



SLOVENSKI STANDARD
SIST EN 13619:2004
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Postal services - Mail item processing - Optical characteristics for processing letters

Postalische Dienstleistungen - Bearbeitung von Sendungen - Optische Merkmale für die Briefbearbeitung

Services postaux - Traitement des objets postaux - Caractéristiques optiques pour le traitement du courrier

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English version

**Postal services - Mail item processing - Optical characteristics
for processing letters**

Services postaux - Traitement des objets postaux -
Caractéristiques optiques pour le traitement du courrier

Postalische Dienstleistungen - Bearbeitung von Sendungen
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This European Standard was approved by CEN on 16 October 2002.

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Foreword

This document EN 13619:2002 has been prepared by Technical Committee CEN/TC 331, "Postal services" 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of an identical text or by endorsement, at the latest by May 2003, and conflicting national standards shall be withdrawn at the latest by May 2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

This European Standard contains a bibliography.

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.

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Introduction

Rapidity of mail processing and delivery is the most important feature of Quality of Service which is requested by any Customer of a Postal Operator.

Mail processing is highly dependent upon the level of automation achieved in the mail sorting process. Such automation depends on the speed and accuracy of interpretation of mail item addresses by optical character recognition (OCR) equipment and/ or human operators (video-coders) working from video images of the mail items.

The purpose of this standard is to assist mailers to maximise the OCR readability of their mail items by providing guidelines for printing postal addresses. Some of the guidelines also support video encoding from grey level pictures.

The guidelines are necessarily derived from a view of the current state-of-the-art in the application of OCR and image processing technology to address reading. Such a state-of-the-art is not a perfectly defined concept. First, it is likely to evolve with time, resulting in improved recognition capability. Second, the performance of an OCR system is always the result of a compromise between recognition capability and cost. This is why the standard is expressed in the form of guidelines rather than prescriptions.

Compliance with the guidelines should assure a high level of address readability with currently available technology. However, the guidelines should not be interpreted as strict, mandatory, all-or-nothing rules. Rather, the degree of compliance with them can be expected to influence the level of address readability: the higher the degree of compliance, the higher the likely level of address readability.

The guidelines are based on address attributes that tend to influence address readability. To the extent that this is possible, these attributes have been selected so as to be easily controllable by mailers and to be measurable using simple, low-cost, means. This is the reason why the standard is largely built on common notions of typography and makes use of colour reference systems that are likely to be known by mailers.

It is not technically possible to define guidelines concerning solely the printing of addresses without taking into account the production of the mail item as a whole. For example, print contrast is not only dependent on the ink/paper combination. It also results from a variety of other factors, including the covering of the mail item and the material of the transparent window through which the address is read. The guidelines provided in the standard therefore apply to the address zones of finished mail items and not just to the address and the substrate on which it is printed.

1 Scope

This European Standard specifies optical characteristics for processing letters and gives guidelines on the values of these attributes that will assure a high level of address readability. It is aimed at facilitating relations between Postal Operators and Customers by providing information that mailers can use to ensure that the addresses they print can be processed successfully by postal automation systems.

The standard is intended to support:

- assessment of the probable readability of a printed address, using given address recognition equipment, without actually submitting it to the equipment;
- determination of the changes in address printing characteristics that are required to achieve a desired level of address readability using given address recognition equipment;
- assessment of the complexity, and thus the cost, of the address recognition equipment needed to achieve a desired level of readability of addresses with given printing characteristics.

The standard applies to mail items whose size is up to and including C5¹, but may also be applied to oversize items, commonly referred to as C5+, and to flats. The address blocks covered are:

- the delivery address block;
- the sender address block if this is printed on the same side of the mail item as the delivery address block.

The guidelines provided in the standard apply to address blocks as they appear on finished mail items when submitted to postal operators, and not just to addresses and the substrate on which they are printed. Users of the standard are responsible for determining the physical parameters which are required to achieve compliance after taking account of characteristics which result from mail item features, other than printing, such as covering, the use of transparent window envelopes and the use of address labels.

The guidelines are based on physical attributes that tend to influence the readability of addresses by optical character recognition (OCR) equipment and by video-coders. To the extent that this is possible, attributes have been selected so as to be easily controllable and to be measurable using simple, low-cost, means. The attribute values given are based on common notions of typography and on colour reference systems that are likely to be known by mailers. The values given should be interpreted as recommendations or guidelines, not as strict, mandatory, all-or-nothing rules.

