the Remjet layer first. Then you can proceed with a regular C-41 development. Dilute C-TEC RJR to make 1 Liter of working solution and heat it up to your processing temperature (recomended 38°C).
Fill the RJR in the tank with your films and let soak for about 10 seconds gently agitating. Pour the RJR back into it´s storage bottle and wash the films with warm water for about 30 seconds.
Repeat three to four times until the washing water comes out of the tank fully clear with no black smudge.
The (darkening) Remjet-Remover can be stored for several months and be re-used.

That´s all you have to do in order to develop ECN-2 films in ADOX C-TEC 41.

Lets start the process now with regular C-41 films or with ECN-2 films from which the Remjet-layer has been removed with C-TEC RJR.

Developing a maximum of two rolls at a time in one tank is advised.
In the first step, the tank with the film inside should be filled with water from the water bath in order to pre-heat the tank, the spool and the film. When emptying the tank, the water might be colored from the anti-halation layer of the film.
No panic, this is normal.

After filling the tank with developer or bleach fix, the tank should be tapped with the bottom on a table twice, in order to get rid of air bubbles.

The tank should be agitated for the first 30 seconds continuously inside the water bath, and then tilted every 15 seconds once (gently). The tank should go into the temperature-controlled water bath after each agitation. Alternatively, continuous rotation in a rotary processor is also possible.

It is very important that the water bath keeps constant temperature over the entire development time!
The folowing table is to be used **for the first film** and **either** for 30°C or 38°C.
The deevloping and BX times vary depending on the temperature chosen.

Processing steps	°C	Toler.	Min. 30°C	Min 38°C
Preheating of the tank with warm water	30/38°C	± 1°	5' 00"	5' 00"
First development	30/38°C	± 1°	**8' 00"**	**3' 15"**
Wash with warm water	30/38°C	± 5°	0' 30"	0' 30"
Bleach fix	30/38°C	± 2°	**6' 00"**	**4' 00"**
Final wash	30-40°C	-	6' 00"	6' 00"
Stabilizer	20-40°C	-	1' 00"	1' 00"

All the times are in minutes' seconds" for a processing temperature of 30°C or 38°C.
The times include 10 seconds for filling and emptying of the tank.
The developing time is critical. Washing, bleach fix and stabilising times are minimum values which may (and sometimes must) be exceeded by up to 50%.

After the second or fourth film, developing times have to be extended to compensate for the chemical activity loss of partially used solutions. Use the following tables depending on your temperature and mixing:

The following table is for 30°C and a partial mix of 500ml working solutions.

	Film 1+2	Film 3+4	Film 5+6	Film 7+8
Developing	8' 00''	9' 00"	10' 00"	11' 00"
Bleach fix	6' 00"	8' 00"	12' 00"	20' 00"

All the times are in minutes' seconds" for a processing temperature of 30°C.
The times given include 10 seconds for filling and emptying of the tank.
The developing time is critical. Washing, bleach fix and stabilising times are minimum values which may (and sometimes must) be exceeded by up to 50%.

Use the following table for **30°C** if you have mixed the full **1.000ml** of working solutions.

	Film 1-4	Film 5-8	Film 9-12	Film 13-16
Developing	8' 00"	9' 00"	10' 00"	11' 00"
Bleach fix	6' 00"	8' 00"	12' 00"	20' 00"

All times are minutes' seconds" and for a processing temperature of 30°C.
The times given include 10 seconds for filling and emptying of the tank.
The developing time is critical. Washing, bleach fix and stabilizing times are minimum values which may (and sometimes must) be exceeded by up to 50%.

PROCESSING TIMES FOR 38°C

The standard temperature for C-41 is 38°C.
30°C for home use is recommended, but with a rotary processor 38°C can be maintained quite easily.

The following table is for 38°C and a partial mix of 500ml working solutions.

	Film 1+2	Film 3+4	Film 5+6	Film 7+8
Developing	3' 15"	3' 30''	3' 45''	4' 00''
Bleach fix	4' 00''	6' 00''	10' 00''	15' 00''

All the times are minutes' seconds" for a processing temperature of 38°C.
The times include 10 seconds for filling and emptying of the tank.
The developing time is critical. Washing, bleach fix and stabilising times are minimum values which may (and sometimes must) be exceeded by up to 50%.

The following table is for 38°C and the full 1.000ml of working solutions.

	Film 1-4	Film 5-8	Film 9-12	Film 13-16
Developing	3' 15"	3' 30''	3' 45''	4' 00''
Bleach fix	4' 00''	6' 00''	10' 00''	15' 00''

All the times are in minutes' seconds" for a processing temperature of 38°C.
The times include 10 seconds for filling and emptying of the tank.
The developing time is critical. Washing, bleach fix and stabilising times are minimum values which may (and sometimes must) be exceeded by up to 50%.

PUSH DEVELOPMENT AT 38 °C
For each f-stop step, the Color Development is to be extended by 30 seconds at 38 °C.

OVERCLOCKING the C-TEC KIT

The bleach fix is the limiting factor in this kit. You may be capable of getting a higher yield of more than 16 rolls per kit by increasing the BX times to 30-40 minutes (whilst keep adding to the CD by writing the tables above forth e.g. 15 seconds per each 3 rolls on the full mix of 1.000ml).
However we do not recommend to do this and we certainly do not guarantee the overuse of our chemistry ;-)

DEVIATIONS IN RESULTS

Results	Possible causes	Measures to take
Insufficient colour density.	Under-exposure of film.	Check camera/light meter
Insufficient colour density and insufficient contrast, minimum density (mask) too bright.	Under-development. Development time too short and/or temperature too low.	Increase colour develop ment time (by 15-30 s). Keep to processing conditions.
Colour of mask brownish.	Bleach-fixing time too short.	Bleach-fix film again and rinse.
Milky streaks and surfaces after drying.	Insufficient bleaching, insufficient moistening of film.	Follow-up treatment in bleach-fixer necessary.
White spots on dry film.	Calcium spots, application water too hard.	Apply stabiliser in future using 1/3 tap water + 2/3 demineralised (boiled) water. Bath films again in this solution.
Colour of mask untypical, minimum density too high but maximum density too low.	Colour developer contaminated by bleach-fixer.	Fresh mixing of colour developer.

Keeping properties

	Used solution	Opened concentrate
Color Developer CD	6 weeks	12 weeks
Bleach Fix BX	24 weeks	24 weeks
Stabilizer STAB	24 weeks	24 weeks

Sicherheitsinformationen (for Germany)

Bei dem Umgang mit diesem Produkt sind die für die Handhabung mit Chemikalien üblichen Sorgfaltsregeln zu beachten. Haut- und Augenkontakte müssen vermieden werden ebenso wie eine Bleach Fix BX Einnahme. Selbstverständlich muss dieses Produkt für Kinder unzugänglich aufbewahrt und nicht mit Lebensmitteln gelagert werden. Alle Aufbewahrungsbehälter müssen deutlich beschriftet werden.
Verwende zur Aufbewahrung von Chemikalien keine Flaschenform in denen normalerweise Lebensmittel aufbewahrt werden.

Entsorgung (for Germany)

Photochemikalien dürfen nicht in die öffentliche Kanalisation eingeleitet werden. Nicht mehr benötigte oder nicht mehr verwendungsfähige Photochemikalien müssen kommunalen Sammelstellen oder Wertstoffhöfen zugeführt werden, wo sie entsprechend den gesetzlichen Vorschriften ordnungsgemäß entsorgt werden.