SLOVENSKI STANDARD
SIST-TS CEN/TS 15844-1:2013

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Poštne storitve - Označevanje poštnih pošiljk z identifikacijsko številko - 1. del: Struktura, sporočilo in binarni prikaz identifikacijskih številk

Postal services - ID-tagging of letter mail items - Part 1: ID-tag structure, message and binary

Postalische Dienstleistungen - ID-Kennzeichnung von Briefsendungen - Teil 1: Struktur, Nachrichten und Binärdarstellung von ID-Kennzeichen

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SIST-TS CEN/TS 15844-1:2013   **en**

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TECHNICAL SPECIFICATION

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English Version

Postal services - ID-tagging of letter mail items - Part 1: ID-tag structure, message and binary

Traitement automatisé des envois postaux - Chronomarquage des envois postaux - Partie 1: Structure de la chronomarque, représentations sémantique et binaire

Postalische Dienstleistungen - ID-Kennzeichnung von Briefsendungen - Teil 1: Struktur, Nachricht und Binärdarstellung von ID-Kennzeichen

This Technical Specification (CEN/TS) was approved by CEN on 1 December 2008 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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CEN/TS 15844-1:2010 (E)

Foreword

This document (CEN/TS 15844-1:2010) has been prepared by Technical Committee CEN/TC 331 "Postal services", the secretariat of which is held by NEN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

NOTE   This document has been prepared by experts coming from CEN/TC 331 and UPU, under the framework of the Memorandum of Understanding between the UPU and CEN.

This document (CEN/TS 15844-1), is the CEN equivalent of UPU [1] standard S18a-8. It may be amended only after prior consultation, between CEN/TC 331 and the UPU Standards Board, in accordance with the Memorandum of Understanding between CEN and the UPU.

The UPU's contribution to the document was made, by the UPU Standards Board [2] and its sub-groups, in accordance with the rules given in Part V of the "General information on UPU standards".

This document forms Part 1 of a multi-part CEN/TS 15844, *Postal services — ID-tagging of letter mail items*. It provides the definition of ID-tags and specifies their general construction and representation for electronic data interchange purposes. Their representation on items is covered by Parts 2 to 5, which define a number of alternative printed representations.

The specification has been extensively tested and is in operational use: the BNB-62 encoding described in CEN/TS 15844-3 has been used for many years by An Post (Ireland), Canada Post and USPS, whilst the more recently specified BNB-78 encoding described in Part 2 has been operationally implemented by Australia Post, Correios de Portugal, Correos y Telégrafos (Spain), Guernsey Post, Isle of Man Post, Singapore Post and Swiss Post. The 4-state encoding specification, defined in Parts 4 for flats and 5 for small letters, has been implemented by Belgian Post, Correos (Spain), Swiss Post and USPS for flats and by Belgian Post for small letters.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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[1]   The Universal Postal Union (UPU) is the specialized institution of the United Nations that regulates the universal postal service. The postal services of its 189 member countries form the largest physical distribution network in the world. Some 5 million postal employees working in over 660 000 post offices all over the world handle an annual total of 425 billion letters-post items in the domestic service and almost 6,7 billion in the international service. Some 4,5 billion parcels are sent by post annually. Keeping pace with the changing communications market, posts are increasingly using new communication and information technologies to move beyond what is traditionally regarded as their core postal business. They are meeting higher customer expectations with an expanded range of products and value-added services.

[2]   The UPU's Standards Board develops and maintains a growing number of standards to improve the exchange of postal-related information between posts, and promotes the compatibility of UPU and international postal initiatives. It works closely with posts, customers, suppliers and other partners, including various international organizations. The Standards Board ensures that coherent standards are developed in areas such as electronic data interchange (EDI), mail encoding, postal forms and meters. UPU standards are published in accordance with the rules given in Part VII of the General information on UPU standards, which may be freely downloaded from the UPU world-wide web site (www.upu.int).

CEN/TS 15844-1:2010 (E)

Introduction

Many individual postal administrations have used some form of domestic ID-tagging for the support of video-coding applications for a number of years. Typically, however, domestic ID-tags:

— are unique only within the system of an individual issuer (or even only within a single postal processing facility);

— are applied to only a relatively small subset of items with specific characteristics, e.g. items with addresses which cannot be interpreted by OCR means;

— are encoded on items using a non-standardised symbology and in a non-standardised location.