OCR systems are complex and their behaviour is therefore not easily modelled by simple attributes. As a result the ambition of the standard is limited by the difficulty of defining some attributes in formal terms, even though their influence on address readability has been proven. Where this is the case, the standard uses examples, lists of preferred values, or literal descriptions to give hints on how to maximise address readability.

Since all attributes do not contribute uniformly to the readability of an address, the standard identifies two levels of salience for each attribute (high and normal). These two levels are designed to aid in the definition of readability classes by users of the standard.

This standard considers a printed address as being made up of a series of lines of printed information². Guidelines related to such address lines are relevant for all lines in an address block.

¹ See ISO 269

² Note that this standard does not define the logical content, in terms of address components, of each line. Nor does it directly impose limits on the length of individual lines or components, or on how information is represented (e.g. as text and/or in computer readable bar codes). Address Components are covered in CEN/TC 331 WI 015 Part I; the selection and ordering of components for printing and the abbreviation rules which may be used to limit printed address line length, are to be addressed in Part II of that standard.

2 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply. In addition, relevant definitions may be found in the documents listed in the Bibliography.

2.1

address block

the *minimum rectangle* encompassing the address lines

2.2

address zone

largest rectangle, with sides which are parallel and perpendicular to the reference edge of a mail item, which encloses the *minimal rectangle* but does not include characters, or markings which may be interpreted as characters, other than those in the minimal rectangle itself. When present, the borders of transparent envelope windows limit the extent of the address zone

NOTE 1 See Figure 1.

NOTE 2 When present, the borders of transparent windows limit the extent of the address zone because dark shadows may appear on OCR images due to the relief existing at those borders. Label edges may have a similar effect.

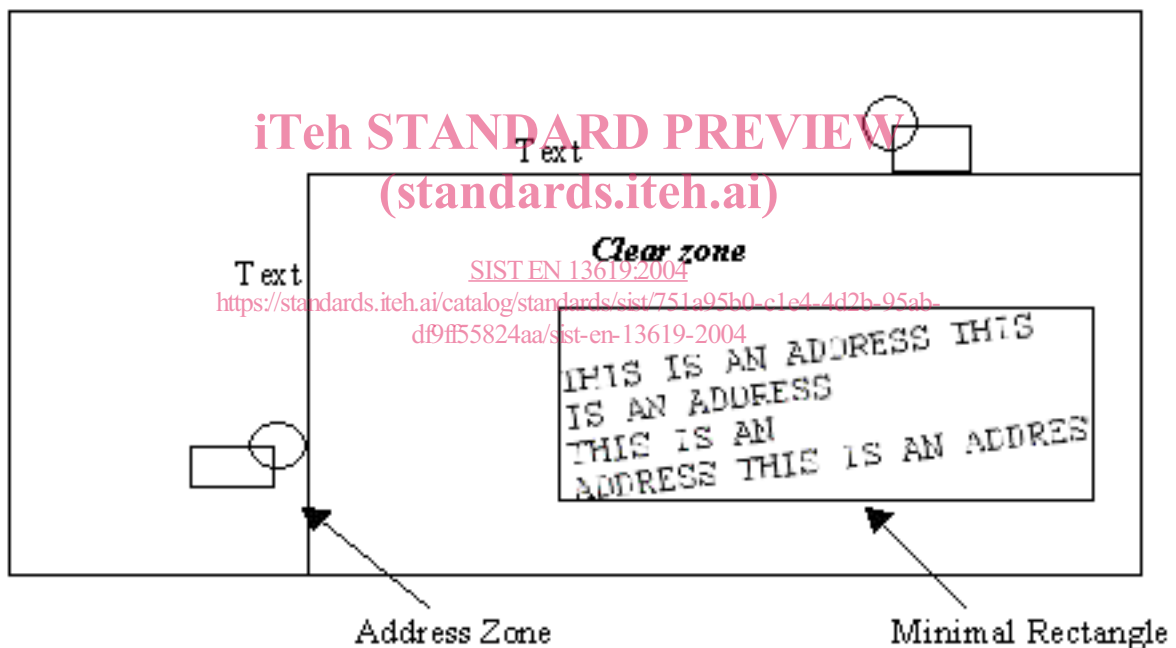


Figure 1 — Definition of the address zone, clear zone and minimal rectangle

2.3

align

line up typeset or other graphic material in accordance with relevant specifications, using a base or vertical line as reference

2.4

ascender

part of certain *lowercase* letters that extends above the *x-height* of a *font*

NOTE Examples of such lower case letters are b and f. See Figure 2.



