

FOMATONE MG

BLACK-AND-WHITE VARIABLE-CONTRAST ENLARGING PHOTOGRAPHIC PAPER WORKING IN A WARM TONE

In general

FOMATONE MG is a variable-contrast photographic paper working in a warm tone, specially designed for portrait photography and retro style works. Its contrast can be varied in a large extent from extra soft up to ultra hard by using colour filters at exposure. The paper is manufactured using a special silver chlorobromide emulsion that gives the silver image a brown-green to warm-brown tone that can further be influenced by the type of developer used. The paper base involved is coloured in compliance with the tone of the developed silver. This accentuates rich scale of warm halftones ranging from light cream up to saturated brown-to-green black ones. Regarding its low speed, the paper is designed primarily for contact work, it can be, however, used as an enlargement paper as well. Special silver chlorobromide emulsion of this paper enables the consumers to use creative methods within so called „lith“ processes. It manufactured in two sorts:

- FOMATONE MG – on PE (resin) coated base in surface: glossy and matt
- FOMATONE MG CLASSIC – on baryta (FB) paper base (double weight) in surfaces: glossy, semi-glossy, matt and fine-grain

Packaging

FOMATONE MG is manufactured and supplied in all usual sizes and in rolls up to the width of 108 cm.

Safelighting

FOMATONE MG is routinely processed at indirect safety illumination with wavelength of 610 nm and higher, corresponding colour of safety illumination is orange. Regarding its low sensitivity the processed material can be exposed to such and/or another adequate type of safety illumination for longer period than common types of black and white papers (Fomabrom, Fomaspeed, etc.).

Exposure

FOMATONE MG can be exposed in all types of enlargers and printers equipped with tungsten or tungsten halogen lamps. Particularly suitable are devices with a special colour mixing heads for multi-contrast papers. Other enlargers can also be used, but separate correction filters should be inserted during exposure.

During enlarging, a fact has to be taken into account that the speed of this paper is considerably lower than that of other Foma photographic papers so that exposure times have to be adequately longer. Besides, the Schwarzschild effect, being shown particularly at long exposures (above 15 minutes) along with a low intensity of light, which is characteristic for this type of paper, should be taken into account.

Contrast control

The contrast can be continuously varied from extra soft (contrast grade 0 resp. 00) to ultra hard (contrast grade 5). FOMATONE MG being sensitized in blue and green spectral areas, its contrast is controlled using yellow and magenta filters during exposure. If only the blue sensitized part of the emulsion is exposed (under magenta filters), the contrast will increase; if the green sensitized part of the emulsion is exposed (under yellow filters), the contrast will reduce. If no colour filtration is used, the contrast grade of the paper equals 2 (special).

The following methods and devices are recommended for the contrast control:

- standard sets of filters for variable-contrast papers (e.g. Foma Variant Filters, Ilford Multigrade Filters, etc.)
- magenta and yellow filters in colour mixing heads
- special enlarging heads for variable-contrast papers
- colour printing filters (yellow and magenta)
- colour printers with a programme for variable-contrast papers
- black-and-white printers with an inserted magenta filter for hard and ultra hard contrast grades

Filtrations with colour mixing heads:

Contrast grade	0	1	2	3	4
DURST	40Y	20Y	20M	60M	130M
MEOPTA	80Y	50Y	20M	60M	130M

Processing

FOMATONE MG can be processed both manually in trays and automatically in roller developing machines. The processing procedure does not differ substantially from that for other Foma photopapers. Any common developers are suitable but Fomatol LQN, Fomatol P and Fomatol PW developers are particularly recommended for their brown-green and warm-brown image tone respectively; the last developer having specially been formulated for this paper. In general it is necessary to take into consideration that any developers giving more expressed images usually reduce contrast and the yield of speed. Stopping the development before fixing is very important with this paper - any neglecting the procedure recommended can cause non-homogenities of gray areas on prints.

To accentuate the resulting image tone, special developers of foreign manufacturers designed for warm image tones are recommended, e.g. Ilford Harman Warmone, Agfa Neutol WA, Tetenal Neutral type Liquid, Maco Lith and the like.

Fomatone MG papers of the new emulsion range, beginning with the emulsion lot 0680, are suitable for creative use of the so-called lith process. Considering the specific processing conditions and substantially various interactive effects of special "lith" developers it is necessary to test each emulsion lot separately (especially the modification of the exposure and developing time).

