

Automated processing of mail items — Automatic identification of receptacles and containers — Receptacle asset numbering

ICS 91.100.60

National foreword

This Draft for Development reproduces verbatim CEN/TS 14631:2003.

This publication is not to be regarded as a British Standard.

It is being issued in the Draft for Development Series of publications and is of a provisional nature because guidance on this subject is particularly needed before there is enough experience of the subject to justify the publication of a European and British Standard. It should be applied on this provisional basis, so that information and experience of its practical application may be obtained.

Comments arising from the use of this Draft for Development are requested so that UK experience can be reported to the international organization responsible for the Technical Specification. A review of this publication will be initiated not later than 2 years after its publication by the European organization so that a decision can be taken on its status at the end of its 3-year life. Notification of the start of the review period will be made in an announcement in the appropriate issue of *Update Standards*.

According to the replies received by the end of the review period, the responsible BSI Committee will decide whether to support the conversion into a European Standard, to extend the life of the Technical Specification or to withdraw it. Comments should be sent in writing to the Secretary of BSI Technical Committee SVS/4, Postal services, at British Standards House, 389 Chiswick High Road, London W4 4AL, giving the document reference and clause number and proposing, where possible, an appropriate revision of the text.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

Summary of pages

This document comprises a front cover, an inside front cover, the CEN/TS title page, pages 2 to 28, an inside back cover and a back cover.

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English version

Automated processing of mail items - Automatic identification of receptacles and containers - Receptacle asset numbering

This Technical Specification (CEN/TS) was approved by CEN on 21st June 2003 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.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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Contents

Foreword	3
Introduction	4
1 Scope	7
2 Normative references	8
3 Terms and definitions	8
4 Symbols and abbreviations	11
5 Definition and allocation of receptacle asset numbers	12
5.1 Definition	12
5.2 Field of application	12
5.3 Allocation of receptacle asset numbers	13
5.4 Delegation of authority to issue receptacle asset numbers	15
5.5 Allocation of receptacle asset numbers under the UPU IAC	15
5.5.1 Case in which the UPU IAC is followed by a numeric value	16
5.5.2 Case in which the UPU IAC is followed by an issuer code	16
6 Representation of receptacle asset numbers on receptacles	16
6.1 Representation as a code 128 bar code	16
6.1.1 Use of Data Identifier	17
6.1.2 Code 128 Element Width	17
6.1.3 Code 128 Bar Height	17
6.1.4 Positioning and orientation	18
6.2 Representation in human-readable form	18
6.3 Representation on the receptacle in other forms	19
7 References to receptacle asset numbers in messages	19
7.1 ISO/IEC 15418 representation of receptacle asset number references	19
7.2 EDIFACT representation of receptacle asset number references	20
7.3 ASN.1 representation of receptacle asset number references	20
7.4 OCR and human-readable receptacle asset number references	20
8 Data capture and use of receptacle asset numbers	21
8.1 Data capture	21
8.2 Decomposition of receptacle asset numbers	21
9 Postal receptacle attributes	22
9.1 Attribute list	22
10 Representation of receptacle attributes	24
Annex A (informative) Examples of bar codes	25
A.1 Introduction	25
A.2 Illustration of bar code for postal receptacle	25
A.3 Illustration of bar code for postal receptacle label for a pallet	26
A.4 Illustration of bar code for postal receptacle label for a tray	26
Bibliography	27

Foreword

This document (CEN/TS 14631:2003) has been prepared by Technical Committee CEN/TC 331 "Postal Services", the secretariat of which is held by NEN, in collaboration with UPU, in accordance with the Memorandum of Understanding between CEN and the UPU.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

It is intended that CEN/TS 14631 and UPU standard S37 become equivalent. As there are currently some differences between this CEN version, and the published version within the UPU, a consolidation into one single version is intended to take place at short notice. The standard shall be amended only after prior consultation, between CEN/TC 331 and the UPU Standards Board.

The UPU's contribution to the Technical Specification was made, by the UPU Standards Board and its sub-groups, in accordance with the rules given in Part V of the "General information on UPU standards" (<http://www.upu.int/standards/en/index.html>)

This document is the first version of the Technical Specification within CEN. Details of the history of amendments to earlier versions of the UPU standard may be obtained from study of the UPU documents.

Annex A is informative.

This document includes a Bibliography.

