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Data Sheet SPUR TRX 2000

SPUR TRX 2000 is a new developer that combines the features of a high-speed developer and a push developer. In contrast to conventional push developers, **SPUR TRX 2000** is characterized not only by unusually detailed shadows, even at maximum film speed, but also by **tonal values which are otherwise only possible when developing to nominal film speed**.

The difference with SPUR Speed Major is that **tonality and the density curve** have been optimized as much as possible. For this purpose, **SPUR TRX 2000** was tuned to slightly less contrast, so that in some films, the highest achievable film speed is slightly lower compared to SPUR Speed Major. **Tonality and density curve, however, are significantly improved.**

SPUR TRX 2000 was especially tuned to the Kodak Tri X emulsion (Kodak TX 400) and achieves phenomenal results especially (but not only) with this film.

The working solutions used to determine the film speed and contrast values were prepared with distilled water. When using harder water, the development times must be significantly extended depending on the degree of hardness.

The times in the table usually refer to a development temperature of 20°C (293K) and to achieve a normal contrast (N). Only at the push sensitivities the contrast is slightly higher.

Other filling temperatures than 20°C are listed in the table under the heading "Developing Time".

The agitation rhythm is: The first 30 seconds permanently, then as described in the table.

Caution: All temperatures higher than 20°C represent the **filling temperature** of the working solution. Keeping this temperature constant (eg in a warm water bath) during development is **not** necessary, but on the contrary would distort the results. It is only necessary to ensure that the development takes place in a room with a normal room temperature of approx. 20°C to 21°C (293K to 294K). If the development takes place in the summer at higher room temperatures, the development time must be reduced accordingly. It should be noted that the higher the room temperature on one hand and the higher the filling temperature on the other hand, the more the developing time has to be reduced.

In the range of the nominal film speed, the film speed was determined according to the zone system or the ISO standard. The higher film speeds or push speeds correspond to the following definition: Skin tones (zone VI in the zone system) must have an equivalent density as N development at nominal sensitivity, ie a density of approx. D = 0.9).

So far, we have only tested the push sensitivities of some films, and only with the films listed with several different film speeds in the table. **If only one film speed is listed, it will conform to the ISO standard or zone system, even if it is higher or lower than the nominal film speed.** For example, the Rollei RPX 400 has a speed of ISO 800/30° by ISO-standard, while the JCH Street Pan 400 only reaches ISO 80/20°.

Film speed and contrast were determined by measurement by means of a densitometer directly on the developed film, which corresponds approximately to the measurement under a diffuser enlarger.

When using condenser enlargers, not only the contrast levels but also the resulting film speeds are much higher, depending on the emulsion up to one stop. Therefore, it is recommended to reduce the development time by about 15% when using condenser enlargers.

Other film speeds for the pushable films will be tested in the future. The data sheet will therefore be updated accordingly.

Developing Table

ADOX HR-50 loses 2 f-stops when exposed with a bright red filter. When exposed with a dark red filter, 2.5 f-stops are lost (exactly: 8 DIN or eight 1/3 stops).

Manufacturer/Film	Film Speed ISO	Dilution	Developing Time (min)	Inversion tact
ADOX HR-50	50/18°	1 + 49	11 22° C	Once each min
Speed Boost	64/19°	1 + 49	13 24° C	Once each min
ADOX Silvermax	200/24°	1 + 30	15	Twice every two min
Agfaphoto APX 100 New	160/23°	1 + 35	10	Once each min
Agfaphoto APX 400 New	400/27°	1 + 24	13,5	Twice each min
Bergger Panchro 400	250/25°	1 + 19	14	Twice each min
Fomapan 100	100/21°	1 + 40	12	Once each min
Fomapan 200	125/22°	1 + 35	12	Once each min
Fomapan 400	200/24°	1 + 30	15	Twice every two min
# Foma Retropan 320	125/22°	1 + 20	13	Twice every 30 sec
FOTOIMPEX CHM 100	160/23°	1 + 35	10	Once each min
FOTOIMPEX CHM 400	400/27°	1 + 24	13,5	Twice each min
Fuji ACROS 100	100/21°	1 + 35	11	Twice every two min
Ilford Pan F+	25/15°	1 + 49	10	Once every two min
Ilford FP4+	200/24°	1 + 35	9	Once each min
Ilford HP5+	400/27°	1 + 30	12	Once each min
	1000/31°	1 + 14	15	Twice every two min
Ilford Delta 100	100/21°	1 + 40	10	Twice every two min
Ilford Delta 400	400/27°	1 + 30	13	Once each min
## Ilford Delta 3200	800/30°	1 + 20	13	Twice each min
Ilford SFX 200	100/21°	1 + 30	10,5	Once each min
JCH Street Pan 400	80/20°	1 + 30	10	Once each min
Kentmere 100	160/23°	1 + 35	10	Once each min
Kentmere 400	400/27°	1 + 24	13,5	Twice each min
Kodak Tmax 100	100/21°	1 + 30	12	Twice every two min
Kodak Tmax 400	400/27°	1 + 30	11,5	Once each min
	800/30°	1 + 24	15	Twice every two min
	1250/32°	1 + 14	17 24° C	Twice every two min
Kodak Tmax P3200	1000/31°	1 + 30	15	Once each min
	1600/33°	1 + 24	14	Once each min
Kodak Tri X	400/27°	1 + 24	12	Once each min
	800/30°	1 + 19	12,5	Once each min
	1250/32°	1 + 17	13	Once each min
	1600/33°	1 + 14	14	Once each min
Kodak Double X	400/27°	1 + 30	14	Twice every two min
	800/30°	1 + 24	15	Once each min
	1000/31°	1 + 20	15 24° C	Twice every two min
Orwo UN 54	160/23°	1 + 35	13	Twice every two min
### Orwo N 74	400/27°	1 + 30	11	Twice every 30 sec
Rollei Infrared	80/20°	1 + 30	12,5	Twice every two min
Rollei Ortho 25 *Old Emulsion* (You must prewash)	50/18°	1 + 49	13	Twice every two min
Rollei Ortho 25 *plus*	160/23°	1 + 49	15	Twice every two min
Rollei RPX 25	25/15°	1 + 40	10	Once each min
Rollei RPX 100	200/24°	1 + 35	12	Once every two min
Rollei RPX 400	800/30°	1 + 17	14	Twice each min
Rollei Retro 80 S	25/15°	1 + 40	10	Once each min
Rollei Superpan 200	80/20°	1 + 30	12,5	Twice every two min

\# **extremely soft contrast (N – 3)** \# \# **very soft contrast (N – 2)** \# \# \# **soft contrast (N – 1)**
These three soft contrast films, cannot reach normal contrast (N)!

Explanation: SPUR TRX 2000 is tuned for optimal tonal values and works a bit softer. Therefore, in many films, even at higher film speeds, a perfect density curve with good light differentiation can be achieved. This is achieved in the various films by varying the dilution, the developing time and the inversion rhythm. **The soft tuning of the developer, which is necessary for this purpose, does not allow normal contrast in the case of the aforementioned 3 soft films.**