These characteristics limit the utility of domestic ID-tags, preventing their use for a wide range of potential applications and, in particular, preventing their use as an effective support for the exchange of information between organisations about mail items.

The application of a domestic ID-tag by one organisation could also interfere with the processing of the item concerned by another, resulting either in the need for over-labelling or for manual processing of the item. For example, if the origin post prints its domestic ID-tag in the location used by the delivery post, the latter will be unable to apply its (different) domestic ID-tag or, if it does, will almost certainly not be able to read the result.

The impact of this issue has historically been limited both by the limited number of items to which a domestic ID-tag is applied and by an agreement between An Post, Canada Post and USPS (three postal administrations which make heavy use of domestic ID-tags) to base their domestic ID-tags on a common specification [3]. It has also been limited by the fact that some postal administrations have not yet automated cross-border mail processing. However, increasing levels of automation and the use of ID-tagging by more and more Posts, for a wider range of applications and on an increasing proportion of items, would, in the absence of standardisation, lead to a marked increase in its impact and in a probable longer term deterioration in the quality of service offered to inter-administration mail.

CEN/TS 15844-1 is intended to address these limitations. It comprises a main Part 1 (this document), together with four subsidiary parts (Part 2, 3, 4 and 5), each of which defines a specific encoding for the printing of ID-tags on items. This part, Part 1 of CEN/TS 15844, is arranged under ten main headings:

— *Definition of an S18 ID-tag*: provides a precise definition of an S18 ID-tag;

— *Data construct type*: specifies the relationship of this standard to UPU standard S25 [4], together with the ID-tag data construct type;

— *Usage of ID-tags*: provides examples of the use of ID-tags;

— *Logical structure*: describes the logical structure and information content of an S18 ID-tag. These are defined separately from the physical and electronic representations so that alternative physical representations can be defined in the future;

— *Value Range*: defines limitations on the values of data elements used in the logical structure definition and describes the procedure for allocation and publication of domain codes;

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3) Note that the common An Post, Canada Post and USPS specification corresponds with one of the two BNB bar code representations of ID-tags which are defined in this standard.

NOTE   Value limitations fall into two classes – general limitations, which apply to all ID-tags, and limitations which are specific to individual representations of ID-tags in the form of bar codes. Only the former are treated here; the latter are treated in the relevant encoding specification.

— *Representation of S18 ID-tags in messages*: defines the format and structure of the ID-tag when incorporated into EDI messages or files;

— *Binary representation of S18 ID-tags*: defines a recommended format and structure for a binary representation of the ID-tag for use in computer files;

— *Representation of S18 ID-tags on items*: to allow the association of computer data with a physical item, the ID-tag is encoded on the item itself. This clause introduces the supported encoding symbologies and provides reference to the relevant specifications, covered in separate parts of the standard;

— *Usage constraints*: defines requirements to be met during and restrictions on the allocation of ID-tags, their application to items and their subsequent use;

— *Reading and validation of ID-tags on items*: describes the procedures to be followed for the reading of ID-tags and the use to be made of the resulting information.

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CEN/TS 15844-1:2010 (E)

1 Scope

This Technical Specification [4] defines the information content, structure and possible printed representations of the S18 ID-tag [5]. This is an identifier for individual mail items which:

— is globally unique;

— can be applied to any item which is not already ID-tagged by any postal administration (or other issuer) which previously processed the item;

NOTE 1   The S18 ID-tag provides a standard means of ID-tagging which can be applied on a world-wide basis, allowing inter-administration mail items to be encoded without risk of disruption of the automated system of the delivery post. It may be applied to any size of item.

— can be read, with a high degree of reliability, by any postal handling organisation possessing appropriate equipment.

NOTE 2   ID-tags are encoded on items using a bar code symbology. As with any other form of bar code, poor quality printing, ink smudging, damage to the item, etc., can result in read errors. The S18 ID-tag encoding specifications incorporate an error protection mechanism to allow detection and correction of a large proportion of such errors.

