

SLOVENSKI STANDARD

SIST EN ISO/IEC 15419:2003

01-oktober-2003

Information technology - Automatic identification and data capture techniques - Bar code digital imaging and printing performance testing (ISO/IEC 15419:2001)

Informationstechnik - Verfahren der automatischen Identifikation und Datenerfassung - Leistungsanforderungen für digitale Bild- und Druckverarbeitung für Strichcodes (ISO/IEC 15419:2001)

Technologies de l'information - Techniques d'identification automatique et de capture des données - Test de performance de la numérisation digitale et l'impression des codes a barres (ISO/IEC 15419:2001)

Ta slovenski standard je istoveten z: EN ISO/IEC 15419:2002

ICS:

35.040	Nabori znakov in kodiranje informacij	Character sets and information coding
--------	---------------------------------------	---------------------------------------

SIST EN ISO/IEC 15419:2003 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO/IEC 15419:2003](#)

<https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO/IEC 15419

January 2002

ICS 35.040

Supersedes ENV 12648:1997 und ENV 13066:1998

English version

Information technology - Automatic identification and data
capture techniques - Bar code digital imaging and printing
performance testing (ISO/IEC 15419:2001)

Technologies de l'information - Techniques d'identification
automatique et de capture des données - Test de
performance de la numérisation digitale et l'impression des
codes à barres (ISO/IEC 15419:2001)

Informationstechnik - Verfahren der automatischen
Identifikation und Datenerfassung -
Leistungsanforderungen für digitale Bild- und
Druckverarbeitung für Strichcodes (ISO/IEC 15419:2001)

This European Standard was approved by CEN on 29 December 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN ISO/IEC 15419:2002 (E)

CORRECTED 2002-03-27

Foreword

The text of the International Standard from Technical Committee ISO/IEC/JTC 1 "Information technology" of the International Organization for Standardization (ISO) has been taken over as a European Standard by Technical Committee CEN/TC 225 "Bar coding", the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2002, and conflicting national standards shall be withdrawn at the latest by July 2002.

This document supersedes ENV 12648:1997 and ENV 13066:1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

iTeh STANDARD PREVIEW
Endorsement notice
(standards.iteh.ai)

The text of the International Standard ISO/IEC 15419:2001 has been approved by CEN as a European Standard without any modifications.

<https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003>

INTERNATIONAL
STANDARD

ISO/IEC
15419

First edition
2001-03-15

**Information technology — Automatic
identification and data capture
techniques — Bar code digital imaging and
printing performance testing**

*Technologies de l'information — Techniques d'identification automatique et
de capture des données — Test de performance de la numérisation
digitale et l'impression des codes à barres*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO/IEC 15419:2003](https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003)

[https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-
ea961b32ed6f/sist-en-iso-iec-15419-2003](https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003)

Reference number
ISO/IEC 15419:2001(E)



ISO/IEC 15419:2001(E)**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO/IEC 15419:2003](https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003)

<https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003>

© ISO/IEC 2001

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Contents

Page

Foreword.....	vi
Introduction.....	vii
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Bar code design software.....	3
4.1 General requirements.....	3
4.1.1 Data Input.....	3
4.1.2 Quiet zones.....	4
4.2 Considerations by software and imaging device categories.....	4
4.2.1 Direct bar code imaging devices.....	4
4.2.2 Indirect bar code imaging devices.....	6
4.3 Test requirements.....	8
4.3.1 System configuration.....	8
4.3.2 Test procedure.....	8
4.4 Conformance.....	9
4.5 Test report.....	9
4.6 Certification.....	10
4.7 Software specification.....	10
5 Dedicated bar code printers.....	10
5.1 Data input requirements.....	11
5.2 Test requirements.....	11
5.2.1 Selection of equipment for testing.....	11
5.2.2 Test conditions.....	11
5.2.3 Test procedure.....	12
5.2.4 Conformance.....	13
5.2.5 Test report.....	13
5.3 Certification and labeling.....	14
5.4 Equipment specification.....	14
Annex A (normative) Sample test layout.....	15
Annex B (normative) General constructional and operational requirements.....	17
B.1 Installation, operation, and maintenance - general.....	17
B.1.1 Power supply.....	17
B.1.2 Temperature.....	17
B.1.3 Humidity.....	17
Annex C (informative) Maintenance and supplies.....	18
C.1 Thermal printers.....	18
C.2 General-purpose office printers.....	19
Annex D (informative) Classification of software categories.....	20
D.1 Bar code fonts.....	20
D.2 General purpose label design software.....	20
D.3 Printer drivers.....	20
D.4 General purpose software (e.g. word processing, database).....	20

ISO/IEC 15419:2001(E)

