

# RETROPAN 320 soft *new*

## BLACK-AND-WHITE NEGATIVE FILM

### In general

RETROPAN 320 soft is a panchromatically sensitized special negative black and white film with fine grain, good resolution and contour sharpness. The film is characterized by a wide range of half tones and soft light which makes it suitable for photography and subsequent contact printing or "retro" style enlarging of negatives (photographs of still lifes, architecture, experiments, landscapes, portraits, etc.). The sensitivity of the film is ISO 320/26° but its wide exposure latitude provides very good results also when overexposed by min. 1 EV (ISO 160/23°) and underexposed by 2 EV (1250/32°). For turning into positives variable contrast enlarging papers are recommended – Fomabrom Variant, and papers of warm tones of base and silver – Fomatone MG Classic 131, 132, 133, 532-II, 542-II. Other types of black and white enlarging papers may also be used. In order to emphasize monochromatic tonality or the vividness and plasticity it is possible to tone the papers – e.g. using Fomatone Sepia brown toner.

### Speed

ISO 320/26°, 61° ČSN

### Schwarzschild effect

Exposure (seconds)	1/1000–1/2	1	10	100
Lengthening of exposure	1x	1.5x	6x	8x
Correction of aperture number	0	-1	-2.5	-3

### Processing

**Safelighting:** infrared light or total darkness

### Development

It is recommended to process RETROPAN 320 in a special developer **RETRO SPECIAL DEVELOPER** provided by the producer together with this film. It is also possible to use other kinds of developers after setting the optimal developing conditions considering the requested contrast, optical density etc. of the final negative image. Recommended development times are shown in the table below (the development times are related to development in a spiral developing tank - agitation or turning over continuously during the first 30 seconds, then during the first 10 seconds in every minute). In this way, medium-contrast negatives can be obtained.

Developer	Development time (minutes) at 20°C	
	EI 320/26°	EI 640/29°
<b>RETRO Special Developer– stock</b>	<b>4 – 5</b>	<b>7 – 8</b>
Ilford Microphen – stock	10 – 11	15 – 17
Kodak HC 110 (1+31)	7 – 8	11 – 13
Spur NHC (1:15)	16 – 17	25 – 27
Rollei Supergrain (1+9)	6.5 – 7.5	10 – 11

When the development time has elapsed, the film is recommended to be shortly rinsed in distilled water or dipped in a 2 % acetic acid solution for 10 seconds.

### Fixing

At a temperature ranging from 18 to 25 °C for 10 minutes in any common type of an acid fixing bath, or for at least 3 minutes in Fomafix rapid fixer.

### Washing

The film should be washed in running water: for 30 minutes and 15 minutes the temperature of water being below 15 °C and over 15 °C respectively.

It is recommended to finish the processing with the film being rinsed in distilled water, or dipped in a wetting agent solution.

### Storage

Unexposed films should be stored in the original packaging in a cool, dry place (temperature ranging from 5 to 21 °C, relative humidity from 40 to 60 %), out of reach of harmful vapours, gases and ionizing radiations. Films stored in a refrigerator and a freezer should be acclimatized to room temperature for approx. 2 and approx. 6 hours respectively. Exposed films should be processed as soon as possible.

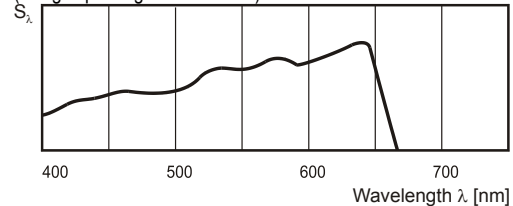
### Packaging

RETROPAN 320 soft is available in the following sorts:

- double-edge perforated 35 mm film in rolls of 17 and 30.5 m in a darkroom packaging;
- sheet film (for large-format cameras) sized: 4x5.5x7 and 8x10 inch, 9x12 cm in a box of 50 sheets (4x5 inch in a box 50 and 25 sheets). Orientation emulsion side of the film - is determined by a notch located on the right upper corner of the short side of the film format.

### Relative spectral sensitivity

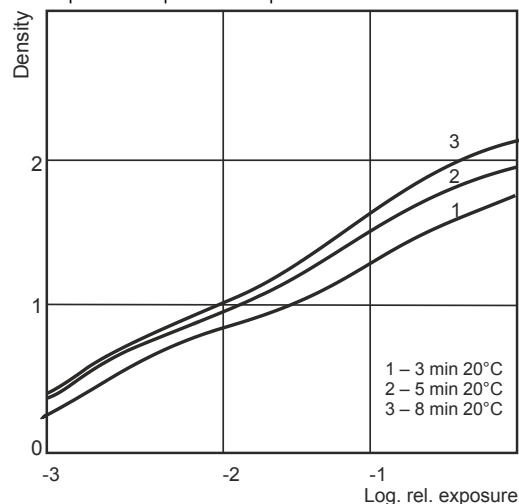
(wedge spectrogram at 2850 K)



### Characteristic curves

Exposure: Daylight (5500 K), EI 320/26°, 1/20 s

Developer: Retro Special Developer at 20 °C



### Developing capacity

One package of the powder developer **RETRO SPECIAL DEVELOPER** designed for one litre of a working solution is sufficient to develop 1,3 sqm of film material – following amount of sheet films: 25 sheets of 8x10 inches, minimum of 50 sheets of 5x7 inches, 100 sheets of 4x5 inches; further e.g. 36 m of perforated film of width 35 mm or 25 pcs of 135-36 film.

### Base

The following bases are used for manufacturing the particular sorts of the film:

- 35 mm film - a gray or gray-blue cellulose triacetate base 0.125 mm thick,
- sheet film - a clear polyester base 0.175 mm thick furnished with an antihaloe colour backing which will decolourize during processing.

The product has been produced and marketed in conformity with a quality system according to the international standard EN ISO 9001.