

Technische Beschreibung:  
**ADOX HR-DEV**



ADOX HR-dev is a new, curve optimizing developer designed for ADOX HR-50.

This developer is perfectly adapted to the characteristics of the film material. ADOX HR-dev straightens the curve, provides a steeper rise from the shadows and a reasonable light separation up to zone 9.

The working solutions, which is used to determine the speed and contrast values, have been prepared with distilled water. If harder water is used, the development times must be considerably extended depending on the degree of hardness.

The below mentioned development times for the ADOX HR-50 are adjusted to reach optimal tonal values, but if you prefer more contrast and highlight separation, you should develop one minute longer.

When using condenser enlargers, the resulting sensitivities and contrast values are higher, so in this case the development times should be reduced by about 15 %.

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The development parameters of the ADOX HR-50 are as follows:

1. Resulting speed: ISO 40/17°  
Dilution: 1+49  
Developing time: 12min @ 20°C  
Agitation: First 30s permanently, then one inversion  
Resulting contrast: normal (N)

2. Resulting speed: ISO 50/18°  
Dilution: 1+49  
Developing time: 11min @ 22°C  
Agitation: First 30s permanently, then one inversion  
Resulting contrast: normal (N)

3. Resulting speed: ISO 50/18°  
Dilution: 1+49  
Developing time: 13min @ 24°C  
Agitation: First 30s permanently, then one inversion  
Resulting contrast: slightly increased (N+0,5)

**Note:** All temperature data represent the filling temperature of the working solution. Keeping this temperature constant (e.g. in a warm water bath) during development is **not** necessary. It is only necessary to make sure that the development takes place in a room with normal room temperature of approx. 20° C to 21° C. If the development takes place in summer at higher room temperatures, the development time must be reduced accordingly

**By using a bright red filter, expose the film 2 f-stops more, for a dark red filter expose the film 2.5 f-stops more.**

**ADOX HR-50 Developer is also suitable for developing all other black and white films and delivers fine-grain and very sharp results with fantastic tonal values. The development parameters of the other films can be found in the following table**

ADOX HR-50 developer sequence of the outstanding tonal values and very well suited for push process. We have therefore tested Kodak Tri-X up to ISO 1600/33°, even at ISO 1600/33° the tonal values are quite excellent, the highlights remain absolutely moderate, the contrast is only slightly increased (N + 0.5)

ADOX HR-50	20 °C	1+49	12	N	40/17°	30 sek., dann jede Minute 1x
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ADOX HR-50	22 °C	1+49	11	N	50/18°	30 sek., dann jede Minute 1x
ADOX HR-50	24 °C	1+49	13	N+0,5	50/18	30 sek., dann alle 2 Minuten 1x
ADOX SILVERMAX	20 °C	1+30	15	0,65	200/24°	30 sek., dann alle 2 Minuten 1x
AgfaPhoto APX 400	20 °C	1+24	13,5	0,65	400/27°	30 sek., dann jede Minute 2x
FOTOIMPEX CHM 400	20 °C	1+24	13,5	0,65	400/27°	30 sek., dann jede Minute 2x
Ilford Delta 100	20 °C	1+40	10	0,65	100/21°	30 Sek. dann, 2x alle 2 Minuten
Ilford Delta 400	20 °C	1+30	13	0,65	400/27°	30 Sek. dann, 1x jede Minute
Ilford FP4+	20 °C	1+35	9	0,65	200/24°	30 Sek. dann, 1x jede Minute
Ilford HP5+	20 °C	1+30	12	0,65	400/27°	30 Sek. dann, 1x jede Minute
Ilford HP5+	20 °C	1+14	15	0,65	1000/31°	30 Sek. dann, 1x jede Minute
Kentmere 400	20 °C	1+24	13,5	0,65	400/27°	30 sek., dann jede Minute 2x
Kodak T Max 100	20 °C	1+30	12	0,65	100/21°	30 sek., dann 2x alle 2 Minuten
Kodak Tmax 400	20 °C	1+30	11,5	0,65	400/27°	30 sek., dann 1 x je Minute
Kodak Tmax 400	20 °C	1+24	15	0,65	800/30°	30 sek., dann 2x alle 2 Minuten
Kodak Tmax 400	20 °C	1+14	1+14	0,65	1250/32	30 sek., dann 2x alle 2 Minuten
Kodak TRI-X	20 °C	1+24	12	N	400/27°	30 sek., dann jede Minute 1x
Kodak TRI-X	20 °C	1+19	12,5	N	800/30°	30 sek., dann jede Minute 1x
Kodak TRI-X	20 °C	1+17	13	N	1250/32°	30 sek., dann jede Minute 1x
Kodak TRI-X	20 °C	1+14	14	N	1600/33°	30 sek., dann jede Minute 1x