

DATA SHEET



Speed Photography  
+  
Ultrahigh Resolution

**SPUR Photochemie**

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## Data Sheet of SPUR HRX

**SPUR HRX** is the successor of SPUR HRX-3 New. **SPUR HRX** is a development technique for all black-and-white films that is primarily optimized in view of achieving the highest possible fineness of grain. With most films, **SPUR HRX** is substantially more apt to exploit speed than its predecessor HRX-3 New.

Contrary to other fine-grain developers **SPUR HRX** delivers high sharpness and outstanding detail contrast. Another advantage of **HRX** is its superbly sophisticated tonality due to the ideal, *linear* gradation curve gradient. The middle tones are thus very subtly differentiated even in soft development (N-1 to N-3), thus preventing dull or flat results. The gradation control and hence the zone system suitability HRX-3 New are retained in the new **HRX**.

**Please refer to the attached developing chart for processing parameters.**

The parameters given are valid for the development of 35 mm and roll films and cannot be applied to tank development and the development of flat films with constant movement in the dish. Here, the times indicated have to be reduced appropriately. With rotary development developing times can be longer than with inversion development. In these cases, one may opt for a lighter dilution of the working solution instead of a longer developing time. **The minimal amount of concentrate for a 35 mm film is approximately 8 to 10 ml (overall dilution)! If dilutions stronger than the standard dilution are used, a sufficient quantity of concentrate is required; a higher volume of working solution may be required!**

### Shelf life

Original, unopened bottles of **SPUR HRX** have a shelf life of at least 2.5 years when stored coolly. Contrary to its predecessor HRX-3 New, **SPUR HRX Part A is delivered in gas proof PET bottles**. So the use of additional glass bottles for storage as recommended for HRX-3 New is not necessary any more. Instead we recommend you use protective gas with the original PET bottle of Part A after opening. Part B on the other hand has a virtually unlimited shelf life so the use of gas is not necessary and therefore is delivered in HDPE bottles.



## Developing Chart SPUR HRX

As at 28-04-21

Die in der Tabelle angegebenen Werte beziehen sich auf eine Entwicklungstemperatur von 20° C und auf das Entwickeln eines mittleren Kontrastes. Der Kipprhythmus beträgt: 1-mal alle 60 Sekunden. Zu Beginn sofort nach dem Einfüllen ist zweimal zu kippen! Bei der Verwendung von Kondensorvergrößerungsgeräten sollte die Entwicklungszeit um 10 bis 15 % reduziert werden. Bei der Belichtung sind die in dieser Tabelle angegebenen ISO-Werte einzustellen und NICHT die Angaben der Filmhersteller! **Bei Entwicklung des SPUR DSX/AGFA Copex Rapid ist eine Einfülltemperatur der AL von 24° C oder 28° C erforderlich (keine Konstanthaltung notwendig, bei ca. 20° C bis 21° C Raumtemperatur entwickeln)!**

Die in der Tabelle gegebene Verdünnung ist die Gesamtverdünnung für beide Parts. Ein Beispiel: 500 ml Arbeitslösung bei Gesamt-verdünnung 1 + 20: 500 dividiert durch 21 = 24 ml Entwicklerkonzentrat, das bedeutet dann 12 ml Part A + 12 ml Part B auf 500 ml AL.

The values indicated in the chart are valid for a developing temperature of 20° C for negatives with a medium contrast. Agitate by tank inversion every 60 seconds. We recommend inverting the tank twice right at the beginning, i. e. straight after filling. If using a condenser developing time should be reduced by 10 to 15 %. At exposure you must comply with the ISO figures as indicated in this developing chart, and NOT the requirements of film manufacturers. **Developing the SPUR DSX/AGFA Copex Rapid working solution must have a fill in temperature of 24° C or 28° C! But it's not necessary to keep the temperature constant during the developing process! Please develop at a room temperature of ca. 20° to 21° C!**

The dilution indicated in the developing chart is the overall dilution for Parts A and B. E. g., 500 ml of working solution at an overall dilution 1 + 20: 500 divided by 21 = 24 ml of developing concentrate, i. e. 12 ml Part A + 12 ml Part B per 500 ml of working solution.

Hersteller/Film Manufacturer/Film	Empfindlichkeit/ Film Speed ISO	Verdünnung/Dilution Gesamt/Overall	Entwicklungszeit Developing Time(min)
ADOX CHS 100 II (old)	100/21°	1 + 17	11
ADOX Silvermax	50/18°	1 + 20	10
AGFA APX 100 New	64/19°	1 + 20	10
AGFA APX 400 New	320/26°	1 + 17	15
*AGFA Copex Rapid/ SPUR DSX Film unbedingt im Kühlschrank lagern! You must store this film in the fridge!	20/14° 25/15°	1 + 35 1 + 35	11,5 24° C 10 28° C
Fomapan 100	100/21°	1 + 20	11,5
Fomapan 200	125/22°	1 + 17	9
Fomapan 400	200/24°	1 + 11	13
Fuji Acros 100 (old)	64/19°	1 + 20	11
* Fuji Acros 100 II	64/19°	1 + 20	12
Fuji Neopan 400	400 /27°	1 + 13	12
Ilford Delta 100	80/20°	1 + 20	8,5 - 9
Ilford Delta 400	250/25°	1 + 15	13
Ilford Delta 3200	800/30°	1 + 8	15
Ilford Pan F +	32/16°	1 + 20	8,5
Ilford FP4 +	100/21°	1 + 20	9,5
Ilford HP5 +	400/27°	1 + 17	11
Ilford SFX 200	80/20°	1 + 17	10
* Ilford Ortho plus	80/20°	1 + 17	10,5 - 11
Kentmere 100	80/20°	1 + 20	9,5
Kentmere 400	400/27°	1 + 13	14
Kodak Tmax 100	64/19°	1 + 17	11,5
Kodak Tmax 400	320/26°	1 + 20	12,5
Kodak Tri X 400	250/25°	1 + 17	11
Kodak Double X	400/27°	1 + 17	11
Lomography Potsdam 100	50/18°	1 + 17	9,5
ORWO UN 54	80/20°	1 + 17	9,5
** ORWO N 75	200/24°	1 + 11	12
Rollei Retro 100	64/19°	1 + 20	10
Rollei Retro 400	320/26°	1 + 17	15
Rollei Superpan 200	40/17°	1 + 11	12
Rollei Retro 400 S	40/17°	1 + 11	12
Rollei Infrared 400	40/17°	1 + 11	12
Rollei Retro 80 S	20/14°	1 + 17	8
* Rollei Ortho 25 plus	80/20°	1 + 24	13
Rollei RPX 25	20/14°	1 + 20	10
Rollei RPX 100	100/21°	1 + 17	12
Rollei RPX 400	400/27°	1 + 9	15

\* Another inversion tact: First 30 sec permanently, and once each min thereafter

\* The values are referring to the 135 film.

\*\* Another inversion tact: First 30 sec permanently, and twice each min thereafter

Due to large emulsion and quality variations when developing Bergger Pancro 400 with SPUR HRX, we have removed this film from the development chart!