
**Poštne storitve – Avtomatska identifikacija prevoznih enot - Poštni agregati
(istoveten CEN/TS 14441:2003)**

Postal services - Automatic identification of receptacles and containers - Mail
aggregates

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Postal services - Automatic identification of receptacles and
containers - Mail aggregates

This Technical Specification (CEN/TS) was approved by CEN on 16 September 2002 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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Foreword

This document (CEN/TS 14441:2003) has been prepared by Technical Committee CEN /TC 331 "Postal services", the secretariat of which is held by NEN.

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).

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this European Standard: 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.

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Introduction

Mailing customers today expect a high level of service, regardless of whether their mail is domestic or international. Although there are already systems in place which enable Postal service providers to satisfy some of these demands, as customers become ever more sophisticated, their expectations begin to outstrip the capabilities of the existing services.

Some Postal service providers operating under UPU guidelines track registered and express mail throughout the international mail pipeline from posting customer through to recipient. This process is not applied to standard mail.

A system which enables the tracking of standard mail from the point of induction into the mail pipeline right through to delivery to the final destination, whether domestic or international, could offer Postal service providers the ideal platform on which to deliver the quality of services the customer now demands.

By introducing the concept of uniquely identified mail aggregates, this Technical Specification specifies a mechanism for process control and tracking of mail throughout the international mail pipeline. However, this concept is not limited to international mail, but is also appropriate to domestic situations, and will be particularly attractive in a post-deregulation environment, where many suppliers may be involved in the mail pipeline.

The table below outlines customer expectation and operator requirement, and illustrates how these might be satisfied by the concept of uniquely identified mail aggregates.

Table 1 — Customer expectation and operator requirement

Customer Expectation	How it could be met
Tracking of mail	Unique identification of mail aggregates cross referenced to individual postal items
Lowest cost	Reduce repeated processing Improve work load planning through pre-advice of mail arrival Create modules of deliverable mail at the mail finishing stage
Reliability	Better process management
Consistent service	Common pipeline across countries
Less damage	Reduce packaging and repackaging operations
Quality of service	Identify opportunities for quality improvement through better control and diagnosis
Service measurement	Allow customers to monitor progress of mail online
Notification of failures or delays	Alert operator/customer of potential problems through feed back from processing systems
New products tailored to customers needs	Support adaptability through the adoption of common, well defined processes

The potential benefits to postal operators are also significant:

Table 2 — Potential benefits to postal operators

Operator Requirement	How it could be met
Pipeline consistency & Pipeline standards	Common standards & procedures between Postal service providers.
Cost allocation/Revenue protection	Support a more robust cost and income allocation, in the post-deregulation environment through well defined mail pipelines and processes.
Flexibility at acceptable cost	Support postal item tracking through identification of mail aggregates cross referenced to individual items.
Good value for money for the customer	Reduce repeated processing Improve work load planning through pre-advice of mail arrival Create modules of deliverable mail at the mail finishing stage
Protect market share after deregulation	Pre-empt competition by using economies of scale to support low-cost delivery of high added value services and information.
Modern Image for the Post	Enable clients to use new technology to the advantage of their own businesses.

Mail Aggregate

A mail aggregate is a group of postal items with common handling requirements either for processing or for transportation purposes. A mail aggregate may be any set of postal items that have been physically grouped so as to permit such common handling. A mail aggregate is a temporary, logical grouping of mail and/or postal receptacles. Examples include bundles, mailing submissions, consignments and the content of postal receptacles, such as mailbags, trays, roller-cages, etc., or the content of a particular sorting machine output stacker.

