

## *PostScript-Colour Parameters and 1-Minus-Relation (1MR) of rgb and cmyk*

01 Colour parameters *setgray*, *setrgbcolor*, and *setcmykcolor* in *PostScript*.

02

03 *k setgray* with  $0 \leq k \leq 1$  defines colours in the space *DeviceGray*.

04 For  $k=0$  the colour is black, for  $k=1$  the colour is white.

05 For  $0 \leq k \leq 1$  a grey colour is defined between black and white.

06

07 *r g b setrgbcolor* with  $0 \leq r, g, b \leq 1$  defines colors in the space *DeviceRGB*.

08 For  $r=g=b=0$  the colour is black, for  $r=g=b=1$  the colour is white.

09 For  $0 \leq r, g, b \leq 1$  many colours including greys are defined.

10

11 *c m y k setcmykcolor* mit  $0 \leq c, m, y, k \leq 1$  defines colours in the space *DeviceCMYK*.

12 If  $k=0$  and  $c=m=y=1$  the colour is black, for  $c=m=y=0$  the colour is white.

13 If  $c=m=y=0$  and  $k=1$  the colour is black, for  $k=0$  the colour is white.

14 For  $0 \leq c, m, y \leq 1$  and  $k=0$  many colours including greys are defined.

15

16 For  $0 \leq c, m, y \leq 1$  and  $k=0$  the minimum of  $\{c, m, y\}$  can be changed by  $k$ .

17 In this case the new parameters of *setcmykcolor* are  $\{c-k, m-k, y-k, k\}$ .

18 Lines 16 and 17 define the 1-Minus-Relation for the *cmyk* values.

19 The 1-Minus-Relation for values of *rgb* and *cmyk* is  $r=1-c, g=1-m, b=1-y$ .

Lines 03 to 14: parameters of *setgray*, *setrgbcolor*, and *setcmykcolor*.

Lines 16 to 19: 1-Minus-Relation between  $\{c, m, y, 0\}$ ,  $\{c, m, y, k\}$ , and  $\{r, g, b\}$ .