

see similar files: <http://farbe.li.tu-berlin.de/AEA2/AEA2L0NA.TXT> /PS; Vector graphic (VG); start output N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 1/1

technical information: <http://farbe.li.tu-berlin.de> or <http://130.149.60.45/~farbmetrik>

Frame File PostScript Code for 1-Minus-Relation (1MR) to *setrgbcolor*

```
01 %!PS-Adobe-3.0 EPSF-3.0, 1MR for change to setrgbcolor
02 /FFM_setrgbcolor (setrgbcolor) bind def
03 /1MR-0000 (%BEG procedure 1MR-0000
04 %1MR-Transform of setgray and setcmykcolor to FFM_setrgbcolor
05
06 /setgray (%BEG procedure setgray to setrgbcolor
07 dup dup FFM_setrgbcolor
08 } def %END procedure setgray to setrgbcolor
09
10 /setcmykcolor (%BEG procedure setcmykcolor to setrgbcolor
11 /FFM_k exch def /FFM_y exch def /FFM_m exch def /FFM_c exch def
12 /FFM_k 0 eq {1 FFM_c sub 1 FFM_m sub 1 FFM_y sub FFM_setrgbcolor}
13 {1 FFM_k sub dup FFM_setrgbcolor} ifelse
14 } def %END procedure setcmykcolor to setrgbcolor
15
16 } def %END procedure 1MR-0000
17 %Trailer %END 1-Minus-Relation (1MR) to setrgbcolor
```

Remarks:
line 02: necessary for the revised definition of *rgb setrgbcolor*.
The *FF_PS* file shall include line 02 before the use of 1MR-0000.
line 06 to 08: change of *w setgray* to *rgb setrgbcolor*.
line 10 to 14: change of *cmyk setcmykcolor* to *rgb setrgbcolor*.

Change of Frame File PostScript Code for 1-Minus-Relation (1MR)

The following files include changes (Yes/No):

File	1MR	gamma	value
AEA20-2N	No	No	1.000
AEA20-4N	Yes	Yes	0.475
AEA21-1N	No	No	1.000
AEA21-3N	Yes	No	1.000
AEA2L0NP	No	No	1.000

01 %BEG PS-Code used in the files of this page AEA2
02 1MR-0000F
03 1MR-0000G
04 /1MR-0000G where {pop 1MR-0000G}{1MR-0000F} ifelse
05
06 %The PS-Operator is not active if "*" is in front.
07
08 %Used in AEA20-2N.EPS, AEA21-1N.EPS: %02, %03, %04
09 %Used in AEA20-4N.EPS, AEA21-3N.EPS: %02, %03, %04
10 %Used in AEA2L0NP.EPS: %02, %03, %04
11 %END PS-Code used in the files of this page AEA2

Remarks:
lines 02 to 04: three possibilities for PS Operators (%-not used).

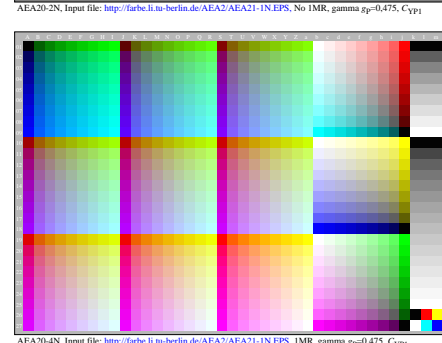
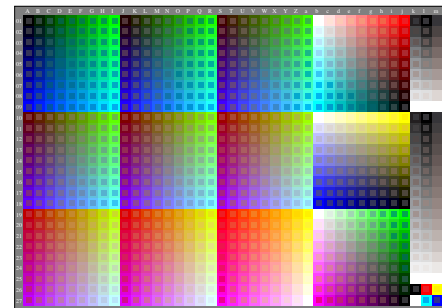
PostScript-code used in the local files (F) for the 1-Minus-Relation (1MR)

