

# FOMA Cine ORTHO 400 – NEW!

## BLACK-AND-WHITE NEGATIVE FILM

### In general

FOMA Cine Ortho 400 is a special orthochromatically sensitized black and white negative film. It is primarily intended for shooting with a film camera, negative processing and subsequent digitization (scanning, post-production). It is characterized by good resolving power and contour sharpness, specific grain and high maximum density of the silver image. Its high optical sensitivity enables to film even in adverse light conditions and easier use of wide range of conversion, effect and other camera filters. The nominal optical sensitivity of the film is ISO 400/27°, but its wide exposure latitude provides very good results even when overexposed by 1.5 EV (ISO 160/23°) and underexposed by 1.5 EV (ISO 1250/32°). Thanks to its typical tonal character, this orthochromatic type of the film is particularly suitable for artistically stylized type of cinematographic production (e.g. expressive depiction of human faces), experimental film projects, etc. FOMA Cine Ortho 400 has a high level of the spectral sensitivity in green part of the visible spectrum, which is also advantageous when shooting the landscape motifs and sceneries.

Above all, due to the high optical sensitivity, it is necessary to place this film in the recording camera in a dark room with the allowed minimum exposure of the below mentioned safe lighting.

### Speed

ISO 400/27°, 27° ČSN

### Processing

**Safe lighting:** it is possible to handle the film of FOMA Cine Ortho 400 for a short time under indirect safe lighting with the wavelength of 585 nm and higher, the corresponding colour of the protective lighting - orange. Attention! The green or dark olive green light or filter can't be used in any case.

### Development

FOMA Cine Ortho 400 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) and are applicable for exposing film at EI 400.

Developer	Development time (minutes)	
	20 °C	30 °C
Fomadon LQN (1+10)	8.5 – 10	4
Fomadon R09 (1+50)	10 – 12	–
Fomadon P	9.5 – 10.5	6
Fomadon Excel	7	2
Kodak Xtol	7	2
Ilford Microphen–stock	8 – 9	3.5
Ilford Perceptol–stock	9 – 10	4
Ilford ID 11/ Kodak D76–stock	7 – 8	2.5
Tetenal Ultrafin Plus (1+4)	7 – 8	2.5
Tetenal Ultrafin Liquid (1+20)	13 – 14.5	4.5

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, alternatively use the stop bath of Fomacitro.

### Fixing

At a temperature ranging from 18 to 25 °C for 5 – 11 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. From reason of elimination of the potential stains after the dried drops it is recommended to immerse the washed film into the wetting agent solution of Fotonal, and that with a minimum double concentration, than by other films' types: 10-20 ml/1 litre of preferably distilled water.

### Storage

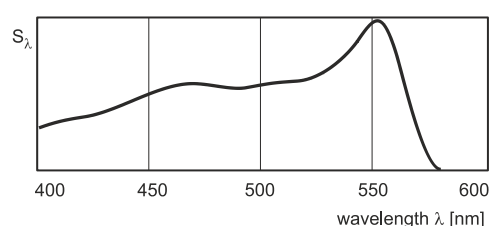
Unexposed films should be stored in the original packaging in a cool, dry place (temperature ranging from 5 to 25 °C, relative humidity from 40 to 60 %), out of reach of harmful vapours, gases and ionizing radiations. Films stored in a refrigerator and a freezer should be acclimatized to room temperature for approx. 2 and approx. 6 hours respectively. Exposed films should be processed as soon as possible.

### Packaging

FOMA Cine Ortho 400 is produced and supplied in the following sorts:

- in the width of 16 mm one-edge perforated, in the length of 30.5 m; perforation type: 1R-3000 (long pitch)
- in the width of 16 mm both-edge perforated, in the length of 30.5 m; perforation type: 2R- 3000 (long pitch)
- in the width of 16 mm, type 2x8 mm (standard), in the length of 10 m; perforation type: 2R-1500
- in the width of 16 mm, type 2 x DS 8 mm (super), in the length of 10 m; perforation type: 5R-1667 (long pitch)

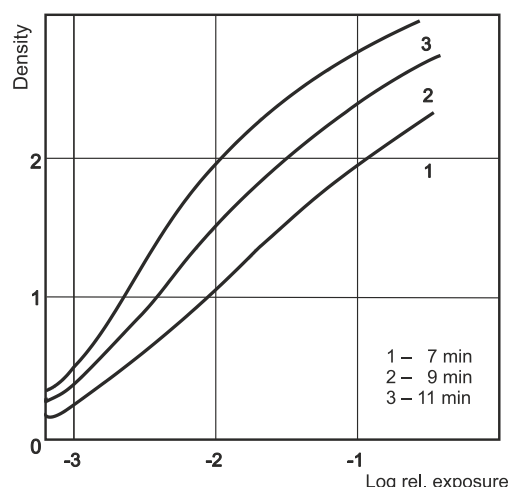
### Relative spectral sensitivity



### Characteristic curves

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

Developer: Microphen at 20 °C



### Resolving power

90 lines per mm

### Granularity

RMS = 17.5 (Microphen at 20 °C, developed to  $\gamma = 0.6$  (measured at  $D = 1.0$ ))

### Base

FOMA Cine Ortho 400 is produced on a gray or grey-blue base made triacetate with the thickness of 0.125 mm.

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