

FOMAPAN 400 NIR 730

BLACK-AND-WHITE NEGATIVE FILM FOR SPECIAL PURPOSES

In general

Fomapan 400 NIR 730 is panchromatically sensitized, black-and white negative film with extended sensitivity to the red, infrared (730 nm), part of the spectrum, intended for use in surveillance of spaces and traffic. The film meets high requirements for good resolving power and good contour sharpness. The film is designed for taking photographs under unfavourable light conditions or using short exposure times. Fomapan 400 NIR 730 has a nominal speed rating of ISO 400/27°, but due to its wide exposure latitude the film gives good results even when overexposed by 1 EV (exposure value) (as ISO 200/24°) or underexposed by 2 EV (as ISO 1600/33°) without any change in processing, i.e. without lengthening the development time or increasing the temperature of the developer used.

To make prints or enlargements Fomaspeed-type enlarging papers are recommended; however, all sorts of black-and-white enlargement papers can be used.

Speed

ISO 400/27°

Schwarzschild effect

Exposure (seconds)	1/1000-1/2	1	10	100
Lengthening of exposure	1x	3x	6x	12x
Correction of aperture number	0	-1,5	-2,0	-3,5

Processing

Safelighting

Total darkness.

Development

Fomapan 400 NIR 730 can be processed in all common negative developers. 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)	
	20 °C	30 °C
Fomadon LQN (1+10)	12,0-13,0	5,0-5,5
Fomadon R09 (1+40)	11,0-12,0	-
Fomadon P	21,0-22,0	9,0-10,0
Iford Microphen (stock)	9,5-10,5	-
Iford Microphen (1+1)	18,0-19,0	7,5-8,5
Iford Perceptol	12,5-13,5	6,0-7,0
Iford ID 11 stock / Kodak D76	9,5-10,5	5,0-6,0

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 20 °C, relative humidity from 50 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.

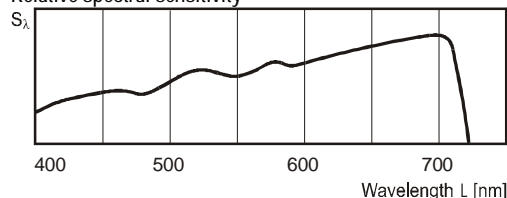
Packaging

Fomapan 400 NIR 730 is available in the following sorts:

- non-perforated 35 mm bulk film
- double-edge perforated 35 mm bulk film

Other sizes are subject of an agreement with the manufacturer.

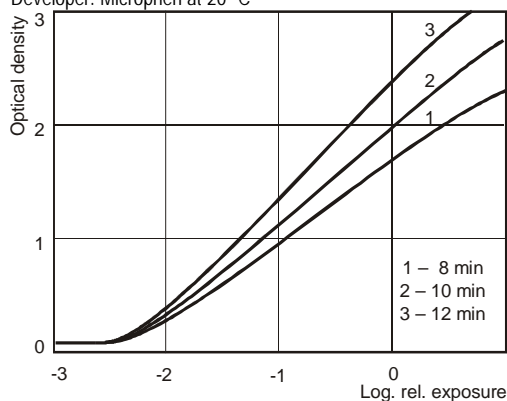
Relative spectral sensitivity



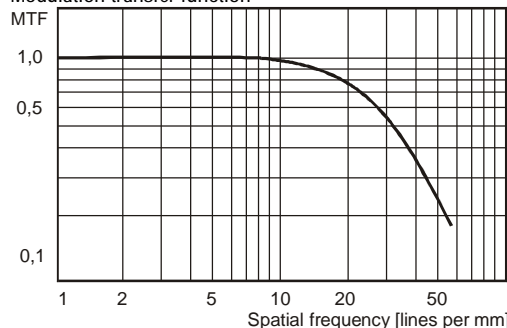
Characteristic curves

Exposure: Daylight (5500 K), 1/20 s

Developer: Microphen at 20 °C



Modulation transfer function



Resolving power

75 lines per mm

Granularity

RMS = 17,5 (Microphen at 20 °C, developed to $\bar{G} = 0,6$.)

Measured at D = 1,0.

Base

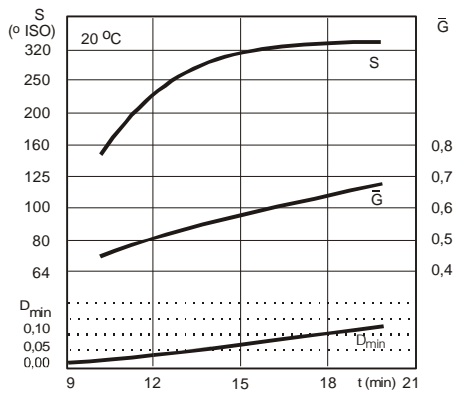
A bluish polyester base 0,1 mm thick, furnished with a matted colour backing which will decolourize during processing. The backing has anti-halation and anti-curling properties and prevents the incidence of Newton rings during enlarging.