D.5	Bar code controller.....	20
D.6	Bar code origination software	21
Annex E (informative) Classification of imaging device categories.....		22
Annex F (informative) Programmer's examples.....		24
F.1	Programmer's example for general-purpose printers	24
F.2	Programmer's example for indirect bar code imaging devices.....	26
F.3	Programmer's example for symbols distorted for plate roll circumference.....	28
Annex G (informative) Functions of bar code production software.....		29

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO/IEC 15419:2003](https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003)

<https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003>

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO/IEC 15419 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

Annexes A and B form a normative part of this International Standard. Annexes C to G are for information only.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO/IEC 15419:2003](https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003)

<https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003>

ISO/IEC 15419:2001(E)**Introduction**

The technology of bar coding is based on the recognition of patterns encoded in bars and spaces of defined dimensions according to rules defining the translation of characters into such patterns, known as the symbology specification.

Bar code digital imaging systems must be capable of reliably converting the information to be encoded into a bar code symbol meeting the symbology specification and application requirements, if the technology is to fulfil its basic objective. Such systems comprise two major components, namely the hardware device which produces the physical image of the bar code symbol on paper, photographic film, printing plate, or other substrate, and the associated software which converts the input data into digital instructions used to drive the hardware device. Each component can take many forms and perform differing functions.

Manufacturers of bar code equipment, the producers of bar code symbols and the users of bar code technology therefore require publicly available standard test specifications for bar code digital imaging systems, to ensure the accuracy and consistency of performance of these systems. This International Standard is intended to lay down general principles governing the bar code image generation function in each component, supplemented by more specific details applicable to certain major categories of software and hardware.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO/IEC 15419:2003](https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003)

<https://standards.iteh.ai/catalog/standards/sist/4a866f52-76bc-4a1a-8b48-ea961b32ed6f/sist-en-iso-iec-15419-2003>

Information technology — Automatic identification and data capture techniques — Bar code digital imaging and printing performance testing

1 Scope

This International Standard describes the characteristics of, and defines categories of, bar code digital imaging systems, identifies the attributes of each system which are required to be controlled, and specifies minimum requirements for those attributes. It defines test methods for assessing the conformance of those attributes with this International Standard. This standard is intended to be used in conjunction with International Standards which detail the methodology for assessing the quality of a bar code symbol such as ISO/IEC 15416. This International Standard does not apply to Bar Code Masters that are covered by ISO/IEC 15421.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO/IEC 15416, *Information technology — Automatic identification and data capture techniques — Bar code print quality test specification — Linear symbols.*

ISO/IEC 15417, *Information technology — Automatic identification and data capture techniques — Bar code symbology specification — Code 128.*

ISO/IEC 15420, *Information technology — Automatic identification and data capture techniques — Bar code symbology specification — EAN/UPC.*

ISO/IEC 15426-1, *Information technology — Automatic identification and data capture techniques — Bar code verifier conformance specification — Part 1: Linear symbols.*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptable quality level (AQL) for lot-by-lot inspection.*

EN 1556, *Bar coding — Terminology.*

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in EN1556 and the following apply.

ISO/IEC 15419:2001(E)**3.1****addressable imaging resolution**

The maximum number of image positions per unit length (e.g. dots per millimeter) along a straight line that can be addressed by the bar code designer. This resolution would exclude further resolution enhancing techniques performed by the imaging device or software, which are beyond the control of the designer.

3.2**adjusted BWC**

The value of BWC after adjustment to match addressable imaging resolution.

3.3**bar width compensation (BWC)**

The extent by which the width of the bars on a machine-readable symbol, Bar Code Master, or digital bar code file is reduced/increased in order to correct for expected print or imaging gain/loss.

3.4**bar width increase (BWI)**

The extent by which the width of the bars on a machine-readable symbol, Bar Code Master, or digital bar code file is increased in order to correct for expected print or imaging loss.

3.5**bar width reduction (BWR)**

The extent by which the width of the bars on a machine-readable symbol, Bar Code Master, or digital bar code file is reduced in order to correct for expected print or imaging gain.

3.6**bit map**

An electronic representation of the individual pixels making up the image to be output by the imaging device.

3.7**consumables**

Print media, i.e. materials that need to be supplied by the user on a regular basis, e.g. ribbons, labels or printing substrates, toner and ink.

3.8**dedicated bar code printer**

A printing device with the resident intelligence capable of converting data into bar code symbols.

3.9**digital bar code file**

A bar code which is designed and stored in a digitized format.

3.10**digital bar code imaging system**

A system which comprises the necessary software and hardware components to produce a bar code image.

3.11**distortion**

The process by which the height to width ratio of a piece of artwork is modified to compensate for the dimensional change which is introduced to an image, when a flexible, relief printing plate is wrapped around the print cylinder of a rotary printing press.

3.12**disproportioning**

See Distortion.