The software *AdobeDistiller* V3.0 transfers local PS-VG to the PDF-VG code.
The software *GraphicConverter* V5.2 transfers PDF-VG to the eps-PG code.

```
01 %BEG AEA2/OUTLINIY2 EARLY BINDING 1MR-0000F 200201
02 %BEG 1MR-0000F.TXT, 1MR & rel. gamma change 200201
03
04 /gammaFi 15 array def
05 /gammaFi trel, gamma according to ISO 9241-306:2018
06 [0.475 0.550 0.625 0.700 0.775 0.849 0.924 1.000
07 1.081 1.176 1.290 1.428 1.600 1.818 2.105] def
08
09 /1MR-0000F (%BEG procedure 1MR-0000F
10 /FF_LM_setgrayF0 {setgray} bind def
11 /FF_LM_setrgbcolorF0 {setrgbcolor} bind def
12 /FF_LM_setcmykcolorF0 {setcmykcolor} bind def
13 /FF_LM_transferF0 {settransfer} bind def
14 /FF_LM_colortransferF0 {setcolortransfer} bind def
15 /FF_LM_xchartg_gammaF {gammaGi xchart get exp} def
16
17 /FF_LM_setrgbcolorF {%BEG FF_LM_setrgbcolorF
18 /FF_LM_b0L exch def /FF_LM_g0L exch def
19 /FF_LM_r0L exch def
20 /FF_LM_r0L 0 le {/FF_LM_r0L 0.0001 def} if
21 /FF_LM_b0L 0 le {/FF_LM_b0L 0.0001 def} if
22 /FF_LM_r1F FF_LM_r0L FF_LM_xchartg_gammaF def
23 /FF_LM_g1F FF_LM_g0L FF_LM_xchartg_gammaF def
24 /FF_LM_b1F FF_LM_b0L FF_LM_xchartg_gammaF def
25 /FF_LM_r1F FF_LM_g1F FF_LM_b1F
26 /FF_LM_r1F FF_LM_g1F FF_LM_b1F
27 /FF_LM_setrgbcolorF0} def %END FF_LM_setrgbcolorF
28
29 /setgray (%BEG procedure setgrayF
30 dup dup FF_LM_setrgbcolorF
31 } def %END procedure setgrayF
32 %PS continuing lines 33 to 65 in file AEA20-8N.PDF
```

Remarks:
lines 09 to 15: early lokal binding of five PS color operators: *setgray*, *setrgbcolor*, *setcmykcolor*, *settransfer*, *setcolortransfer*.
lines 11 to 31: early lokal binding of the PS operator *setgray*. *Setgray* is transferred to the PS operator *setrgbcolor*. The values vary with *gamma*.
The local files (F), for example AEA21-3N.EPS, use at the begin the procedure 1MR-0000F instead of 1MR-0000G within AEA2L0NA.PS.

<http://farbe.li.tu-berlin.de/AEA2/AEA2L0NA.TXT> /PS; Vector graphic (VG); start output N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 1/1



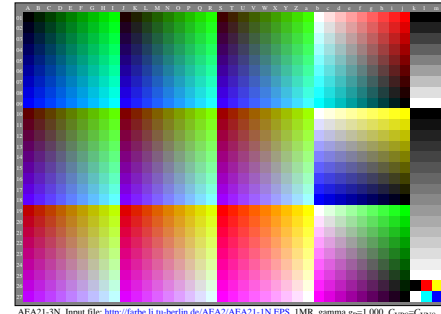
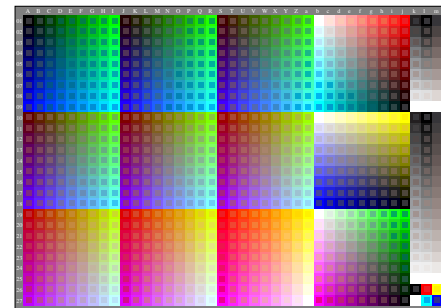
PostScript-code used in the local files (F) for the 1-Minus-Relation (1MR)

