

## PRODUCT INFORMATION

### RA-4 CD-R 160

### Colour Developer Replenisher *Standard Rate*

RA-4 CD-R 160 is a 1-part colour developer, designed for the processing of RA-4 colour papers in minilabs and roller transport machines. Recommend for labs with low to normal utilisation.

RA-4 CD-R 160	Pack with 4 x 1 L conc. for 4 x 10 L replenisher	for 250 m <sup>2</sup>	REF 12010
	Canister with 10 L conc. for 100 L replenisher	for 625 m <sup>2</sup>	REF 12015
RA-4 CD-S	Colour Developer Starter, 2 L concentrate	for 80 litres	REF 12810
CD-Additiv Plus	Antioxidant, 2 x 0.5 L concentrate	for 250-500 L	REF 16422




CD-R 160 is designed and intended for machines with low to normal utilisation. The modern 1-part formula enables an easy handling and provides a high processing reliability - even with fluctuating utilisation.

A normal utilisation is given when the working tank of the machine can be exchanged with CD-R 160 replenisher within approx. 2 weeks - corresponding to a consumption of approx. 6 m<sup>2</sup> of colour paper per every litre of CD-R working solution within approx. 2 weeks. The processing temperature is **35°C**.

**Colour Developer Starter CD-S** is required, when colour developer working solution is to be prepared fresh.

**CD-Additiv Plus** is an optional antioxidant. It protects the colour developer from premature oxidation at low workloads.

### MIXING OF REPLENISHER

Water	CD-R 160 Conc.	Replenisher
		
+	=	
900 ml	100 ml	1 L
<b>9 L</b>	<b>1 L</b>	<b>10 L</b>
90 L	10 L	100 L

Warm water (> 25 °C) promotes fast and good mixing.

Mixing time: approx. 1-2 minutes. Only as much replenisher should be prepared, as will be used up within 1-2 weeks. The tank must be covered and protected from access of air.

### OPTIONAL USE OF CD-ADDITIV PLUS

**Addition of CD-Additiv Plus:**

**One time after mixing of replenisher as well as weekly directly to the working solution.**

**Replenisher:** 4 ml CD-Additiv Plus per litre of CD-R 160, one-time after mixing

**Working solution:** 2 ml CD-Additiv Plus per litre of CD-R 160, once per week

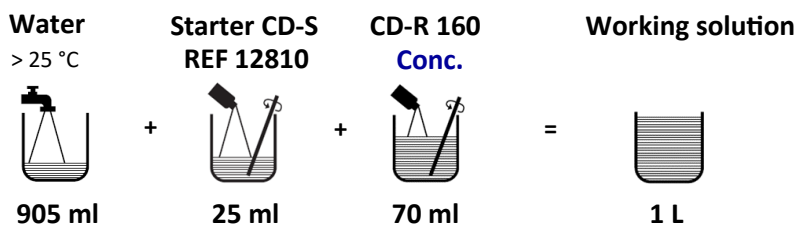
## MIXING OF WORKING SOLUTION

Mixing of working solution is required when the working tank of the machine is to be refilled, e.g. when installing a machine or after cleaning the tank during maintenance work.

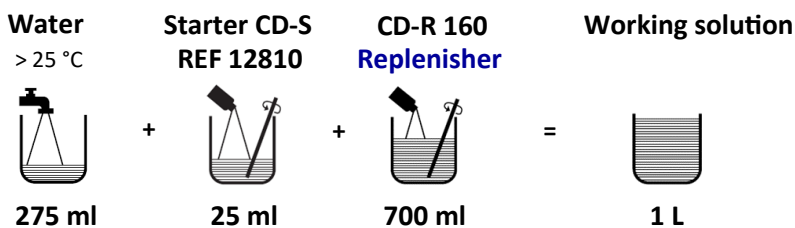
For mixing of working solution 2 different options are possible :

**Option 1: Direct, by using concentrate**

**Option 2: Indirect, by using previously mixed replenisher**



**OPTION 1:  
DIRECT WITH CONCENTRATE**



**OPTION 2:  
INDIRECT WITH REPLENISHER**

Corresponding to the size of the respective colour developer working tank, the quantities for water, Starter CD-S and CD-R 160 concentrate, resp. CD-R 160 replenisher are to be multiplied.

Always start mixing with the full amount of water, then add Starter CD-S and concentrate or replenisher. Mixing time approx. 1-2 minutes.

## PROCESSING PARAMETERS

**Time:** 45 s    **Temperature:** 38°C ± 0,3°C    **Replenishment rate:** 160 ml/m<sup>2</sup>

The data given are guideline values that may deviate in practice, depending on the individual developing machine used, on the type of colour paper and on the utilisation. The specifications for time and temperature should not be undercut; slightly longer time or higher temperature is possible.

Tempered working solution is subject to continuous evaporation of water. Accordingly, the evaporation should be compensated for by a daily addition of water to avoid an increase in the concentration of the working solution. The daily addition of water to the working solution is approx. 0.5 % of the tank volume - e.g. for a tank with 20 litres tank capacity, the addition is approx. 100 ml.

Any tempering has a stressing effect on the shelf life of the chemicals, therefore the processor should be switched off immediately after the end of work, the timer should be programmed accordingly.

## SHELF LIFE

RA-4 CD-R 160 concentrates in unopened, originally sealed bottles and canisters have a shelf life of approx. 2 years.

## OCCUPATIONAL SAFETY

Handling of photographic chemicals is safe, if used properly and protective measures are followed. Hazard and precautionary information can be found on the label (H and P phrases, hazard symbol) and in the safety data sheet. Personal protective equipment should include safety goggles or face shield, protective gloves and a lab coat or apron.

## STORAGE

RA-4 CD-R 160 concentrates should be stored dry, frost-proof and out of the reach of children. The maximum temperature range is between 5°C and 25°C. Storage temperatures between 10°C and 20°C are ideal.

## DISPOSAL

Photographic chemicals - concentrates or used baths - must not be discharged into the public sewer system. These chemicals must be discarded by commercial waste treatment companies, who properly treat and dispose of in accordance with legal regulations. Further information can be found in the safety data sheet.