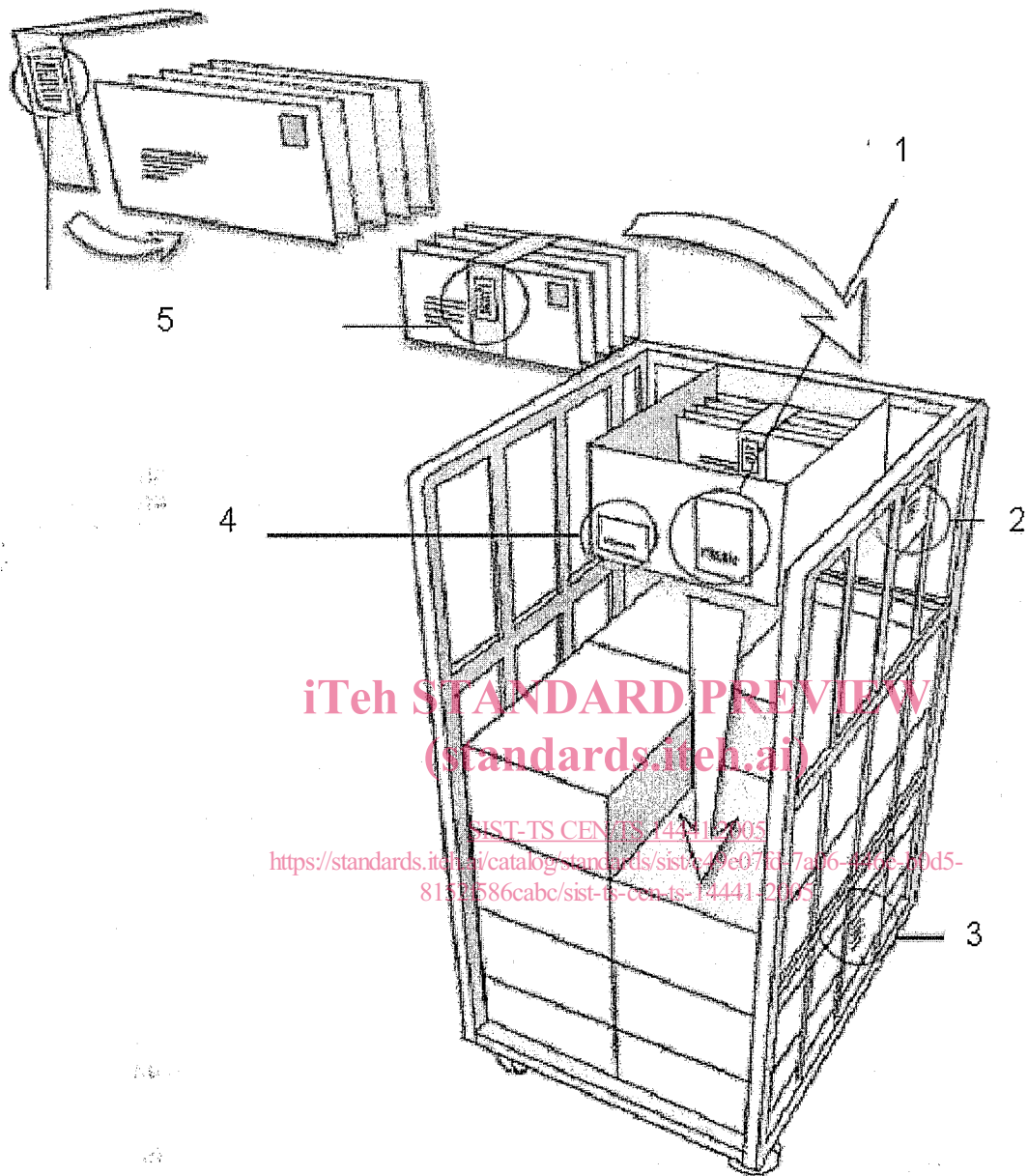
Mail aggregates may occur at several nested levels. For example, a mail aggregate consisting of the set of postal items addressed to a particular delivery point may form part of a higher-level mail aggregate destined for the same delivery postcode area.

Similarly, this mail aggregate may in turn be just part of a larger mail aggregate to be delivered by a particular delivery agent, which in its turn may be part of an even larger mail aggregate transported to a particular delivery office.

Mail Aggregate Nesting: Aggregate Identifiers and Receptacles Asset Numbers

The drawing below shows how a typical mail aggregate may be assembled in a roller-cage.

NOTE See UPU S37, *Receptacle Asset Numbering (RAN)* specification for detail on receptacle asset number. CEN is preparing a Technical Specification on receptacle asset numbering.



Key

- 1 Aggregate (Bundle) Identifier (Removable Label)
- 2 Aggregate (Tray) Identifier (Removable Label)
- 3 Receptacle (Rollcage) Asset Number (Fixed to receptacle)
- 4 Receptacle (Tray) Asset number (Fixed to receptacle)
- 5 Aggregate (Letter) Identifier (Removable Label)

Figure 1 — Mail aggregates assembled in a roller cage

1 Scope

This Technical Specification specifies a number of options for the identification of individual mail aggregates, defines methods of constructing an aggregate identifier and specifies one required and a number of optional methods by which this identifier may be associated with (affixed to) the mail aggregate or its temporary container.

This Technical Specification also identifies a number of mail aggregate attributes, or characteristics of aggregates (as distinct from the attributes of the individual mail items and lower level aggregates within them), which may be useful to communicate between parties handling the mail aggregate concerned. The attributes 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 this Technical Specification. The definitions will be included in an appropriate reference specification, such as UPU S25 and M82, which serve as baseline definition documents for attributes used in postal industry communications about postal items, batches and postal receptacles.

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).

