

ISO/IEC 18050:2006-02 (E)

Information technology - Office equipment - Print quality attributes for machine readable Digital Postage Marks

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Symbols and abbreviations	3
5	Requirements	3
6	Basic measurement methodology	4
7	Verification requirements for Digital Postage Marks	5
7.1	Verification equipment	5
7.2	Optical geometry	5
7.3	Light source	6
7.4	Measuring aperture	6
7.4.1	Measuring aperture for two-dimensional multi-row symbologies	7
7.4.2	Measuring aperture for two-dimensional matrix symbologies	7
7.5	Mail format	7
8	Grading implications for individual symbol attributes	8
9	Additional grading parameters - quiet zone	9
10	Qualification of printing systems for Digital Postage Marks	9
Annex A (normative) Test procedure for printing systems for Digital Postage Marks		11
A.1	Environmental conditions for test	11
A.2	Test materials	11
A.3	Test procedure	12
Annex B (informative) Light sources and spectral response characteristics for verification of Digital Postage Marks		13
B.1	Narrow-band illumination	13
B.2	Broad-band illumination (white light)	13
B.2.1	Halogen lamps	14
B.2.2	Light emitting diode	14
B.2.3	Gas discharge lamp	14
B.2.4	Fluorescent lamps	15
C.1	Parameters for two-dimensional multi-row symbols	16
C.2	Parameters for two-dimensional matrix symbologies	17

Annex D (informative) Characteristics of Digital Postage Mark printing and reading environments that affect print quality	18
D.1 Printing of Digital Postage Marks	18
D.1.1 Ink-jet printing	18
D.1.2 Laser printing	18
D.1.3 Thermal transfer printing	19
D.1.4 Direct thermal printing	19
D.1.5 Matching X dimension to printer resolution	19
D.2 Reading environment	20
Annex E (informative) Possible causes of low parameter grades in the Digital Postage Mark environment	21
E.1 Multi-row symbologies	21
E.1.1 Symbol Contrast	21
E.1.2 Minimum reflectance	21
E.1.3 Minimum edge contrast	21
E.1.4 Modulation	21
E.1.5 Decode	22
E.1.6 Defects	22
E.1.7 Decodability	22
E.1.8 Codeword yield	22
E.1.9 Unused error correction (UEC)	22
E.1.10 Quiet zone	22
E.1.11 Print growth	22
E.1.12 Codeword quality	23
E.2 Matrix symbologies	23
E.2.1 Symbol Contrast	23
E.2.2 Fixed pattern damage	23
E.2.3 Modulation	23
E.2.4 Axial non-uniformity	23
E.2.5 Grid non-uniformity	24
E.2.6 Unused error correction	24
E.2.7 Quiet zone	24
E.2.8 Print growth	24
Bibliography	25