FOMABROM VARIANT

BLACK-AND-WHITE VARIABLE-CONTRAST ENLARGING FB PHOTOGRAPHIC PAPER

In general

FOMABROM VARIANT is a black-and-white, variable-contrast enlarging photographic paper on a baryta paper base. 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 designed for amateur, commercial and artistic photography as well as for other applications.

FOMABROM VARIANT features a very rich half-tone scale over all contrast grades, a shining white paper base and saturated blacks. The paper is manufactured using silver chlorobromide emulsion that gives neutral-to-medium warm tone to the silver image.

FOMABROM VARIANT is manufactured on an baryta paper base in a glossy (semi-glossy) and matt surface.

Packaging

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

Safelighting

FOMABROM VARIANT is orthochromatic sensibilized photo paper so if you work with it you should use safety illumination different from common black and white photo paper. It is routinely processed at indirect safety illumination with wavelength of 625 nm and higher, corresponding colour of safety illumination is orange or red. As to its high sensitivity the processed material has to be exposed to such illumination only for the time necessary for its processing. Length of exposure and a distance of the processed material from the illumination source should be tested.

Exposure

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

Contrast control

The contrast can be continuously varied from extra soft (contrast grade 0 resp. 00) to ultra hard (contrast grade 5). FOMABROM VARIANT being orthochromatically sensitized, 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. The following methods and devices are recommended for 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 printing filters or colour mixing heads:

Contrast grade	0	1	2	3	4	5
AGFA*	120 Y	30Y	20M	130M	300M	400M
KODAK*	80 Y	30Y	10M	60M	120M	200M
DURST**	60 Y	30Y	10M	40M	90M	130M
MEOPTA**	60 Y	30Y	10M	30M	100M	180M

* printing filters
** colour mixing head

Processing

FOMABROM VARIANT can be processed both manually in trays and automatically in roller developing machines approved for photographic papers on baryta paper base. Suitable are common neutral-working or contrast-working developers as well as special developers for variable-contrast papers. The resulting image tone is influenced by developers used.

For common work over all contrast grades and a neutral image tone, Fomatol LQN, Fomatol P or Universal developer FOMA etc. developers are recommended. From developers of foreign manufacturers, developers such as Ilford Multigrade, Kodak Polymax T, Adox MCC Developer, Rollei Print Neutral etc. are recommended. For fixing, a common acid fixer (e.g. powder Fomafix P) or Fomafix rapid fixer should be used.

Manual processing in trays

Processing step	Processing bath	Time	Temperature [°C]
Development	Fomatol LQN (1+7)	100–130 sec.	20
Stopping	2 % acetic acid	20–30 sec.	20
	or Fomacitro (1+19)	20–30 sec.	20
Fixing	Fomafix (1 + 5)	3 min.	20
	Fomafix P / Acid Fixer	5 min.	20
Washing	running water	30 min.	above 12
		45 min.	below 12

Development time – temperature curves (manual processing)

Temperature [°C]	Time [seconds]
20 °C	100–130
25 °C	70–100
30 °C	50–70
35 °C	30–45

Drying: FOMABROM VARIANT is reccomended for beeing dried freely leid at room temperature, or by hot air in maximum of 85°C and subsekquently pressed or dried stretch at maximal temperature of 35° C.

Toning

FOMABROM VARIANT can be toned using a direct toning method (single-bath), or an indirect toning method (double-bath). The brown image tone is particularly very popular, being obtained using Fomatoner Sepia Set. By changing the temperature of the toning bath, a wide scale of shades from light yellow-brown to dark-brown or violet-brown can be obtained.

Temperature (°C)	Image tone
up to 20	light, yellow-brown
20 - 30	warm, neutral-brown
above 30	dark-brown to violet-brown

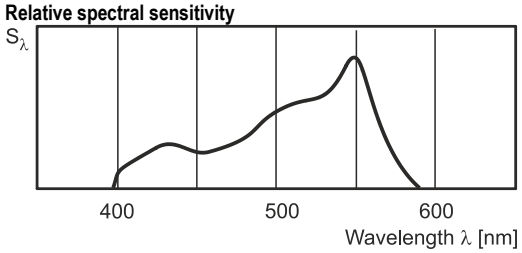
Technical data (Ilford Multigrade filters for contrast control)

Filter	*Contrast grade*	*ISO P speed*	*ISO R range*	*Lengthening factor ($t_{rel.}$)*
00	special soft	200	160	2,4
0	extra soft	200	130	2,4
1	soft	200	110	2,4
–	special	500	100	–
2	special	200	90	2,4
3	normal	200	70	2,4
4	hard	100	60	4,8
5	ultra hard	100	50	4,8
Exposure for filters 0 – 3 is the same; for filters 4 – 5 it should be doubled				

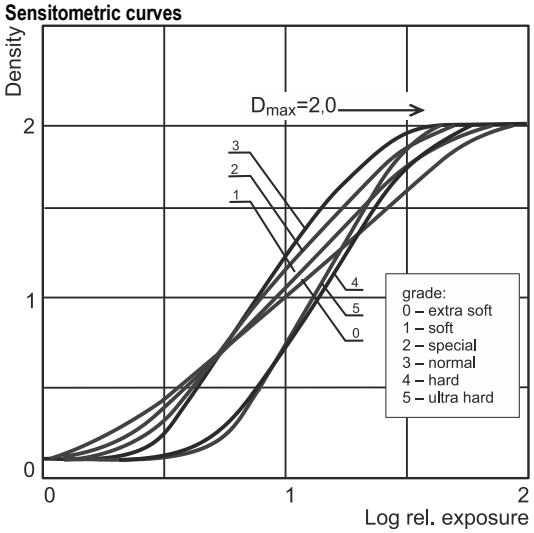
Technical data (Foma Variant filters for contrast control)

Filter	*Contrast grade*	*ISO P speed*	*ISO R range*	*Lengthening factor ($t_{rel.}$)*
2xY	extra soft	310	135	1,6
Y	soft	360	120	1,4
–	special	500	100	–
M1	special	360	90	1,4
2xM1	normal	240	80	2,1
M2	hard	190	65	2,6
2xM2	ultra hard	110	55	4,6

Relative spectral sensitivity



Sensitometric curves



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

Storage

FOMABROM VARIANT 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.

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