

Bluefire Police™

35mm film

**EXPOSURE AND
PROCESSING
INSTRUCTIONS**



*Bluefire Police*TM

EXPOSURE AND PROCESSING INSTRUCTIONS

Bluefire Police is a high resolution, ultra-fine grain panchromatic film of a type ordinarily unavailable outside the documentation and surveillance industries. It can record finer image detail than can be resolved by commercial photographic lenses.

For pictorial use: When correctly exposed and processed in Bluefire HRTM developer, it yields sharply-detailed enlargements with little or no visible grain, with excellent image microstructure, and with a full-range pictorial gray scale. This makes it useful for high-magnification surveillance photography, scientific and engineering documentation, medical imaging, advertising, aerial mapping, astrophotography, portraiture and art photography.

For document copying: When correctly exposed and processed in Bluefire MicroTM developer, it yields images with solid black, solid white, and no gray, and is particularly useful for high-portability microfilm document copying using ordinary 35mm cameras.

EXPOSURE

For pictorial use: Exposure Index (EI) 80 is the minimum exposure that yields acceptable negatives of cloudy-bright outdoor scenes for printing on no. 2 grade paper.

As with all black and white films, overexposure (exposure at a lower EI) may be required for optimum shadow detail with some subject matter, or with some optical systems.

All black and white films, including Bluefire Police, make their best images when subject contrast is modest, for example an outdoor scene evenly lit by a cloudy-bright sky. High-contrast subject matter, such as a brightly lit beach scene, is faithfully recorded on the film but is very difficult to print on photographic paper.

Underexposure (exposure at a higher EI) is unlikely to yield full-scale negatives, but may be useful when aesthetic considerations are secondary to capturing detail. Extending development time will usually cause loss of shadow detail and may increase grain.

To determine the practical EI for your equipment and procedures, bracket exposure of an average scene (cloudy-bright, outdoors) in half-stops around EI 80, and make test enlargements on no. 2 grade enlarging paper.

For high-contrast photography, expose the film at EI 100.

PROCESSING

Please read these instructions all the way through before beginning.
Handle the film in complete darkness.

For continuous-tone photography

Processing temperature: 20° (68° F).

Developer: Process in Bluefire HR. For one roll of 35mm film prepare 250ml of working solution by measuring out 15ml of Bluefire HR concentrate and adding water to make 250ml.

Time: Develop for 15 minutes.

Agitation: 20 to 30 seconds of continual gentle agitation after filling the tank. Thereafter, two or three gentle turns of the tank (three to five seconds of agitation) every three minutes. Over-agitation will create excessive contrast and mask highlights.

Stop bath: two rinses of plain water, 30 seconds per rinse with agitation. Do not use an acid stop bath, since there is some risk of it reacting with the carbonate content of the developer, which evolves gas and causes pinholes in the emulsion.

Fix: any standard film fixer, 2 ½ minutes with agitation.

Wash: ten complete changes of fresh water, as follows: Fill the tank with water, agitate gently for one minute. Then drain and refill with fresh water, and agitate again for one minute. Repeat until water has changed ten times.

For high contrast photography

Use any standard high-contrast developer such as Bluefire Micro or Kodak Dektol and follow the manufacturers instructions.

PRINTING

Bluefire Police has a perfectly clear base instead of the neutral-density base of ordinary camera films. Correctly processed negatives will look thin compared to what most experienced darkroom workers would expect, but despite the appearance of incorrect density they will print correctly on enlarging paper, and they can be successfully scanned in a film scanner. Because the base is clear, enlarger exposure times will be very short.

Processing summary:

- **15ml concentrate** in 250 ml working solution.
- Develop **15 minutes** at **20° (68° F)**
- **Agitate** every 3 minutes
- Plain water **stop bath**
- **Fix** 2.5 minutes
- **Wash** 10 complete changes of water, 1 minute per tank of water, with agitation.

Keeping properties, Bluefire HR concentrate:

- **unopened bottle:** 6 months storage life
- **opened bottle:** 5 day storage life
- **working solution:** use once and then discard.

Storage life of an opened bottle of concentrate will be extended by squeezing the bottle to exclude all air. Discard unused concentrate that turns dark orange.

Bluefire HR contains 1-Phenyl-3-Pyrazolidinone, 1,4-Dihydroxybenzene, Sodium Sulfite and Sodium Carbonate. Do not ingest. Avoid contact with eyes. Avoid repeated or prolonged skin contact.

For up-to-date information visit the Bluefire web site: <http://www.bluefire.ca>

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August 2002