

TECHNICAL INFORMATION

**NEW MGRC VS MGIVRC**

COMPARING THE NEW MGRC WITH MGIVRC

**ILFORD MULTIGRADE IV RC** Has now been superseded by a new 5<sup>th</sup> generation variable contrast paper. The new paper shares the same 190gsm RC base and is available in Glossy (1M), Pearl (44M) and Satin (25M) surfaces.

**Physical Characteristics compared**

Product	Base gsm*	Base Tone	Image Tone	Dmax	1M	25M	44M
MULTIGRADE RC DELUXE - NEW	190 (M)	Neutral	Neutral/Warm	2.15	Y	Y	Y
MULTIGRADE IV RC DELUXE	190 (M)	Cool/Neutral	Cool/Neutral	2.05	Y	Y	Y

As can be seen from the table above the new paper has a more neutral base tone and a slightly warmer image tone. As a result the product is now more clearly positioned between Multigrade RC Cooltone and Multigrade RC Warmtone. The new product also has a higher maximum density, giving more depth to the prints and a slightly extended tonal range compared to MGIVRC.

**\*Base weight and Surface Codes**

190gsm, mid weight base is coded "M", 250 gsm, double weight base is coded K.

Glossy surface is coded "1", Satin "25" and Pearl "44"

**NB** Base weights are quoted excluding the polythene coating. For total weight add approx. 70gsm per sqm.

**EXPOSURE**

New Multigrade RC Deluxe is approx. 1 stop faster than MGIVRC and no longer has a large step change in exposure between grade 3.5 and grade 4, therefore only fine tuning of the exposure is now required when switching between all grades.

**Contrast Control**

We have designed the new paper to be easy to print from most negatives. The new paper has a smoother characteristic curve (no steps) and therefore a more consistent contrast response throughout the tonal range. Low to mid grades are offset up to 1 grade harder, whilst the large speed difference between grade 3.5 and grade 4 is now reduced. These changes allow more control where most negatives are printed with only a slight trade off in overall contrast range.

The new paper is fully compatible with ILFORD MULTIGRADE speed-matched filters, legacy Multigrade 500/600 exposure units and other variable contrast enlarger systems.

**ISO Range (R)**

ISO range figures give a guide to selecting the appropriate grade of paper for a given effective negative density range. In general, the lower the number the higher the contrast.

PRODUCT	FILTER								
	00	0	1	2	3	4	5	None	
MULTIGRADE RC DELUXE - NEW	160	130	110	90	70	60	50	90	
MULTIGRADE IV RC DELUXE	180	160	130	110	90	60	40	110	

ISO range figures may be helpful to printers who have some means of measuring the effective density range of the image as projected on the enlarger baseboard – such as with a photometer.

## MULTIGRADE RC PAPERS Technical Information

### ISO Speed (P)

**NB** ISO Paper speeds are not the same as Film ISO speeds, MULTIGRADE RC papers have approximately an equivalent Film ISO of 3-6.

The speed of MULTIGRADE papers depends on the filtration used during exposure. (see table below)

PRODUCT	FILTER							
	00	0	1	2	3	4	5	None
MULTIGRADE RC DELUXE - NEW	240	240	240	240	240	220	220	500
MULTIGRADE IV RC DELUXE	200	200	200	200	200	100	100	500

### Toning

New Multigrade RC Deluxe has an improved toning response. When selenium toning a noticeable boost to shadow contrast and black density is observed. Image tone will take on a slight aubergine colouration if extended toning times are used.

The new paper also responds better to Sepia and split toning techniques.

### Safelight recommendations

New Multigrade RC Deluxe papers can be used with most common safelights for black and white papers. The ILFORD safelights are especially recommended as they generally allow darkrooms to be brighter, but completely safe.

For direct lighting, do not expose the paper to the safelight for more than 4 minutes, and the distance between the paper and the safelight should be a minimum of 1.2 metres/4ft.

### Development

The induction time for New Multigrade RC Deluxe is faster and images will begin to appear quicker in the tray. Overall development times are the same however.

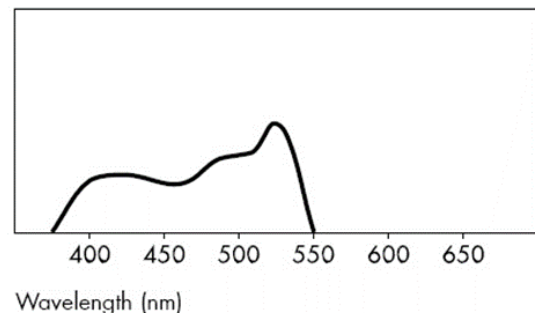
#### Processing summary (intermittent agitation)

