

# RGB and CMYK

## WHAT IS THE DIFFERENCE BETWEEN RGB AND CMYK

Colours that appear on a computer or TV screen are displayed in RGB (RED, GREEN, BLUE) and are generated differently to the printing process which is carried out in CMYK (CYAN, MAGENTA, YELLOW, BLACK). The range of colours we see displayed in RGB is much greater than we can print in CMYK, therefore the printed product is not going to be an exact match to the colours displayed on the screen. Screens are not generally matched for colour, so if you are looking at a file on a screen the image will appear a different colour on each different computer you are viewing it on.

At some point all RGB files need to be converted into CMYK to print. What tends to happen when converting RGB to CMYK is that the images once converted can look rather “flat” and lacking in contrast. The way to help get as close as possible to the original RGB file when printing is to add some brightness and contrast to the file after converting to CMYK. Obviously it is better if this can be done before printing as you will see the effect of the colour conversion from RGB to CMYK.

Some colours will never convert satisfactorily from RGB to CMYK - examples would be some very bright or fluorescent colours.

For the reasons above it is better if you are able to supply your files to us already converted to CMYK. If you are unable to do this yourself

then you can still send your files in RGB, it just means that our RIP (Raster Image Processor) will do the colour conversion to CMYK when the files are sent to the Press. The RIP makes the conversion from RGB to CMYK using a "colour profile".

As most cards get hard copy proofed before you place an order you will see exactly what the printed card is going to look like before we do the final print run.

## COLOUR PROFILES

Most Programs used to generate files have a colour profile setting. This profile is basically a colour curve which specifies exactly how to convert the RGB file to CMYK. The industry standard CMYK profile is called "Fogra 39" which is the profile we use. This profile is set up in the Preferences for each program. So we set the Fogra 39 profile in InDesign and Photoshop. If you use the same profile that we use then you should get the same result as we would when converting from RGB to CMYK.

The whole circle represents the range of colours that we can see with our eyes.

The yellow enclosed area represents the range of colours you can see on a screen in RGB.

The blue enclosed area represents the range of colours you can achieve printing in CMYK.

