

Analog-Digital Interface

If, in addition to analog processing (photochemical enlargement in a conventional lab), you wish to use the digital option, exploring the possibilities of modern computer technology, you should prefer to use a high resolving power film like **SPUR Orthopan UR** whenever low speed allows it. Owing to the much lower thickness of emulsion and the monodisperse distribution of grain, high resolving power films can be scanned far more easily than conventional black-and-white films, whose grain will scatter as a consequence of the considerably thicker emulsion and the different grain distribution. The latter can therefore be scanned only with an outcome of diminished quality.

High resolution films on the other side lend themselves to scanning, for as with colour films, there will be no loss in quality. As they naturally dispose of a much higher resolving power than normal black-and-white or colour films or in particular digital photographs, you can thus, yet depending on the resolution of your scanner, create picture files of an overwhelmingly high quality, which after processing will enable you to produce prints of a quality hitherto unknown in relation to the shooting format.

So it makes complete sense to use high resolution photography whenever low speed allows it and you can do without the original colour information. It is owing to its high resolving power, its safety for preservation and its compatibility with existing systems that this developing technique is highly recommendable for (pictorial) documentation.

Other Features:

SPUR Nanospeed UR possesses the following advantages over conventional developers for those document copy films:

- **High film speed**
- **Considerable improvement of sharpness of skyline and resolving power**
- **Very good rendering of detail, especially at a low contrast**
- **Incredible widening of exposure latitude, therefore higher resolving power in the highest possible highlights and with a wide contrast range**
- **Greatly improved differentiation of highlights/ shadows without diminished middletones**
- **Improved density range without increased gradation, therefore prints with rich blackenings and pure whites even at the softest gradation**
- **Completely clear development without any schlieren**
(Even in difficult shooting conditions in the studio, backgrounds and tonal values will remain completely free from schlieren. There will be **no** other disturbing factors or any blurs either.)
- **Fine grain**
- **Particularly easy processing** (even when using conventional stop baths or fixers or conventional developing tanks)
- **Particularly good well-keeping of both the concentrate and working solution**
- **Low toxicity (no use of toxins or hydroquinone)**

DATA SHEET



Speed Photography
+
Ultrahigh Resolution

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SPUR Orthopan UR, Pictorial Use Of, In Connection With The SPUR Nanospeed UR Developing Technique

SPUR Orthopan UR is a monodisperse document copy - film of maximum resolving power respectively, and therefore at first glance not suitable for use in pictorial photography, using conventional developing techniques. With the new **SPUR Nanospeed UR Developer**, which makes possible a completely flawless development of this film, it can also be used in pictorial photography.

Technical Data On SPUR Orthopan UR:

Film Type: silver halides with A.H.U. (Anti-Halation Undercoating)

Spectral Sensitivity: orthopanchromatic

Graininess: RMS- graininess at density 1.0 and aperture size at $25 \mu = 14$. This figure is valid for the processing with conventional microfilm chemicals. Note that a comparison with the Agfa Copex Rapid and the Kodak Imagelink HQ using this meter reading is not possible, as the latter was obtained using a different aperture size. Graininess is substantially lower than with the Copex Rapid and with the Imagelink HQ.

Reciprocity: 1 sec + $\frac{1}{2}$ f/number, 10 sec + 1 f/number, 1/1000 sec + $\frac{1}{2}$ f/number

Resolving Power: Resolving power attains 800 Lp/mm at a contrast ratio of 1000 : 1.

Shooting: The following is to be observed:

- 1.) Due to the make-up of the film base, flare can penetrate along the perforation of the film end sticking out, thus spoiling at least the first shoots. In order to avoid this, the film should be kept in an opaque film can and may not be left lying around open, or exposed to light. Equally, loading the camera should not happen in too bright light.
- 2.) The very low thickness of emulsion substantially aggravates the problem of plan positioning (film flattening) compared to regular black-and-white films. Therefore you should make sure that there is sufficient depth of focus so as to make up for the emulsion drifting off from the optimum focal plane, by stopping down at least once or twice. Yet you should further be careful to stop down only **as much as required** (depending on the desired photographic effect) for optimum use of the high resolving power of both films. This is why here fast lenses are best.
- 3.) You must use a camera that allows for manual adjustment of film speed.

Film Speed:

ISO 16/13° to 20/14°

In cases of low contrast you can achieve ISO 25/15° in connection with a special development.

Processing:

Using SPUR Nanospeed UR!

Preparation:

With SPUR Nanospeed UR, at a **standard dilution of 1+ 24** you will get 1.25 litres of working solution, which is sufficient for 4 to 5 films.

Apart from that, we recommend inversion development using a **manual developing tank** for best results. You should **not** presoak films to be developed because this may entail an undesired increase in gradation.

Developing Parameters (Inversion Development):

Standard dilution to achieve ISO 16/13° up to ISO 20/14° (temperature 20° C):

Dilution 1 + 24, developing time 5 to 6 minutes, inversion tact: steadily during the first 30 seconds, and once every 30 seconds thereafter.

Special Dilution to achieve ISO 25/15° (temperature 22° C)

Dilution 1 + 19, developing time 7 to 7,5 minutes, inversion tact: steadily during the first 30 seconds, and once every 30 seconds thereafter.

It is possible that due to individual differences in the manual use of developing tanks there will be slight differences in results (e.g., concerning gradation and film speed). You can correct this by slightly adjusting the developing time.

After development you must use an acidic stop bath instead of a rinse before fixing.

Well-keeping:

Once used, working solution should be discarded. Prepared working solution will last for a relatively long time (about three weeks), if kept in a full closed bottle. In order to prolong the life of the developer concentrate, however, you may use 10 ml or 12 ml of concentrate as a **part extraction**. In this case replace the amount of developer used with water. E.g. if you use 12ml developer, replace it with 12ml water. This can be repeated with subsequent films. As the developer concentrate becomes progressively more dilute so the amount used each time must be increased as follows:

250 ml Working Solution:

- 1st. Film: 10 ml (add 10 ml water to the developer bottle)
- 2nd. Film: 12.5 ml (add 12.5 ml water to the developer bottle)
- 3rd. Film: 16.5 ml (add 16.5 ml water to the developer bottle)
- 4th. Film: 25 ml (add 25 ml water to the developer)
- 5th. Film 50 ml

300 ml Working Solution:

- 1st. Film: 12 ml (add 12 ml water to the developer bottle)
- 2nd. Film: 16 ml (add 16 ml water to the developer bottle)
- 3rd. Film: 23 ml (add 23 ml water to the developer bottle)
- 4th. Film: 43 ml (throw the rest of the developer away)

The concentrate thus diluted **will keep fresh considerably longer** than prepared working solution. Developing Time of 4th. Film should be prolonged about 10 %, developing time of 5th. Film about 20%.

Rotatory Development:

We do not recommend rotatory development with this film, as it will result in a loss of speed.

Fixing:

With a regular concentration of fixer, both Films require only 30 to 60 seconds fixing time at 20°C. If fixing time cannot be reduced accordingly at rotation, the fixing bath should be appropriately diluted instead.

Rinsing:

Can also be reduced to 2 – 5 minutes. (5 minutes + for archiving purposes).