EN 1573 *Barcoding - Multi industry transport label*

NOTE 1 EN 1573, a companion to EN 1572, defines a transport unit label for use in open (multi-industry) environments and specifies, inter-alia that the licence plate bar code shall be accompanied by a human readable form of the identifier and shall be a minimum of 32 mm from any edge of the item identified.

ISO 3166-1 *Codes for the representation of names of countries and their subdivisions – Part 1 : Country codes* <https://standards.iteh.ai/catalog/standards/sist/c49e07fd-7a06-446e-b0d5-8152f586cab/sist-ts-cen-ts-14441-2003>

NOTE 2 ISO 3166-1 contains three different sets of codes for the countries in the world (Alpha2, Alpha3 and Numeric 3). Only the Alpha2 set is referenced by this Technical Specification.

ISO 15394 *Packaging – Bar Code and Two-dimensional Symbols for Shipping, Transport and Receiving Labels*

ISO/IEC 15417 *Information Technology - Automatic identification and data capture techniques - Bar code symbology specification -.Code 128*

ISO/IEC 15418 *Information technology - EAN/UCC Application Identifiers and FACT Data Identifiers and Maintenance*

NOTE 3 ISO/IEC 15418 embodies ANSI MH10.8.2.

ISO/IEC 15459-1 *Information technology -- Unique identification of transport units – Part 1: General*

ISO/IEC 15459-2 *Information technology -- Unique identification of transport units – Part 2: Registration procedures*

NOTE 4 ISO 15459-1 defines the structure of an identifier - a licence plate - for transport units such as postal items and mail aggregates. Companion standard ISO 15459-2 defines the procedure for the allocation of issuing agency codes, used as part of licence plates to ensure their uniqueness.

ISO 16388 *Information Technology - Automatic identification and data capture techniques - Bar Code symbology specifications - Code 39*

UPU S20 *RFID: Identification and Marking using Radio Frequency Identification technology: Reference architecture and terminology*

NOTE 5 UPU S20 defines the reference architecture for the use of radio frequency devices in the postal environment.

UPU S21 *Data presentation in ASN.1*

NOTE 6 UPU S21 is a data construct structuring standard. It defines the approach to the use of ASN.1 for the encoding of data. It is used for the representation of data both in radio frequency devices and in the form of two-dimensional symbols printed on postal items and supporting documents.

UPU S22 *Identification and marking using Radio Frequency Identification Technology: System Requirements and Test Procedures*

NOTE 7 UPU S22 defines the functionality, environmental and operating parameters for radio frequency identification (RFID) devices.

UPU S23 *Radio Frequency Identification (RFID) and Radio Data Capture (RDC) Systems - Air Interfaces: Communications and Interface*

NOTE 8 UPU S23 defines common communication protocols for radio frequency identification (RFID) devices.

UPU S28 *Communication of Postal Information using Two-dimensional Symbols*

NOTE 9 UPU S28 defines the message and transport levels for the communication of data through the medium of two-dimensional symbols printed on postal items or accompanying documentation.

UPU S31 *UPU Issuing Agency – Assignment of Issuer Codes.*

NOTE 10 UPU S31 defines the mechanism for allocation of issuer codes for use in association with the UPU Issuing Agency Code.

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3 Terms and definitions

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

3.1

aggregate licence plate

licence plate applied to a mail aggregate

3.2

aggregate licence plate reference

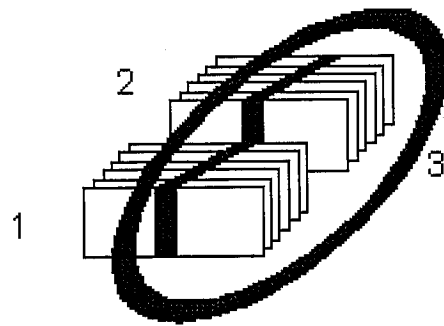
reference to a specific mail aggregate, made by quoting the aggregate's licence plate

3.3

bundle

low level mail aggregate which is physically constrained by a band or wrapper

NOTE For example, a wrapped bundle of items to be delivered by an individual letter carrier. Note that, like mail aggregates in general, bundles can be constructed hierarchically – a bundle can be comprised of several lower level bundles, as illustrated in Figure 2:



Key

- 1 Bundle 1
- 2 Bundle 2
- 3 Higher level bundle

Figure 2 — Bundle

3.4

Code 39

linear bar code symbology, defined in ISO/IEC 16388.

3.5

Code 128

linear bar code symbology, defined in ISO/IEC 15417.

3.6

consignment

mail aggregate usually contained in postal receptacles, which is to be transported as a whole from a specific place of loading to a specific place of final destination. See UPU S7/S32. See also **despatch** and **postal receptacle**

NOTE There is no direct relationship between despatches and consignments. A single despatch can be transported in (parts of) several different consignments; a single consignment can contain (parts of) several different despatches.