The software *AdobeDistiller* V3.0 transfers global PS-VG to the PDF-VG code.
The software *GraphicConverter* V5.2 transfers PDF-VG to the eps-PG code.

```
33 %PS previous lines 01 to 32 in file AEA20-7N.PDF
34 /setcmykcolor (%BEG procedure setcmykcolorF
35 /FF_LM_k exch def /FF_LM_y exch def
36 /FF_LM_m exch def /FF_LM_c exch def
37 /FF_LM_k 0 eq {1 FF_LM_c sub 1 FF_LM_m sub
38 1 FF_LM_y sub FF_LM_setrgbcolorF}
39 {1 FF_LM_k sub dup dup
40 FF_LM_setrgbcolorF} ifelse
41 } def %END procedure setcmykcolorF
42
43 /setrgbcolor (%BEG procedure setrgbcolorF
44 /FF_LM_b exch def /FF_LM_g exch def
45 /FF_LM_r exch def
46 /FF_LM_r FF_LM_g FF_LM_b
47 /FF_LM_setrgbcolorF
48 } def %END procedure setrgbcolorF
49
50 /FF_LM_transferF (%BEG FF_LM_transferF
51 {FF_LM_xchartg_gammaF}
52 /FF_LM_transferF0} def %END FF_LM_transferF
53 /settransfer {FF_LM_transferF} def
54
55 /FF_LM_colortransferF (%BEG FF_LM_colortransferF
56 {FF_LM_xchartg_gammaF} {FF_LM_xchartg_gammaF}
57 {FF_LM_xchartg_gammaF}
58 /FF_LM_colortransferF0} def
59 %END FF_LM_colortransferF
60 /setcolortransfer {FF_LM_colortransferF} def
61 } def %END procedure 1MR-0000F
62 %END 1MR-0000F.TXT, 1MR & rel. gamma change 200201
63 %END AEA2/OUTLINIY2 EARLY BINDING 1MR-0000F 200201
64 %global use: 1MR-0000G, image file use: 1MR-0000F
65 /1MR-0000G where {pop 1MR-0000G}{1MR-0000F} ifelse
```

Remarks:
lines 32 to 64: early lokal binding of the other four PS color operators: *setgray*, *setrgbcolor*, *setcmykcolor*, *settransfer*, *setcolortransfer*.
The values of all including a revised *setrgbcolor* vary with *gamma*.
line 65: If the global procedure /1MR-0000G is defined, then this is used.

The local files (F), for example AEA21-3N.EPS, use at the begin the procedure 1MR-0000F instead of 1MR-0000G within AEA2L0NA.PS.

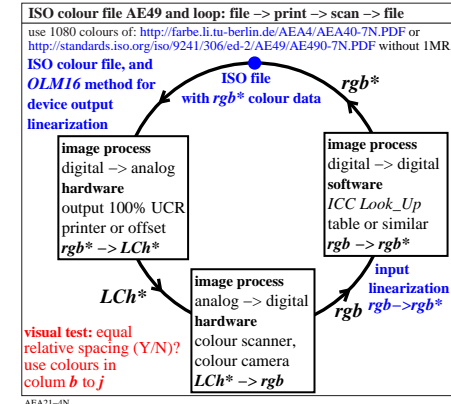


PostScript-code used in the global (G) files for the 1-Minus-Relation (1MR)

The software *AdobeDistiller* V3.0 transfers global PS-VG to the PDF-VG code.
The software *GraphicConverter* V5.2 transfers PDF-VG to the eps-PG code.

```
01 %BEG AEA2/OUTLINIY2 EARLY BINDING 1MR-0000G 200201
02 %BEG 1MR-0000G.TXT, 1MR & rel. gamma change 200201
03
04 /gammaGi 15 array def
05 /gammaGi trel, gamma according to ISO 9241-306:2018
06 [0.475 0.550 0.625 0.700 0.775 0.849 0.924 1.000
07 1.081 1.176 1.290 1.428 1.600 1.818 2.105] def
08
09 /1MR-0000G (%BEG procedure 1MR-0000G
10 /FF_LM_setgrayG0 {setgray} bind def
11 /FF_LM_setrgbcolorG0 {setrgbcolor} bind def
12 /FF_LM_setcmykcolorG0 {setcmykcolor} bind def
13 /FF_LM_transferG0 {settransfer} bind def
14 /FF_LM_colortransferG0 {setcolortransfer} bind def
15 /FF_LM_xchartg_gammaG {gammaGi xchart get exp} def
16
17 /FF_LM_setrgbcolorG (%BEG FF_LM_setrgbcolorG
18 /FF_LM_b0L exch def /FF_LM_g0L exch def
19 /FF_LM_r0L exch def
20 /FF_LM_r0L 0 le {/FF_LM_r0L 0.0001 def} if
21 /FF_LM_b0L 0 le {/FF_LM_b0L 0.0001 def} if
22 /FF_LM_r1F FF_LM_r0L FF_LM_xchartg_gammaG def
23 /FF_LM_g1F FF_LM_g0L FF_LM_xchartg_gammaG def
24 /FF_LM_b1F FF_LM_b0L FF_LM_xchartg_gammaG def
25 /FF_LM_r1F FF_LM_g1F FF_LM_b1F
26 /FF_LM_r1F FF_LM_g1F FF_LM_b1F
27 /FF_LM_setrgbcolorG0} def %END FF_LM_setrgbcolorG
28
29 /setgray (%BEG procedure setgrayG
30 dup dup FF_LM_setrgbcolorG
31 } def %END procedure setgrayG
32 %PS continuing lines 33 to 65 in file AEA21-8N.PDF
```

