

ISO/IEC 15416:2000-08 (E)

Information technology - Automatic identification and data capture techniques - Bar code print quality test s pecification; Linear symbols

Contents		Page
Foreword		vi
Introduction		vii
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviated terms	3
4.1	Abbreviations	3
4.2	Symbols	3
5	Measurement methodology	4
5.1	General requirements	4
5.2	Reference reflectivity measurements	5
5.2.1	Measurement wavelength(s)	5
5.2.2	Measuring aperture	5
5.2.3	Optical geometry	6
5.2.4	Inspection band	7
5.2.5	Number of scans	7
5.3	Scan reflectance profile	7
5.4	Scan reflectance profile assessment parameters	8
5.4.1	Element determination	9
5.4.2	Edge determination	9
5.4.3	Decode	10
5.4.4	Symbol contrast (SC)	10
5.4.5	Minimum reflectance (Rmin)	10
5.4.6	Edge contrast (EC)	10
5.4.7	Modulation (MOD)	10
5.4.8	Defects	10
5.4.9	Decodability	10
5.4.10	Quiet zone check	11
6	Symbol grading	12
6.1	Scan reflectance profile grading	12
6.1.1	Decode	12
6.1.2	Reflectance parameter grading	12
6.1.3	Decodability	13
6.2	Expression of symbol grade	13
7	Substrate characteristics	13
Annex A (normative)	Decodability	14
A.1	Two-width symbologies	14
A.2	Edge to similar edge decodable symbologies ((n, k) symbologies)	14
Annex B (normative)	Example of symbol quality grading	16

B.1	Individual scan reflectance profile grading	16
B.2	Overall symbol grade	17
Annex C (informative) Symbol grading flowchart		18
Annex D (informative) Substrate characteristics		19
D.1	Substrate opacity	19
D.2	Gloss	19
D.3	Over-laminate	19
D.4	Static reflectance measurements	19
D.4.1	Prediction of Symbol Contrast (SC)	20
D.4.2	Prediction of Minimum Edge Contrast (ECmin) and Modulation (MOD)	20
D.4.3	Acceptability of measured and derived values	22
Annex E (informative) Interpretation of the scan reflectance profile and profile grades		23
E.1	Significance of scan reflectance profiles	23
E.2	Interpretation of results	23
E.3	Matching grades to applications	24
E.4	Alphabetic grading	25
Annex F (informative) Guidance on selection of light wavelength		26
F.1	Light sources	26
F.2	Effect of variations in wavelength	27
Annex G (informative) Guidance on number of scans per symbol		28
Annex H (informative) Example of verification report		29
Annex I (informative) Comparison with traditional methodologies		30
I.1	Traditional methodologies	30
I.2	Correlation of Print Contrast Signal with symbol contrast measurements	30
I.3	Guidance on grading for applications also specifying PCS	31
Annex J (informative) Process control requirements		32
J.1	Process control for repetitive printing	32
J.2	Number of scans	32
J.3	Bar width deviation	33
J.3.1	Two-width symbologies	33
J.3.2	(n, k) symbologies	33
J.3.3	Average bar width gain/loss	33
Bibliography		34