



FOMASPEED VARIANT III

BLACK-AND-WHITE VARIABLE-CONTRAST ENLARGING PHOTOGRAPHIC PAPER

In general

FOMASPEED VARIANT III is a black-and-white, variable-contrast enlarging photographic paper on a resin-coated (RC) 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, artistic, industrial, newspaper, aerial and police photography as well as for other applications.

FOMASPEED VARIANT III 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. Developing agents incorporated into the emulsion layer facilitate rapid machine processing and a shortening development times in manual processing to 60 - 90 seconds at 20 °C. Due to the resin-coated paper base and a thin emulsion layer, the time necessary for development, fixing, washing and drying is considerably shortened and the consumption of processing baths and washing water is reduced.

FOMASPEED VARIANT III is manufactured on an RC paper base in a glossy and matt surface.

Packaging

FOMASPEED VARIANT III is available in sheets sized from 8,9x12,7 cm to 50x60 cm, in rolls 76 - 127 mm wide and 100 or 150 m long, and in rolls 108 cm wide and 10, 20 and 50 m long.

Safelighting

FOMASPEED VARIANT III is an orthochromatically sensitized photographic paper. Therefore, a suitable safelighting differing from that for conventional photographic papers should be used. Dark-red safelight filters for orthochromatic materials, e.g. Kodak GBX-2, Ilford 906, Agfa R1, Osram Duka 50 etc. in connection with a 15 Watt lamp are fully suitable. Because of its high speed, FOMASPEED VARIANT III should be exposed to this safelighting only for a time prerequisite to handling.

Exposure

FOMASPEED VARIANT III 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 head for multi-contrast papers. Other enlargers 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) to ultra hard (contrast grade 5). FOMASPEED VARIANT III 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*	120Y	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

FOMASPEED VARIANT III can be processed both manually in trays and automatically in roller developing machines. 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 or Fomatol P developers are recommended. Using a special Fomatol PW developer, brown-green image tones can be obtained. From developers of foreign manufacturers, developers such as Kodak Polymax or Dektol, Tetenal Variospeed, Ilford Multigrade, etc. are recommended. For fixing, a common acid fixer (e.g. 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)	60-90 sec.	20
Stopping	2 % acetic acid or Fomacitro (1+19)	10 sec.	20
		10-20 sec.	20
Fixing	Fomafix (1 + 5) Fomafix P	90 sec.	20
		3 min..	20
Washing	running water	2 min.	above 12
		4 min.	below 12

Development time - temperature curves (manual processing)

Temperature (°C)	Time (seconds)
20 °C	60-90
25 °C	40-60
30 °C	25-40
35 °C	15-25

Machine processing

Processing step	Processing bath	Time	Temperature (°C)
Development	Fomatol LQN (1+4)	25-35 sec.	30
Stopping	2 % acetic acid or Fomacitro (1+19)	20 sec.	-
		10 - 20 sec.	-
Fixing	Fomafix (1 + 4)	25-35 sec.	30
Washing	running water	60 sec.	30

Drying: FOMASPEED VARIANT III should be not glazed only dried - either left to dry naturally at room temperature or using warm air at temperatures up to a maximum of 85 °C.

Toning

FOMASPEED VARIANT III can be toned using a direct toning method (the one-bath one, e.g. by Fomatoner Indigo), or an indirect toning method (the two-bath one, e.g. by Fomatoner Sepia). For a standard process, the indirect method is recommended. 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

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

Technical data (Ilford Multigrade filters for contrast control)

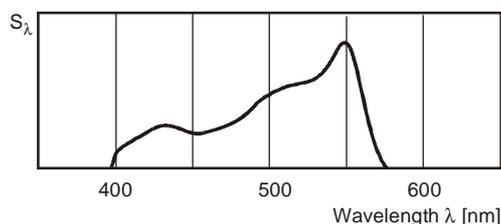
Filter	Contrast grade	ISO R speed	ISO P range	Lengthening factor ($t_{rel.}$)
00	special soft	160	200	2,4
0	extra soft	130	200	2,4
1	soft	110	200	2,4
-	special	100	500	-
2	special	90	200	2,4
3	normal	70	200	2,4
4	hard	60	100	2,4
5	ultra hard	50	100	2,4

Exposure for filters 0 – 3 is the same; for filters 4 – 5 it should be doubled

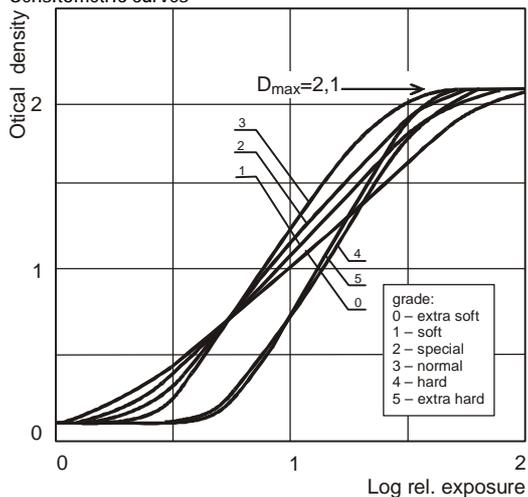
Technical data (Foma Variant filters for contrast control)

Filter	Contrast grade	ISO R speed	ISO P range	Lengthening factor ($t_{rel.}$)
2xY	extra soft	135	360	1,4
Y	soft	120	360	1,4
-	-	105	500	-
M1	special	90	360	1,4
2xM1	normal	80	240	2,1
M2	hard	65	190	2,6
2xM2	ultra hard	55	110	4,6

Relative spectral sensitivity



Sensitometric curves



Storage

FOMASPEED VARIANT III should be stored in an intact original packaging in a dry, cold place (temperatures of up to 5–21 °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 9001:2000.