3.7

data identifier

prefix to a data structure that specifies the content, format and intended interpretation of the data (see ISO 15418)

3.8

data identifier category

grouping of related data identifiers

NOTE Data identifiers are divided into 26 categories, labelled A to Z, each of which corresponds to a particular class of Dis. For example, B is used for container information and D for dates. Different data constructs within a category are identified by means of a numeric prefix.

3.9

data title

human readable text, placed close to a bar code or two-dimensional symbol, indicating the nature of the content of the bar code or two-dimensional symbol

NOTE It is stressed that a data title indicates the nature of the content of the bar code or two dimensional symbol and not the value which is encoded.

3.10

despatch

mail aggregate, usually grouped into postal receptacles, to be transported from an office of origin to an office of destination, and for which handling responsibility is passed between the two postal establishments

NOTE The offices of origin and destination are usually, but not exclusively, offices of exchange (see UPU S8).

See also **consignment** and **postal receptacle**.

**3.11
forming**

process by which individual postal items, bundles, and/or postal receptacles are assembled into mail aggregates

NOTE The purpose of forming is usually to facilitate transportation within or between postal processing facilities or to facilitate handling by postal staff or equipment.

See also **unforming**.

**3.12
issuer**

organisation which has been authorised, by an issuing agency, to allocate identifiers under the issuing agency's issuing agency code

**3.13
issuer code**

code, allocated by an issuing agency, to uniquely identify (within the issuing agency's domain) an issuer

NOTE In the case of the UPU, UPU S31 specifies the method of allocation and publication of issuer codes. According to that standard, issuer codes can be either two or three characters in length. It should, however, be noted that only the three character form is supported by this Technical Specification.

**3.14
issuing agency**

organisation authorised to control the issue of licence plates in accordance with ISO 15459

**3.15
issuing agency code**

globally unique identifier for an issuing agency

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NOTE Each issuing agency is allocated an issuing agency code of from one to three characters. The UPU's IAC is the single character *J*.

**3.16
licence plate (number)**

a unique number, regardless of use, specified by the label issuer and applied to a transport unit to provide access to traceability data regardless of content and destination and valid for the lifetime of the transport unit

NOTE This definition was taken from EN 1572:1996

**3.17
location code**

code used to designate a well-defined location or area

NOTE Examples of location codes are postcodes, IATA airport codes, ISO country codes etc. (see also UPU S25).

**3.18
mail aggregate**

set of postal items which has been physically grouped so as to permit common handling

NOTE Bundles, consignments, the content of postal receptacles and the content of a sorting machine output stacker are all examples of mail aggregates.

3.19**mailing submission**

mail aggregate or collection of mail aggregates, which is handed over to a postal operator for processing as part of a single hand-over transaction

NOTE Mailing submissions may be contained in one or more postal receptacles. The transaction can take place over several days.

3.20**organisation identifier**

globally unique identification of a supplier, or other organisation, constructed in accordance with the specification for data identifier 18V

NOTE UPU S35 defines the *Application and Use of Organisation Identifiers* in the UPU context.

3.21**postal receptacle**

receptacle which is primarily intended to hold or transport postal items

NOTE A postal receptacle can contain mail and / or other postal receptacles. Examples include mailbags, trays, wheeled containers (roller-cages), pallet and pallet-based containers and airfreight containers (ULDs) Some types of postal receptacle (e.g. roller cages and ULDs) may have a residual value; others do not (e.g. disposable trays).

3.22**product code**

coded value indicating class or type of mail aggregate

3.23**receptacle asset number**

globally unique identifier for a receptacle

NOTE CEN is preparing a Technical Specification on receptacle asset numbering.

3.24**registration authority**

organisation that is empowered to register and authorise the use of a standard which requires user registration

3.25**transport unit**

a package, intended for transportation, comprising one or more articles, wrapped or unwrapped, and when multiple articles constrained to form a unit

NOTE 1 This definition was taken from EN 1572:1996

NOTE 2 Parcels, other individual postal items and mail aggregates housed in receptacles can all be regarded as transport units, but postal receptacles themselves are *not* transport units.

3.26**unforming**

process by which a mail aggregate is unpacked into its constituent parts i.e. individual postal items, sets of postal items, bundles and/or postal receptacles

NOTE After unforming, some or all of the constituent parts of a mail aggregate can be formed – i.e. grouped together – with other individual postal items, bundles, and/or postal receptacles into a new mail aggregate or aggregates.

3.27**universal load device**

receptacle that is shaped to fit within aircraft cargo and baggage holds