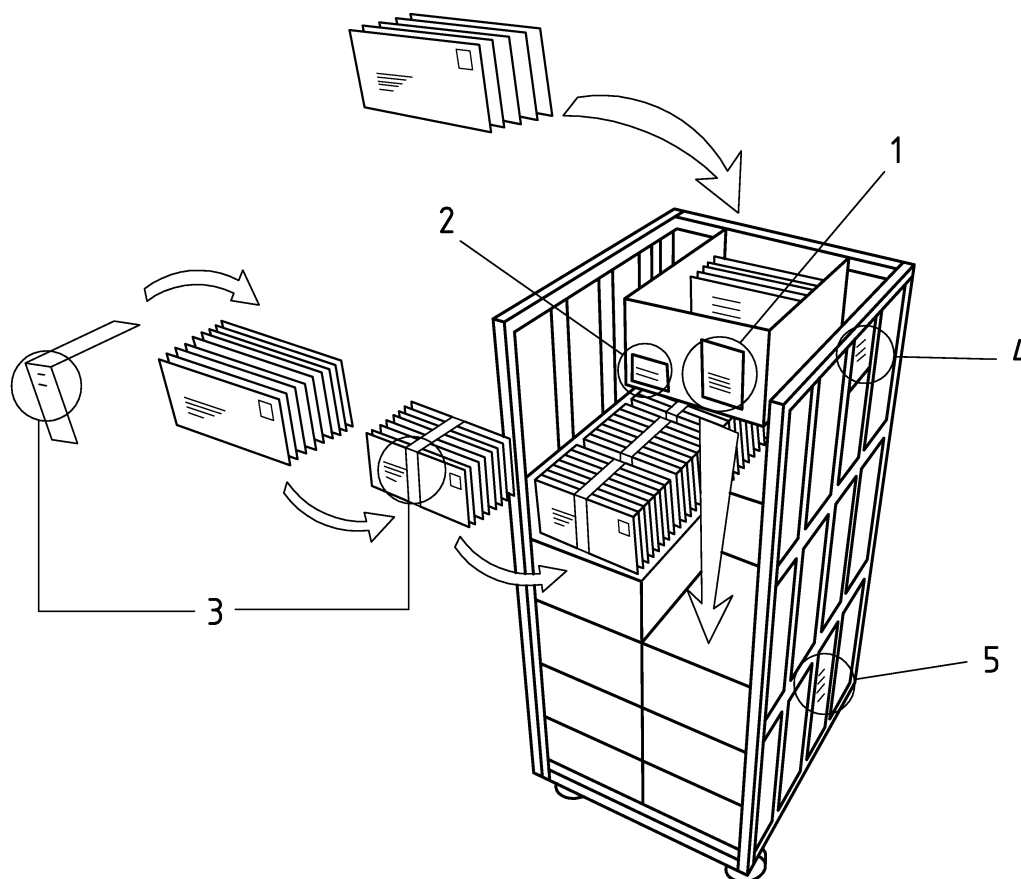
According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this CEN Technical Specification: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta,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

Introduction

It is often useful, for both processing and transportation purposes, to be able to treat a group of postal items with common handling requirements as a single unit called a mail aggregate. This can be thought of as any set of postal items which has been physically grouped so as to permit such common handling. Examples include bundles, consignments and the content of a particular sorting machine output stacker or of a postal receptacle, such as a mailbag, tray or roller-cage.

As shown in Figure 1, mail aggregates can occur at several nested levels. For example, the mail aggregate consisting of the set of postal items addressed to a particular delivery point can form part of a bundle of postal items destined for the same delivery postcode area, which may in turn be part of a mail aggregate, such as the content of a tray, to be delivered by a particular delivery agent, which in its turn may be part of a mail aggregate to be transported, in a roller-cage, to the delivery office concerned.

NOTE 1 Figure 1 shows individual postal items, in bundles, placed in trays or boxes, in turn placed in a roller-cage. The bundles have mail aggregate identifiers on the strap or wrapping which holds them together; each tray carries both a mail aggregate identifier, printed on a removable tray label, and a fixed tray identifier (a receptacle asset number). Similarly, the roller-cage carries both a removable label with a content identifier and a fixed receptacle asset number.



Key

- 1 Receptacle asset number (Fixed to receptacle)
- 2 Aggregate identifier (Removable label)

Figure 1 — Mail Aggregate Nesting; Aggregate Identifiers and Receptacle Asset Numbers

Although this is not strictly required, it can simplify handling if mail aggregates are physically constrained to form a unit. Thus:

- ¾ low level mail aggregates are frequently constrained by bands or by poly-wrapping;
- ¾ intermediate level mail aggregates can be housed in trays or mailbags;
- ¾ these can in turn be housed in roller-cages, or stacked on pallets.

In postal terminology, such physical housings are collectively referred to as (postal) receptacles. A postal receptacle is thus any device or container which may be used to physically constrain a mail aggregate in order to simplify its handling as a unit. Examples include mailbags, trays, wheeled containers (roller-cages), pallets, pallet-based containers and airfreight containers (ULDs). Road, rail and sea vehicles and containers can also be regarded as receptacles if appropriate.