The S18 ID-tag defined in this Technical Specification may be placed on items so that, in subsequent processing, individual items can be recognised and associated with computer-based information relating to the item concerned.

NOTE 3   Items need not be ID-tagged if this is not required for processing purposes, though it is anticipated that the use made of ID-tagging will increase. Examples of ID-tag applications are given in Clause 7.

Whilst being generally applicable to domestic mail, the specification has been designed to allow the encoding of cross-border mail and to support its application in the automated processing of such mail.

NOTE 4   UPU regulations prevent the encoding of information on the bottom 15 mm strip on the front of international letter mail. This Technical Specification has been designed to avoid the possibility of incompatibilities between ID-tag implementations and explicitly allows and encourages the application of S18 ID-tags, in area R1, on the reverse side of items. This will enable exchange of data about the items and use of these data for automated processing. For example, the origin post might send an encoded or video image electronic copy of item delivery address blocks to the delivery post, enabling the latter to more efficiently process received items. Similarly, the delivery post might return time-of-processing data to the origin post, enabling it to monitor delivery service quality more closely.

A key purpose of the specification is to allow information about items to be exchanged between postal handling organisations. Such exchange will take place through the electronic communication of messages (e.g. EDI messages), or through the exchange of computer files.

NOTE 5   The detailed requirements, content and usage procedures for these messages or files are/will be defined in other standards, which use the S18 ID-tag as the means of associating information with the item concerned.

NOTE 6   The information content of S18 ID-tags may include specification of the time at and facility or domain in which the S18 ID-tag was applied. A receiving facility can therefore calculate the elapsed delay to which the item has been subjected, and can relate this to expected delays between the two facilities. This allows easy measurement of transit

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[4] References to "this Technical Specification" should be interpreted as references to CEN/TS 15844 as a whole, not only to Part 1.

[5] Where reference is made to a form of ID-tagging which is not in accordance with this specification, the term domestic ID-tag is used consistently throughout the text. ID-tag on its own therefore refers to the forms of ID-tagging specified in this Technical Specification. The term S18 ID-tag is used in the text where it is desired to emphasise the fact that reference is being made to the ID-tag specified in this Technical Specification, and not to a domestic ID-tag.

times, even in the absence of electronic data transmission. Knowledge of delays on an item-by-item and statistical level will improve the diagnosis of problems and is expected to lead to an improvement in delivery service quality.

The specification should be applied in all cases in which ID-tags are placed in area R1 on the reverse side of letter mail items of size up to and including C5.

NOTE 7   ID-tags encoded in area R1 are required by article RL 123 of the UPU Letter Post Regulations [2] to be compliant with UPU standard S18 – and by this with the related CEN/TS 15844. Where ID-tags are used, and are applied in area R1 on the reverse side of letter mail items of size up to and including C5, the application of the specification is therefore mandatory. As a result only BNB-78 and BNB-62 ID-tags, as defined in Parts 2 and 3 of this Technical Specification, may be encoded in area R1 [6].

NOTE 8   The above does not limit application of the specification to items of size greater than C5. Nether does it prevent its application in cases in which the ID-tag is printed in an area other than R1. However, whilst the application of the specification in such cases is recommended, it is not mandatory.

Other forms of identification may be used in locations other than R1. Issuers using automated sorting systems are, however, strongly encouraged to identify items using this Technical Specification even when the items carry some means of identification which has been applied by another agency, outside of issuer control.

NOTE 9   Application of the specification is presently not mandatory for ID-tagging systems which use other locations, including on the front-side of letter mail items, or which apply to other types of item, such as flats. However, future extensions of the specification might cover these cases.

NOTE 10   It is admissible to allow customer-allocated item identifiers in the delivery address block and/or to place identifiers in digital postage marks. Such identifiers need not (and probably should not) follow this Technical Specification, but might be covered by separate standards.

NOTE 11   ID-tags have a potential value even where other forms of item identification are used. For example, the ID-tagging of items which carry an indicium-based identification can be used to improve security by aiding in the detection of duplicate indicia. The use of the S18 ID-tag should also provide an improved probability of correct processing of the item, especially in the case of cross-border mail.