Chemical Options	Dilution	°C/°F	Time (min:sec)
<b>Developers</b>			
ILFORD MULTIGRADE	1+9	20 / 68	1:00
ILFORD MULTIGRADE	1+14	20 / 68	1:30
ILFORD PQ UNIVERSAL	1+9	20 / 68	2:00
ILFORD BROMOPHEN	1+3	20 / 68	2:00
<b>Stop Bath</b>			
ILFOSTOP	1+19	18-24 / 64-75	0:10
<b>Fixer</b>			
ILFORD Rapid Fixer	1+4	18-24 / 64-75	0:30
ILFORD Hypam	1+4	18-24 / 64-75	0:30
<b>Washing</b>			
Fresh, Running Water	-	Above 5 / 41	2:00

**Note** Photographic chemicals are not hazardous when used correctly. Always follow the health and safety recommendations on the packaging. Photochemical material safety data sheets containing full details for the safe handling, disposal and transportation of ILFORD chemicals are available from [www.ilfordphoto.com](http://www.ilfordphoto.com)

### Spectral Sensitivity

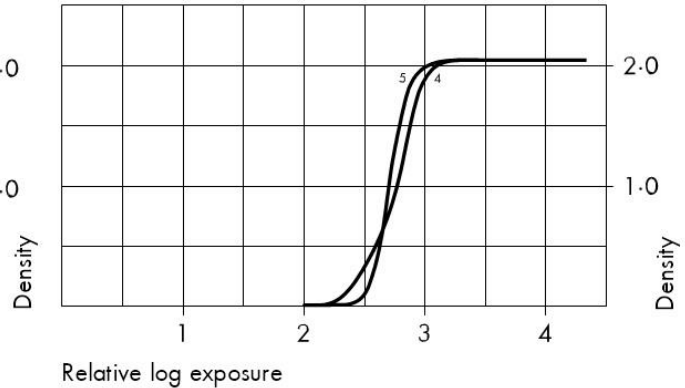
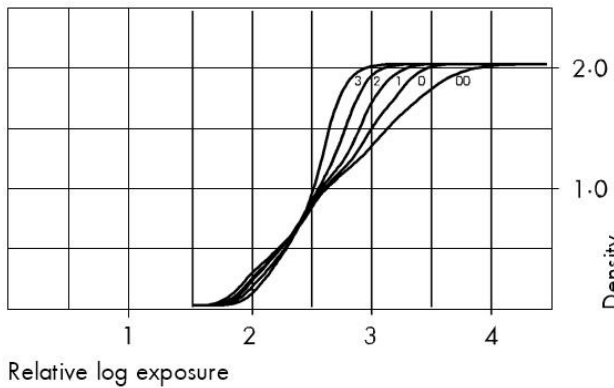
Both papers have similar spectral sensitivity as shown in the chart opposite



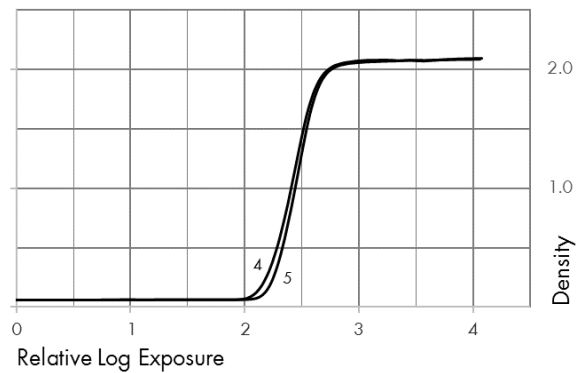
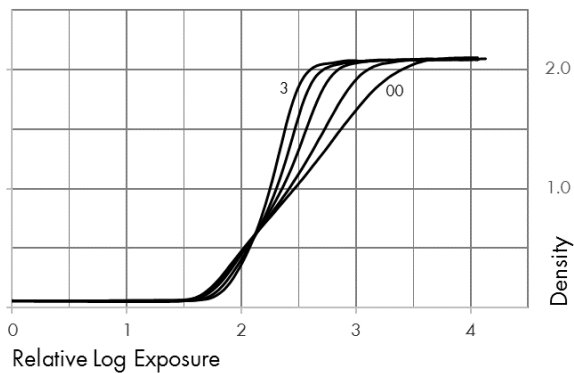
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**Characteristic Curves:** The diagrams below illustrate differences in the characteristic curves for the two emulsions. New Multigrade RC Deluxe has a slightly reduced contrast range, but has a straighter curve shape and more uniform contrast response. Overall contrast is generally harder through the mid grades, resulting in less pronounced steps in the range 3.5 – 5.

### MULTIGRADE IV RC DELUXE & PORTFOLIO



### NEW MULTIGRADE RC DELUXE



MULTIGRADE RC papers exposed through filters 00,0,1,2,3,4,5. Development MULTIGRADE Dev @1+9. 1 minute at 20°C/68°F.

A wide range of information sheets are available which describe and give guidance on using ILFORD PHOTO products. Some product information sheets might not be available in your country.

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