Remarks:
lines 09 to 15: early global binding of five PS color operators: *setgray*, *setrgbcolor*, *setcmykcolor*, *settransfer*, *setcolortransfer*.
lines 11 to 31: early global binding of the PS operator *setgray*. *Setgray* is transferred to the PS operator *setrgbcolor*. The values vary with *gamma*.
The global (G) frame files, for example AEA2L0NA.PS, use at the begin the procedure 1MR-0000G instead of 1MR-0000F within AEA21-3N.EPS.



PostScript-code used in the global (G) files for the 1-Minus-Relation (1MR)

The software *AdobeDistiller* V3.0 transfers global PS-VG to the PDF-VG code.
The software *GraphicConverter* V5.2 transfers PDF-VG to the eps-PG code.

```
33 %PS previous lines 01 to 32 in file AEA21-7N.PDF
34 /setcmykcolor (%BEG procedure setcmykcolorG
35 /FF_LM_k exch def /FF_LM_y exch def
36 /FF_LM_m exch def /FF_LM_c exch def
37 /FF_LM_k 0 eq {1 FF_LM_c sub 1 FF_LM_m sub
38 1 FF_LM_y sub FF_LM_setrgbcolorG}
39 {1 FF_LM_k sub dup dup
40 FF_LM_setrgbcolorG} ifelse
41 } def %END procedure setcmykcolorG
42
43 /setrgbcolor (%BEG procedure setrgbcolorG
44 /FF_LM_b exch def /FF_LM_g exch def
45 /FF_LM_r exch def
46 /FF_LM_r FF_LM_g FF_LM_b
47 /FF_LM_setrgbcolorG
48 } def %END procedure setrgbcolorG
49
50 /FF_LM_transferG (%BEG FF_LM_transferG
51 {FF_LM_xchartg_gammaG}
52 /FF_LM_transferG0} def %END FF_LM_transferG
53 /settransfer {FF_LM_transferG} def
54
55 /FF_LM_colortransferG (%BEG FF_LM_colortransferG
56 {FF_LM_xchartg_gammaG} {FF_LM_xchartg_gammaG}
57 {FF_LM_xchartg_gammaG}
58 /FF_LM_colortransferG0} def
59 %END FF_LM_colortransferG
60 /setcolortransfer {FF_LM_colortransferG} def
61 } def %END procedure 1MR-0000G
62 %END 1MR-0000G.TXT, 1MR & rel. gamma change 200201
63 %END AEA2/OUTLINIY2 EARLY BINDING 1MR-0000G 200201
64 %global use: 1MR-0000G, image file use: 1MR-0000F
65 /1MR-0000G where {pop 1MR-0000G}{1MR-0000F} ifelse
```

Remarks:
lines 32 to 64: early global binding of the other four PS color operators: *setgray*, *setcmykcolor*, *settransfer*, *setcolortransfer*.
The values of all including a revised *setrgbcolor* vary with *gamma*.
line 65: If the global procedure /1MR-0000G is defined, then this is used.

The global (G) frame files, for example AEA2L0NA.PS, use at the begin the procedure 1MR-0000G instead of 1MR-0000F within AEA21-3N.EPS.

TUB-test chart AEA2; Vector graphic (VG) of all figures
PostScript-output steering of test chart AE49 of ISO 9241-306

input: *w/rgb/cmyk -> rgb(1MR)?*
output: 0,475 < gamma gp < 1,000