Postal receptacles are often handled by and exchanged between several parties, for example one or more postal operators, customers, carriers, delivery agents, customs authorities, etc. Though they represent a significant capital asset for postal operators around the world, there is currently no adequate system for tracking their exchange between parties and significant losses occur.

NOTE 2 It is estimated that European Posts have acquired some 1,5 million roller-cages. Some Posts can account for only 60 % to 70 % of these. The 'missing' roller-cages represent a total investment of more than 100 million euro! By reducing asset loss from non-repatriated postal receptacles, and by minimising the permanent loss of postal receptacles from the pipeline, the number of units in service (including stocks in reserve) could be more closely aligned to actual operational requirements. Ultimately this could enable postal operators to reduce the number of receptacles in circulation, thus reducing capital asset costs.

A coherent asset management and control system that identified and tracked postal receptacles could thus offer many potential benefits, including significant cost reductions.

This would require the receptacles concerned to carry individual identifiers and for these to be used, by all parties, in communications about the receptacles and their contents.

NOTE 3 The need for identification can arise for a variety of reasons, including the requirement to track individual receptacles and the need to exchange service and/or service quality data, about a postal receptacle, between postal operators, their customers and service providers.

NOTE 4 Communications about a postal receptacle can include delivery information, transport instructions, content and other customs information, invoicing instructions, handling constraints, etc.

Given the increasing extent to which receptacles are exchanged between organisations, the identifiers used need to be globally unique. This Technical Specification fulfils that requirement. It specifies an open system of identification, accessible by any user of a receptacle. Its use is expected to:

- ¾ provide the basis for an audit trail for postal receptacles;
- ¾ allow postal operators to reap operational benefits;
- ¾ permit improvements in postal service quality.

Subject to bilateral agreement on the use of receptacle asset numbers in association with the electronic transmission of mail aggregate data, adoption of the Technical Specification will also simplify receptacle labelling procedures and the introduction of RFID-based tracking of receptacles and their contents.

It is not anticipated that the Technical Specification will be applied to all types of receptacles, since different types of receptacle have different intrinsic values:

- ¾ for all practical purposes, bands and poly-wrap material can be regarded as having no value. Either they are used only once (e.g. poly-wrap) or, if they are re-usable, they have an extremely low replacement value (a few cents) and are therefore treated as consumables;

- ³/₄ mailbags and trays have a somewhat higher value (a few dollars or euro), but are extensively re-used and, because of the numbers involved, have a significant total value;
- ³/₄ some types of receptacle (e.g. roller-cages, ULDs) have a much more significant value and are normally treated as capital assets.

Receptacles falling into the second and third of the above value classes are normally subject to some level of asset or inventory control. For lower value items, this can be a statistical exercise only, but items of higher value can be subject to control on an individual receptacle basis. It is these higher value receptacles to which the Technical Specification is expected to apply.

This Technical Specification specifies a receptacle asset number for application to postal receptacles. It does so under 6 main headings, together with an informative annex:

- Section 5 *Definition and allocation of receptacle asset numbers*: introduces the concept of receptacle asset numbers; defines their field of application; specifies how their allocation is controlled to ensure uniqueness and defines the constraints applicable to receptacle asset numbers issued under the authority of the UPU.
- Section 6 *Representation of receptacle asset numbers on receptacles*: specifies that receptacle asset numbers shall be represented on receptacles, both in linear bar coded and human-readable form, and defines the manner of representation, including the required bar code symbology parameters, placement location, etc. Also identifies other permitted forms of representation.
- Section 7 *References to receptacle asset numbers in messages*: introduces the distinction between a receptacle asset number, attached to the receptacle it identifies, and a receptacle asset number reference, being a message-based reference to a receptacle; defines representation rules for such references.
- Section 8 *Data capture and use of receptacle asset numbers*: addresses the issue of data capture of receptacle asset numbers and receptacle asset number references and describes the extraction of data components from a complete receptacle asset number.
- Section 9 *Postal receptacle attributes*: identifies, but does *not* define, a number of postal receptacle attributes which might usefully be either encoded on the receptacle, along with the receptacle asset number, or exchanged in messages which use a receptacle asset number reference as access key.
- Section 10 *Representation of receptacle attributes*: specifies how the various attributes defined in the previous section should be represented, in particular in the case in which they are encoded on a label affixed to the receptacle.
- Annex A *Examples of bar codes*: provides illustrative examples of receptacle asset number bar codes which are compliant with this Technical Specification.

1 Scope

This Technical Specification specifies a mechanism for the unique identification of individual receptacles. It defines the method of construction of the identifier, referred to as the receptacle asset number, and specifies one required and a number of optional methods by which this identifier may be associated with (affixed to) the receptacle itself.

