

Technical remarks for CEN-test chart files according to WD CEN CSH 99012/3:2004

www.ps.bam.de/CENME001

Project numbers: CEN CSH 99012 and CEN CSH 99013
**Properties and test methods for remanufactured and compatible
user replacable modules containing toner used in elctrophoto-
graphic printer systems and multifunctinal devices that may
contain printer components**

Part 1: Monochrome

Part 2: Colour

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Overview

- PS and PDF files and free download for tests
- CEN-test chart ME00 for monochrome device output by the PS operator *w* setgray*
- CEN-test chart ME01 for colour device output by the PS operator *cmyn* setcmykcolor*
- BAM-test chart ME02 for grey colour device output by the PS operator *000n* setcmykcolor*
- BAM-test chart ME03 for grey colour device output by three PS operators *set(gray/cmykcolor/rgbcolor)*

Summary

Additional technical remarks

PS and PDF files and free download for tests

The CEN-test charts in format PS or PDF may be located from the server address

<http://www.ps.bam.de/CEN/>

**For download of the main files in format PS and PDF
and for an achromatic device use (click on left side to go!)**

<http://www.ps.bam.de/ME00/10L/L00E00NP.PS>

<http://www.ps.bam.de/ME00/10L/L00E00NP.PDF>

and for a chromatic device see

<http://www.ps.bam.de/ME01/10L/L01E00NP.PS>

<http://www.ps.bam.de/ME01/10L/L01E00NP.PDF>

The download for tests is free.

CEN-test chart ME00 for a monochrome device output by the PS operator *w* setgray*

The PDF file produces 2 series with 15 pages. This sums up to 30 pages.

There are 11 different pages. 10 pages (no.1 and 3 to 11) appear only once in a series. The black cross page (no. 2) fills the series with 5 times the same page.

For future standard tests of colour reproduction properties during lifetime of the device the cross page may be printed 240 times in a series of 250 pages.

The PS operator *w* setgray* is mostly used for gray output.

CEN-test chart ME01 for colour device output by the PS operator *cmyn* setcmykcolor*

The PDF file produces 2 series with 4x15 pages. This sums up to 120 pages.

There are 11 different pages in four colours *NCMY* (*N* = noir = black, *C*=Cyan blue, *M*=Magenta red, *Y*=Yellow). 10 Pages (no.1 and 3 to 11) appear only once in a series in four colours. The cross page (no. 2) fills the series with 5 times the same page in four colours.

For future standard tests of colour reproduction properties during life time of the device the cross page may be printed 240 times in four colours in a series of 1000 pages.

The PS operator *cmyn* setcmykcolor* is used for output.

BAM-test chart ME02 for colour device output by the PS operator *000n* setcmykcolor*

There are three possibilities with PS operators to define grey colours for both achromatic and chromatic devices. The 16 step grey output using the four possibilities may be equal or different. The following file may be used for a test and produces 30 pages.

<http://www.ps.bam.de/DE81/10L/L81E00NP.PDF>

If the output of all four 16 step grey scales is equal then there is no reproduction difference of the following file compared to the file of the folder ME00.

The following file uses the PS operator *000n* setcymkcolor* instead of the PS operator *w* setgray* in the folder ME00

<http://www.ps.bam.de/ME02/10L/L02E00NP.PDF>

BAM-test chart ME03 for colour device output by three PS operators *set(gray/cmykcolor/rgbcolor)*

There are four possibilities with PS operators to define grey colours for both achromatic and chromatic devices. The 16 step grey output using the four possibilities may be equal or different. The following file may be used for a test and produces 4x30 pages with the four possibilities in sequence.

<http://www.ps.bam.de/ME03/10L/L03E00NP.PDF>

Summary

- There are PS and PDF files for free download and for the tests of colour reproduction properties during life time of monochrome and colour devices
- The CEN-test chart ME00 for monochrome device output uses the PS operator *w* setgray* and produces 30 pages
- The CEN-test chart ME01 for colour device output uses the PS operator *cmyn* setcmykcolor* and produces 120 pages
- The additional BAM-test chart ME02 for device output uses the PS operator *000n* setcmykcolor* and produces 30 pages
- The additional BAM-test chart ME03 for device output uses three PS operators *set(gray/cmykcolor/rgbcolor)* and produces 120 pages

CEN-test charts according to WD CEN CSH 99012/3:2004



Additional Technical remarks:

The PS files of the four folders ME00 to ME03 are approximately the same

1. The PS operator *w* setgray* is changed for *scolorm=0 to 3* by the PS code sequence in the folder ME01 to

```
scolorm 0 eq {/setgray {/ndata exch def
                0 0 0 1 ndata sub setcmykcolor} def
            /colort (N) def /colort* (000x* setcmykcolor) def} if
scolorm 1 eq {/setgray {/ndata exch def
                1 ndata sub 0 0 0 setcmykcolor} def
            /colort (C) def /colort* (x000* setcmykcolor) def} if
scolorm 2 eq {/setgray {/ndata exch def
                0 1 ndata sub 0 0 setcmykcolor} def
            /colort (M) def /colort* (0x00* setcmykcolor) def} if
scolorm 3 eq {/setgray {/ndata exch def
                0 0 1 ndata sub 0 setcmykcolor} def
            /colort (Y) def /colort* (00x0* setcmykcolor) def} if
```

A loop produces 120 pages for the four colours instead of 30.

2. The PS file in the folder ME02 uses only *scolorm=0*.

3. The PS operator *w* setgray* is changed for *scolorm=0 to 3* by the PS code sequence in the folder ME03 to

```
scolorm 0 eq {/setgray {/ndata exch def
                0 0 0 1 ndata sub setcmykcolor} def
            /colort (N) def /colort* (000x* setcmykcolor) def} if
scolorm 1 eq {%/setgray {/ndata exch def
                %          ndata setgray} def
            /colort (N) def /colort* (w* setgray) def} if
scolorm 2 eq {/setgray {/ndata exch def
                1 ndata sub dup dup 0 setcmykcolor} def
            /colort (N) def /colort* (xxx0* setcmykcolor) def} if
scolorm 3 eq {/setgray {/ndata exch def
                ndata dup dup setrgbcolor} def
            /colort (N) def /colort* (www* setrgbcolor) def} if
```

A loop produces 120 pages for the four greys instead of 30.