Figure 2 — Reference lines and dimensions

2.5**ascender line**see **cap line**

NOTE See Figure 2.

2.6**base line**line along which the bases of all *capital letters* (and most *lowercase* letters) are positioned

NOTE See Figure 2.

2.7**bar code**

linear array of rectangular marks of (possibly) varying width, height and vertical alignment, separated by spaces of (possibly) varying width, in which the positioning and size of marks and spaces are used to encode information

2.8**binarization**process by which a *grey-scale digital image* is converted into a *binary image*

NOTE This process may involve complex computations.

2.9**binary image***digital image* formed by *pixels* of binary (0 or 1) value

NOTE 1 is usually interpreted as black and 0 as white.

2.10**body size**height of the type measured from the top of the tallest *ascender* to the bottom of the lowest *descender*NOTE Body size is normally given in *points* (pt).**2.11****bold type**

type with a heavier darker appearance

EXAMPLE **This is in bold**; this is in normal font.**2.12****cap**

commonly used abbreviation for “capital letter”

EXAMPLE M is a capital letter or cap; m is the corresponding *lower case* letter.

2.13

cap height

the height of the uppercase letters within a *font*

NOTE See Figure 2.

2.14

cap line

line touching the tops of uppercase letters within a *font*

NOTE See Figure 2.

2.15

character skew

extent to which individual characters are skewed relative to the base line

2.16

character space

width of the vertical white zone between two successive characters

NOTE The space between characters may vary within and between *fonts* in many complex ways. The definition of character space used in this document is the width of the vertical space between two successive characters. There may thus be no character space, for example if characters are skewed or for some *italic* fonts.

2.17

clear zone

area of the *address zone* which falls outside of the *minimum rectangle*

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NOTE See Figure 1.

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2.18

condensed, condensed type

type that is narrow in width proportionate to its height

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EXAMPLE This is an example of condensed type. This is an example of normal (not condensed) type.

2.19

contrast

range of tones in a photograph ranging from highlight to shadow

2.20

dash

short horizontal line used for punctuation

2.21

descender

part of certain *lowercase* letters that extends below the *base line* of the letter

NOTE Examples of lowercase letters that have descenders are y and q. See Figure 2.

2.22

digital image

array of computerised numbers representing the image of an object or a scene

2.23

dot matrix character

character printing in which each character is formed from a matrix of separate or overlapping equally sized dots

2.24**dots per inch, dpi**

measurement of *resolution* for page printers, phototypesetting machines, digital images, and graphics screens

NOTE An inch is approximately equivalent to 25,4 mm. Thus, for example, 200 dpi is approximately equal to 8 (200/25.4) dots per millimetre.

2.25**embossing**

- (1) relief images formed by using a recessed die
- (2) using a recessed die to form a relief image

2.26**expanded type**

typeface with a slightly wider body giving a flatter appearance

2.27**extended type**

see *expanded type*

2.28**face**

see *typeface*

2.29**fixed spacing**

method of spacing whereby each character has the same *pitch*

2.30**flush**

aligned to the margin, i.e. **with no indentation**

2.31**flush left, left justified**

aligned along the left margin

2.32**font**

a complete set of characters for one *typeface* at one particular type size

NOTE Font is often used more loosely as a synonym for typeface.

2.33**grey-level, grey-scale**

range of luminance values for evaluating shading from white to black

NOTE Grey-scale is a term frequently used in discussions about scanners as a measure of their ability to capture halftone images.

2.34**grey-scale image**

digital image where each *pixel* receives a value interpreted as a local luminance

NOTE Typical grey scale images have pixels with 256 possible luminance values. In binary format this range of values can be represented by 8 bits of information.

2.35**halftone**

image formed from a pattern of dots of varying size

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