DEVELOPMENT CURVES FOR FOMAPAN 400 NIR 730

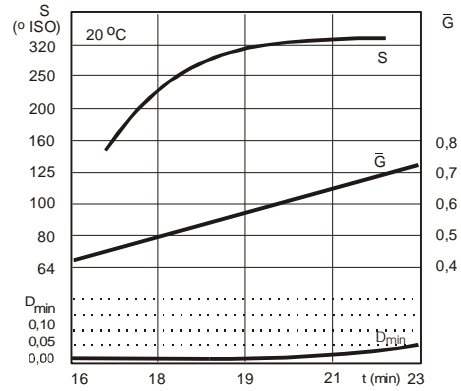
$D_{min}/S/G$ – development time curves at 20 °C

(daylight $T_c = 5500$ K, spiral developing tank, agitation or turning over continuously during the first 30 seconds, then during the first 10 seconds in every minute)

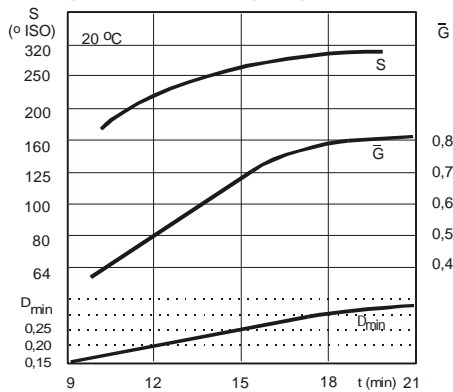
Developer MICROPHEN (stock)



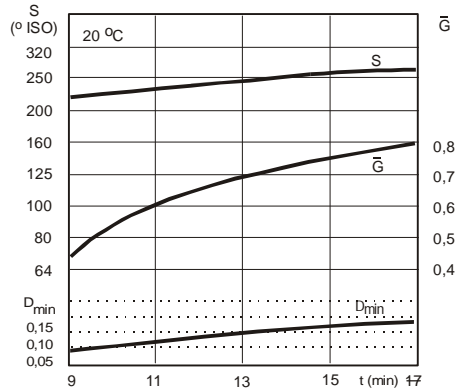
Developer Microphen (1+1)



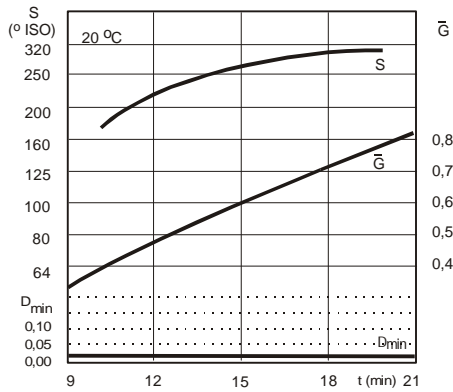
Developer Fomadon LQN (1+10)



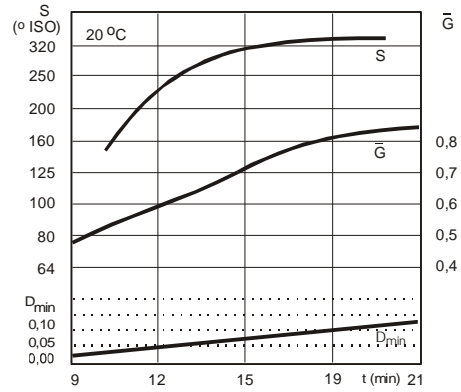
Developer ID 11 / D76



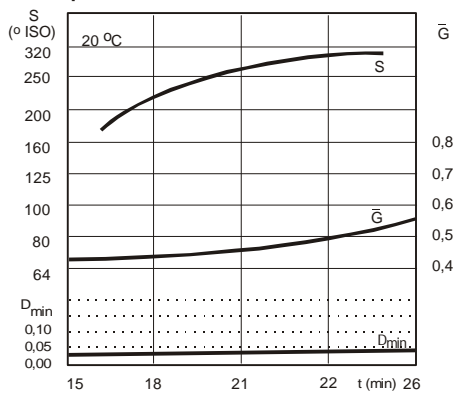
Developer Perceptol



Developer R 09 (1+40)



