

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 |