

DIN CEN/TS 14826:2004-10 (E)

Postal services - Automatic identification of items - Two dimensional bar code symbol print quality specification for machine readable Digital Postage Marks; English version CEN/TS 14826:2004

Inhalt	Seite
Foreword	4
Introduction.....	5
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions	7
4 Symbols and abbreviations.....	8
5 Requirements.....	9
6 Basic measurement methodology	10
7 Verification requirements for Digital Postage Marks.....	11
7.1 Verification equipment.....	11
7.2 Optical geometry	11
7.3 Light source	11
7.4 Measuring aperture	12
7.4.1 Measuring aperture for two-dimensional multi-row symbologies	12
7.4.2 Measuring aperture for two-dimensional matrix symbologies.....	13
7.5 Mail format	13
8 Grading implications for individual symbol attributes.....	13
9 Additional grading parameters - Quiet zone	15
10 Qualification of printing systems for Digital Postage Marks.....	15
Annex A (normative) Test procedure for printing systems for Digital Postage Marks	16
A.1 Environmental conditions for test.....	16
A.2 Test materials	16
A.3 Test procedure.....	17
Annex B (informative) Light sources and spectral response characteristics for verification of Digital Postage Marks	18
B.1 Narrow-band illumination	18
B.2 Broad-band illumination (white light).....	18
B.2.1 General	18
B.2.2 Halogen lamps.....	19
B.2.3 Light emitting diode	19
B.2.4 Gas discharge lamp	19
B.2.5 Fluorescent lamps.....	20
Annex C (informative) Symbol parameters measured in accordance with ISO/IEC 15415	21
C.1 Parameters for two-dimensional multi-row symbols.....	21
C.2 Parameters for two-dimensional matrix symbologies.....	22
Annex D (informative) Characteristics of Digital Postage Mark printing and reading environments that affect print quality.....	23
D.1 Printing of Digital Postage Marks	23
D.1.1 Ink-jet printing.....	23
D.1.2 Laser printing.....	23
D.1.3 Thermal transfer printing.....	24
D.1.4 Direct thermal printing.....	24

D.1.5	Matching X dimension to printer resolution	24
D.2	Reading environment	25

Annex E (informative)	Possible causes of low parameter grades in the Digital Postage Mark environment	26
E.1	Multi-row symbologies	26
E.1.1	Symbol Contrast	26
E.1.2	Minimum reflectance	26
E.1.3	Minimum edge contrast	26
E.1.4	Modulation	26
E.1.5	Decode	27
E.1.6	Defects	27
E.1.7	Decodability	27
E.1.8	Codeword yield	27
E.1.9	Unused error correction (UEC)	27
E.1.10	Quiet zone	27
E.1.11	Print growth	28
E.1.12	Codeword quality	28
E.2	Matrix symbologies	28
E.2.1	Symbol Contrast	28
E.2.2	Fixed pattern damage	28
E.2.3	Modulation	28
E.2.4	Axial non-uniformity	29
E.2.5	Grid non-uniformity	29
E.2.6	Unused error correction	29
E.2.7	Quiet zone	29
E.2.8	Print growth	29
	Bibliography	30