Developer Fomadon P



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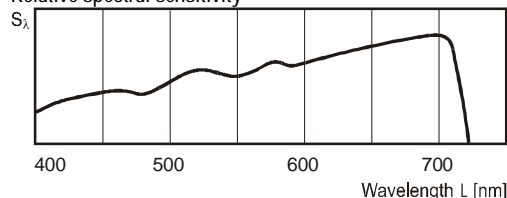
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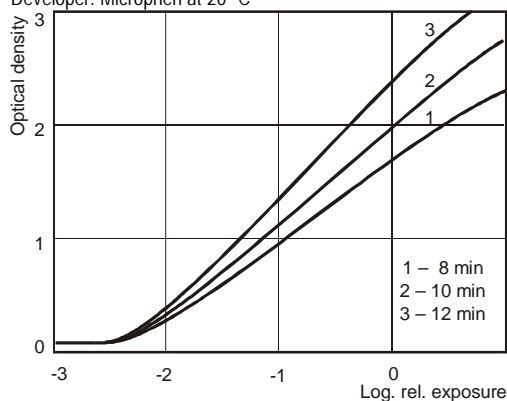
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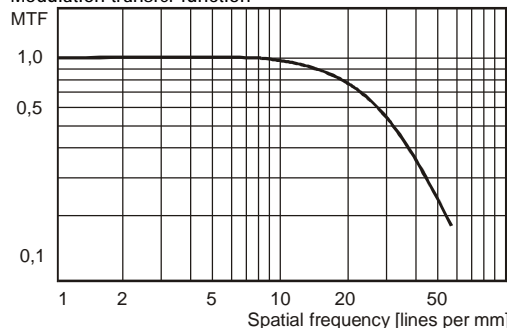
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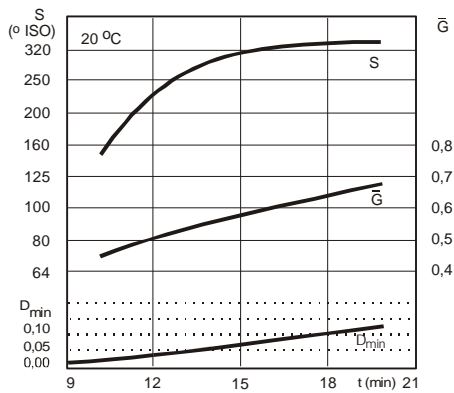
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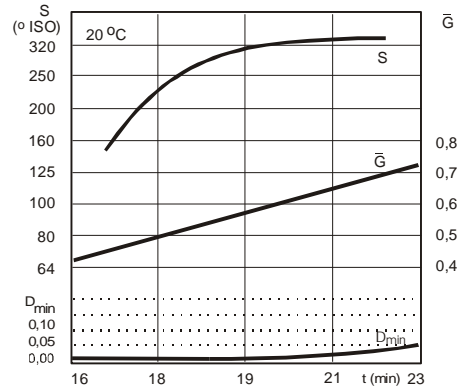
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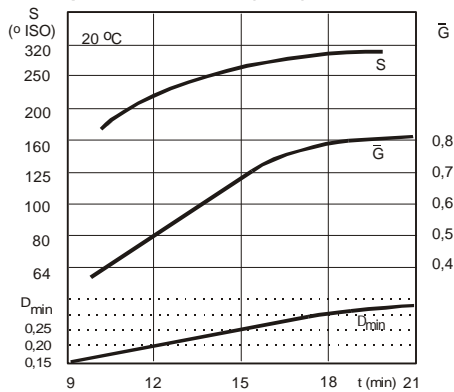
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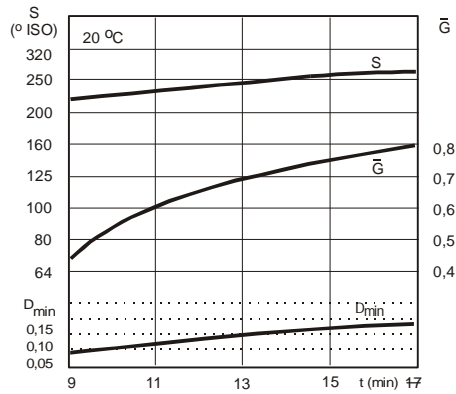
Developer Microphen (1+1)



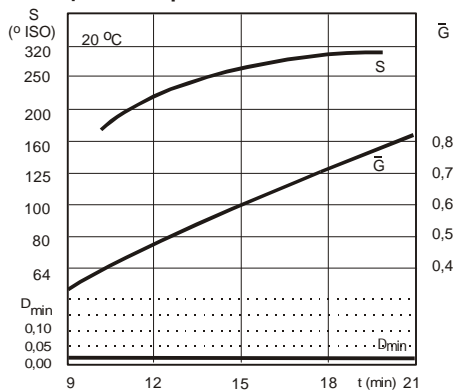
Developer Fomadon LQN (1+10)



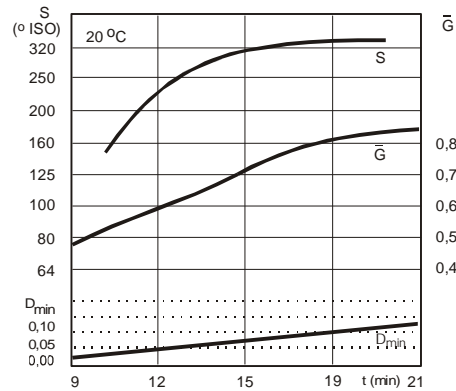
Developer ID 11 / D76



Developer Perceptol



Developer R 09 (1+40)



Developer Fomadon P