2   Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

UPU Standards glossary [7]

UPU standard S19: *Encoding on Envelopes — Placement Area Definitions*

NOTE   It is anticipated that UPU standard S19 will be endorsed as a CEN standard in near future.

UPU standard S31: *UPU Issuing Agency — Assignment of Issuer Codes*

3   Terms and definitions

For the purposes of this document, the terms and definitions given in the UPU Standards glossary and the following apply.

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6)   Area R1 is defined in the UPU standard S19.

7)   UPU Standards are obtainable from the UPU International Bureau, whose contact details are given in the Bibliography; the UPU Standards glossary is freely accessible on URL http://www.upu.int.

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3.1
agent code
identification code, allocated by an issuer, to distinguish between agents which have been authorised by the issuer to allocate and apply ID-tags on the issuer's behalf

3.2
bar
(when *italicised*) position, in a bar-no-bar bar code, in which a bar is printed

NOTE   See also space.

3.3
bar-no-bar
bar code
representation of data in the form of a sequence of printed bars and spaces of fixed width and pitch, the presence or absence of a bar in each position indicating the value of the corresponding bit of a computer representation of the data

NOTE   In the BNB encodings specified in this Technical Specification, the presence of a bar represents a 1 bit; its absence represents a 0 bit. However, for encoding purposes, input data values are divided into fields and converted using a look-up table before being printed. Thus, there is no direct correspondence between a particular bar code position and an individual bit of the input data.

3.4
domain
subset of the postal processing facilities within which ID-tags are generated by, or on behalf of, an issuer, usually corresponding to a single large facility or to a group of facilities which are related to one another for postal processing purposes

EXAMPLE A set of acceptance offices might form a domain together with the main processing facility which serves them.

3.5
domain code
code used, by the issuer concerned, to identify a domain; component of equipment identifier

NOTE   Domains are defined, and associated with domain codes, by individual issuers in accordance with the principles set out in this Technical Specification. The resulting domain codes, together with address details for the main processing facility in each domain, are made available to the UPU for publication.

3.6
domestic ID-tag
form of ID-tag which conforms to a specification other than this one

3.7
domestic ID-tagging
process of allocating and applying domestic ID-tags to items

3.8
equipment identifier
unique identifier (within a defined domain) of a particular item of equipment

NOTE   Used, in the context of this Technical Specification, to identify, in an ID-tag, the item of equipment which was responsible for ID-tag allocation.

3.9
ID-tag issuer
licensed issuer responsible for the allocation of an ID-tag

3.10
ID-tag reference
reference to an item by means of its ID-tag; representation of an ID-tag value, on a physical support <u>other</u> <u>than</u> the item itself or an attached label

3.11
ID-tagged
property of an item which carries an encoded representation of the ID-tag which has been allocated to it

3.12
ID-tagging
process of allocating and applying ID-tags to items

3.13
item number
see Clause 8

3.14
item priority
indication of the handling priority of a mailpiece, as specified in Clause 8

3.15
misread-rate
in the context of this Technical Specification, proportion of ID-tag read attempts which result in an apparently valid ID-tag value which differs from that (if any) which was actually applied to the item concerned

NOTE 1   See the UPU Standards glossary for a more general definition.

NOTE 2   Misreads might result in processing errors if the incorrectly read value is used to determine the processing action to be performed on the item.

3.16
read-rate
in the context of this Technical Specification, proportion of attempts to capture the ID-tag, from an ID-tagged item, which result in the capture of the correct ID-tag value (i.e. the value of the ID-tag which was actually applied to the item)

NOTE 1   See the UPU Standards glossary for a more general definition.

NOTE 2   The attempted capture of an ID-tag, from an item, can result in seven possible outcomes:

    1)   the item was not ID-tagged and no ID-tag is detected (correct outcome);

    2)   the item was not ID-tagged, but an apparently valid ID-tag is detected (misread);

    3)   the ID-tag is correctly read, without use of error correction (read);

    4)   the ID-tag is read correctly, but only after making use of the ID-tag error correction capability (read);

    5)   the ID-tag is read and (after error correction) an apparently correct, but in fact wrong, result is obtained (misread);

    6)   the ID-tag cannot be read (read failure);

    7)   the ID-tag is not detected at all (read failure).

3.17
serial number
see Clause 8