Manual processing in trays

Processing step	Processing bath	Time	Temperature (°C)
Development	Fomatol LQN (1+7)	1–3 min.	20
	Fomatol PW	2–3 min.	20
Stopping	2 % acetic acid	20–30 sec.	20
	or Fomacitro (1+19)	10–20 sec.	20
Fixing	Fomafix (1 + 5)	1.5 min.	20
	Fomafix P / Acid Fixer	3 min.	20
Washing	running water	30 min.	above 12
		45 min.	below 12

Drying: FOMATONE should be not glazed only dried - either left to dry naturally at room temperature or dried using warm air at temperatures up to a maximum of 70°C.

Note: To obtain even warmer image tones, Fomatol PW developer can additionally be diluted with water. However, the development time should be prolonged in this case – on dilution of 1+1 it should be doubled, on dilution of 1+3 it should be as about four time longer as the original development time.

Technical data (Ilford Multigrade Filters for contrast control)

Filter	Contrast grade	ISO R speed	Lengthening factor (t_{rel})	D_{max}
00	special soft	140	3,4	2,0
0	extra soft	120	3,4	2,0
1	soft	105	3,0	2,0
–	special	90	–	2,0
2	special	90	2,4	2,0
3	normal	75	2,0	2,0
4	hard	70	2,4	2,0
5	ultra hard	55	3,0	2,0

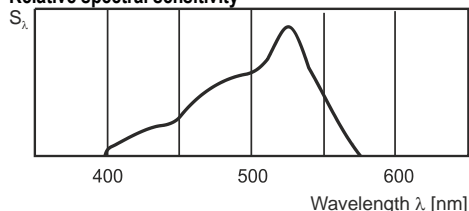
The data are valid for the glossy surface; for the matt surface $D_{max} = 1,6$ is valid.

Technical data (Foma Variant Filters for contrast control)

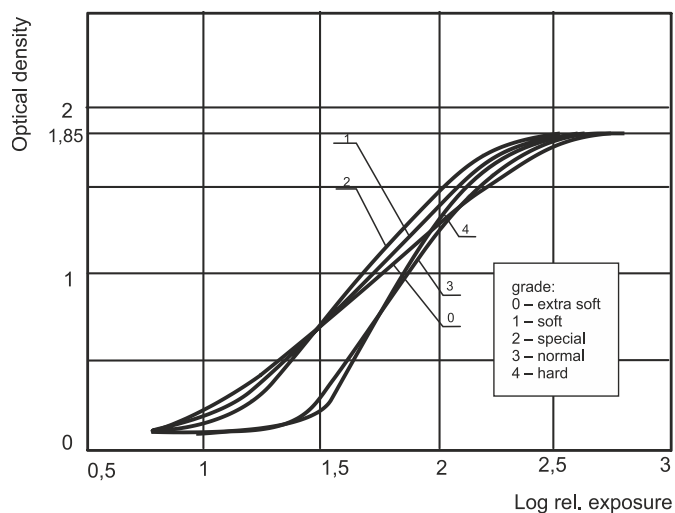
Filter	Contrast grade	ISO R speed	Lengthening factor ($t_{rel.}$)	D_{max}
2xY	extra soft	120	2,0	2,0
Y	soft	105	1,5	2,0
-	special	90	-	2,0
M1	special	80	1,5	2,0
2xM1	normal	75	1,8	2,0
M2	hard	65	2,0	2,0
2xM2	ultra hard	55	3,0	2,0

The data are valid for the glossy surface; for the matt surface $D_{max} = 1,6$ is valid.

Relative spectral sensitivity



Sensitometric curves



The above shown curves are valid for the semi-glossy surface. Any other surface, namely the matt one, causes a decrease in the maximum density value.

Toning

FOMATONE MG can be toned using the Fomatone Sepia two-bath toner by which a yellow-brown image tone can be obtained. In this case the temperature of the toning bath is not as relevant as with Fomaspeed-type photopapers. The prints should be mildly overexposed for toning.

A blue tone can be obtained using the Fomatoner Indigo Set. The resulting image tone depends on dilution, temperature and toning time.

Storage

FOMATONE MG should be stored in an intact original packaging in a dry, cold place (temperatures of up to 5–25 °C and relative humidities ranging 40–60 %), out of reach of harmful vapours, gases and ionizing radiation..

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