The receptacle asset number is defined in accordance with the specification of data identifier number 5B, B being the data identifier category associated with container information.

The Technical Specification also identifies a number of receptacle attributes, or characteristics, which it may be useful to communicate between parties making use of the receptacle concerned.

A coded representation of one of these attributes – equipment qualifier – is integrated into the recommended structure of the receptacle asset number. The others are *not* defined in detail in this document. Precise definitions and encoding formats for them will be developed over time, as a result of practical experience of use of the Technical Specification. The definitions will be included in an appropriate reference specification, such as UPU standards S25 [16] and M82 [9], which serve as baseline definition documents for attributes used in postal industry communications about postal items, mail aggregates and receptacles.

The application of this Technical Specification is voluntary in the sense that receptacles are not required to be individually identified.

NOTE 1 Not all receptacles need to have a receptacle identifier. In particular, in today's environment, mailbags and disposable trays are not normally identified explicitly – rather their contents are. Many Posts are, however, starting to individually identify more valuable receptacles and this practice is expected to spread, including to trays, as the advantages of being able to individually track and control receptacle movement become more apparent.

However, for postal receptacles which do carry an individual identifier, the application of this Technical Specification is strongly recommended.

NOTE 2 Individual postal operators could define proprietary approaches for use domestically, if they so wished. However, this would almost certainly lead to increased development and maintenance costs both for the Posts and their customers and service providers. It can also be difficult to guarantee that postal receptacles, identified in accordance with the (closed) proprietary system, are segregated from postal receptacles which are exchanged with other postal operators in accordance with the open system described here.

The receptacle asset number, defined in accordance with this Technical Specification, is primarily intended for use in asset management applications, which may include receptacle tracking. It is not intended that it be used to replace the mail aggregate identifier¹, defined in UPU standard S9 [10], for the process management and tracking of the content of the receptacle. However, users of the Technical Specification can agree to its use for this purpose on a bilateral basis.

NOTE 3 A companion to this Technical Specification, covering the allocation of aggregate identifiers in accordance with the ISO licence plate standard, is under development. It is envisaged that the resulting aggregate licence plate will, in time, replace the use of UPU standard S9.

Many of the examples given in this document relate to receptacle asset numbers issued under the UPU issuing agency code (IAC). The use of this IAC is subject to registration as an issuer under UPU standard S31. The use of the examples concerned is in no way intended to pre-empt or prejudice such registration.

¹ S9 is entitled *Postal Receptacles*. However, this is a misnomer, as the standard is actually about mail aggregates, being that part of a despatch which is contained in a particular receptacle.

2 Normative references

This Technical Specification incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Technical Specification only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

UPU S31, *UPU issuing agency – Assignment of issuer codes*.

ISO 9735, *Electronic data interchange for administration, commerce and transport (EDIFACT) - Application level syntax rules*.

NOTE 1 ISO 9735 defines the basis for EDIFACT. This Technical Specification makes use of only one EDIFACT code list, namely code list number 8053 – Equipment Qualifier (Directory 96A) or Equipment Type Code Qualifier (Directory 99B). This code list is accessible via: <http://www.unece.org/trade/untidid/d96a/uncl/uncl8053.htm>.

ISO/TS 14816, *Road Transport and Traffic Telematics – Automatic vehicle and equipment identification – Numbering and data structures*.

ISO 15394, *Packaging - Bar code and two-dimensional symbols for shipping, transport and receiving labels*.

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 specifications - Code 128*.

ISO/IEC 15418, *Information technology – EAN/UCC application identifiers and fact data identifiers and maintenance*.

NOTE 2 See application identifier and data identifier in clause 3. ISO/IEC 15418 relies on and cannot be used without reference to ANSI MH10.8.2 (see below).

ANSI MH10.8.2, *Data identifier and application identifier standard*.

NOTE 3 ANSI standards can be obtained from the American National Standards Institute:

11 West 42nd Street, New York, New York 10036, U.S.A.
Tel: +1.212.642.4900; Fax: +1.212.398.0023; WWW: web.ansi.org

3 Terms and definitions

For the purposes of this Technical Specification, the following terms and definitions apply.

A number of common terms used in this document are defined in documents referred to in Normative References and in the Bibliography. Definition of frequently used or particularly important terms as well as other terms introduced in this document are given below.

NOTE The glossary in these guidelines is provided for readability. There is an ongoing effort to unify the glossary for all postal related CEN and UPU standards. The glossary in these guidelines will be replaced by the unified CEN/UPU glossary when available.

3.1

aggregate licence plate

licence plate applied to a mail aggregate

3.2

application identifier

numeric prefix to a data structure that defines the content, format and intended interpretation of the data

NOTE Application identifiers are specified in ISO/IEC 15418 and ANSI MH10.8.2.