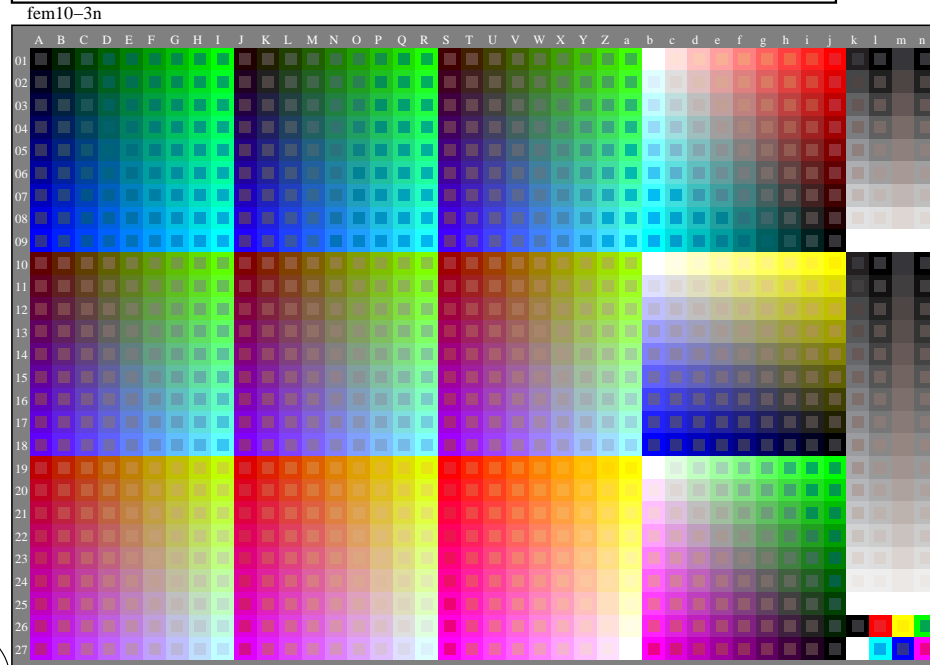


**PostScript-Colour Parameters and 1-Minus-Relation (1MR) of *rgb* and *cmk***

```

01 Colour parameters setgray, setrgbcolor, and setcmkcolor 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 setcmkcolor mit  $0 \leq cmyk \leq 1$  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 setcmkcolor are  $\{c-k, m-k, y-k, k\}$ .
18 Lines 16 and 17 define the 1-Minus-Relation for the cmk values.
19 The 1-Minus-Relation for values of rgb and cmk is  $r=1-c, g=1-m, b=1-y$ .
    
```

Lines 03 to 14: parameters of *setgray*, *setrgbcolor*, and *setcmkcolor*.  
 Lines 16 to 19: 1-Minus-Relation between  $\{c, m, y, 0\}$ ,  $\{c, m, y, k\}$ , and  $\{r, g, b\}$ .

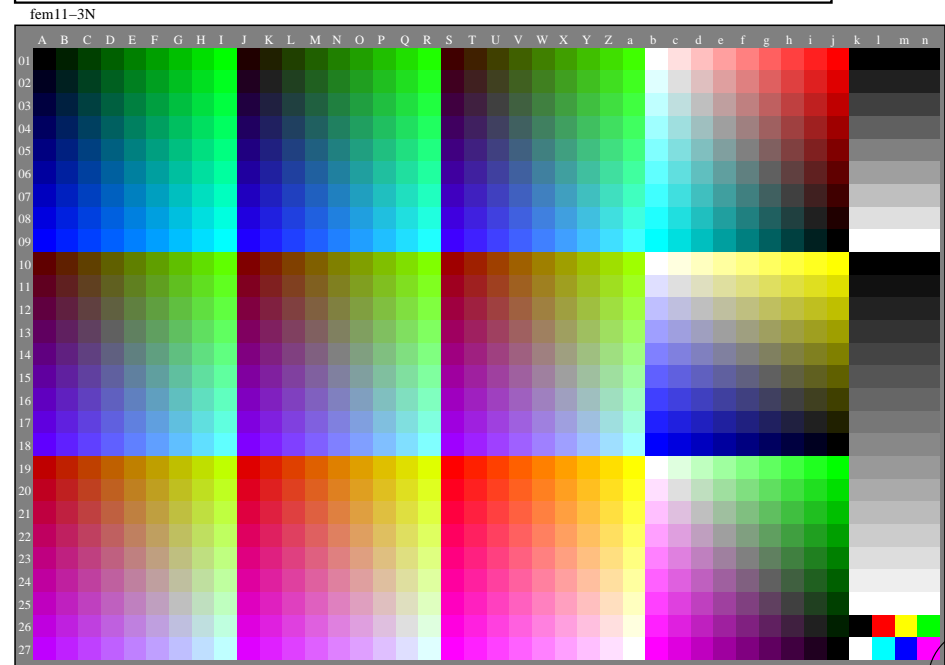


**Frame File PostScript Code for 1-Minus-Relation (1MR) to *setrgbcolor* and line 05 to 07 for change of *setgray* to *setrgbcolor* and line 09 to 13 for change of *setcmkcolor* to *setrgbcolor***

```

01 %!PS-Adobe-3.0 EPSF-3.0, 1MR for change to setrgbcolor
02 /1MR-0000 {%BEG procedure 1MR-0000
03 %1MR-Transform of setgray and setcmkcolor to FFM_1MR-0000
04
05 /setgray {%BEG procedure setgray to setrgbcolor
06     dup dup FFM_1MR-0000
07     } def %END procedure setgray to setrgbcolor
08
09 /setcmkcolor {%BEG procedure setcmkcolor to setrgbcolor
10 /FFM_k exch def /FFM_y exch def /FFM_m exch def /FFM_c exch def
11 FFM_k 0 eq {1 FFM_c sub 1 FFM_m sub 1 FFM_y sub FFM_1MR-0000}
12     {1 FFM_k sub dup dup FFM_1MR-0000} ifelse
13     } def %END procedure setcmkcolor to setrgbcolor
14
15 } def %END procedure 1MR-0000
16 %%Trailer %END 1-Minus-Relation (1MR) to setrgbcolor
    
```

Remarks:  
 The FF\_PS code includes: */FFM\_1MR-0000 {setrgbcolor} bind def*  
 Then *setgray* and *setcmkcolor* is changed to standard *setrgbcolor*



see similar files of the whole serie: <http://farbe.li.tu-berlin.de/fems.htm>  
 technical information: <http://farbe.li.tu-berlin.de> OR <http://color.li.tu-berlin.de>

TUB registration: 20240201-fem1/fem110na.txt /.ps  
 application for evaluation and measurement of display or print output

TUB material: code=rh4ta