



SLOVENSKI STANDARD

SIST EN 1545-1:2005

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**Sistemi z identifikacijskimi karticami – Aplikacije za prevoze po kopnem – 1. del:
Vrste osnovnih podatkov, sezname splošnih pravil in splošni elementi podatkov**

Identification card systems - Surface transport applications - Part 1: Elementary data types, general code lists and general data elements

iTeh STANDARD PREVIEW
Identifikationskartensysteme - Landgebundene Transportanwendungen - Teil 1:
Elementare Datentypen, allgemeine Codelisten und generelle Datenelemente
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Systeme de cartes d'identification - Applications pour le transport terrestre - Partie 1:
Types de données élémentaires, codes généraux et éléments de données généraux
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Ta slovenski standard je istoveten z: EN 1545-1:2005

ICS:

35.240.15	Identifikacijske kartice in sorodne naprave	Identification cards and related devices
35.240.60	Uporabniške rešitve IT v transportu in trgovini	IT applications in transport and trade

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English Version

**Identification card systems - Surface transport applications -
Part 1: Elementary data types, general code lists and general
data elements**

Système de cartes d'identification - Applications pour le
transport terrestre - Partie 1: Types de données
élémentaires, codes généraux et éléments de données
généraux

Identifikationskartensysteme - Landgebundene
Transportanwendungen - Teil 1: Datentypen, Codelisten
und generelle Datenelemente

This European Standard was approved by CEN on 19 May 2005.

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 Central Secretariat or to any CEN member.

The STANDARD PREVIEW
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Contents

	Page
1 Scope	10
2 Normative references	11
3 Terms and definitions	11
4 Abbreviations	13
5 Approach for definition of data types and data elements.....	13
5.1 Data types and data elements	13
5.2 ASN.1 type naming conventions.....	14
5.3 Existing standards.....	14
5.4 Value range identifiers.....	14
5.5 Size constraints	14
6 Elementary data types	14
6.1 Address	14
6.2 Amount	14
6.3 ApplicationInstanceNumber.....	15
6.4 Authenticator.....	15
6.5 BCDStringType	15
6.6 BitMap	15
6.7 Capacity.....	16
6.8 CompanyId	16
6.9 Counter	16
6.10 CountryAlpha	SIST EN 1545-1:2005
6.11 CountryNumeric^{https://standards.itech.ai/catalog/standards/sist/3c43262d-46e2-42b0-9125-}	16
6.12 Currency	92d9070b86bda/sist-en-1545-1-2005
6.13 Databin.....	16
6.14 DateCompact.....	16
6.15 Datef.....	17
6.16 DateStamp	17
6.17 DateTimeCompact.....	17
6.18 DateTimeStamp.....	17
6.19 DayOfWeek	18
6.20 Duration	18
6.21 Flag	18
6.22 HalfDayOfWeek	18
6.23 HalfDayType	19
6.24 IAI	20
6.25 IIN	20
6.26 InstancePointer	20
6.27 INT1	20
6.28 INT2	20
6.29 INT3	21
6.30 INT4	21
6.31 INTM	21
6.32 INTP	21
6.33 INTS.....	21
6.34 LanguageAlpha	21
6.35 Languageld.....	21
6.36 Length.....	21
6.37 MappingType.....	22
6.38 MeasuredParameters	22

6.39	Name	22
6.40	NetworkAccess	23
6.41	NetworkId	24
6.42	NetworkSpecificCompanyId	24
6.43	Number	24
6.44	NumberUnit	24
6.45	ObjectIdentifier	24
6.46	Payment	24
6.47	PayUnitMap	24
6.48	Percentage-0	25
6.49	Percentage-1	25
6.50	Percentage-2	25
6.51	PeriodOfDay	25
6.52	Permission	26
6.53	PointerValue	26
6.54	PTag	26
6.55	Quantity	26
6.56	ReferenceIdentifier	26
6.57	ReferenceNumber	26
6.58	Restriction	26
6.59	SequenceNumber	26
6.60	ShortName	27
6.61	SignedAmount	27
6.62	SignedInteger1	27
6.63	SignedInteger2	27
6.64	SignedInteger3	27
6.65	Speed	27
6.66	TimeCompact	27
6.67	TimeMeasure	28
6.68	TimeReal	28
6.69	TimeStamp	28
6.70	VehicleNumber	28
6.71	VersionNumber	28
6.72	Weight	28
7	Data elements with associated code lists	29
7.1	CapacityUnit	29
7.2	CommercialTransportProductCode	29
7.3	ConditionCode	30
7.4	DayOfValidityCode	31
7.5	DestinationOrOriginCode	31
7.6	DeviceTypeCode	31
7.7	DirectionCode	31
7.8	EntitlementTypeCode	32
7.9	EventTypeCode	32
7.10	GenderCode	33
7.11	HotListStatusCode	33
7.12	LanguageCode	34
7.13	LegislationCode	38
7.14	LengthUnit	38
7.15	LocationQualifierCode	38
7.16	LocationTypeCode	38
7.17	PersonalisationBiometricCode	39
7.18	PersonalisationTypeCode	39
7.19	PointerQualifierCode	39
7.20	PreferenceTypeCode	40
7.21	ProfileCodeIOP	40
7.22	ProfileCodeNetwork	41
7.23	ReferenceTypeCode	41
7.24	RestrictTimeCode	41

EN 1545-1: 2005 (E)

7.25	resultCode .....	.42
7.26	RevocationDetailsCode .....	.42
7.27	RoundingCode .....	.42
7.28	SecurityServicesCode .....	.43
7.29	SeriousnessCode .....	.43
7.30	SpeedUnit .....	.43
7.31	StatusCode .....	.43
7.32	TimeUnit .....	.44
7.33	TransactionModeCode .....	.44
7.34	TransportTypeCode .....	.44
7.35	UserActionCode .....	.45
7.36	WeightUnit .....	.46
8	General data elements .....	.46
8.1	AccountingId .....	.46
8.2	ActionListSequenceNumber .....	.46
8.3	AlgorithmId .....	.46
8.4	ApplicationId .....	.46
8.5	ApplicationOwner .....	.46
8.6	BirthDate .....	.47
8.7	BirthName .....	.47
8.8	BirthPlace .....	.47
8.9	CollectionAndForwardingOperator .....	.47
8.10	CompanyName .....	.47
8.11	ContractDependencyPointer .....	.47
8.12	ContractTypesAllowed .....	.47
8.13	CustomerContractProvider .....	.48
8.14	CustomerNumber .....	.48
8.15	Date .....	.48
8.16	DateTime .....	.48
8.17	DateTimeBand .....	.48
8.18	DeductionPercentage .....	.48
8.19	DelayCounter	https://standards.iteh.ai/catalog/standards/sist/3c43262d-46e2-42b0-9125-92d9070b6bda/sist-en-1545-1-2005	.48
8.20	DeviceId	https://standards.iteh.ai/catalog/standards/sist/3c43262d-46e2-42b0-9125-92d9070b6bda/sist-en-1545-1-2005	.48
8.21	DisplayMessageNumber .....	.49
8.22	EmailAddress .....	.49
8.23	EndDate .....	.49
8.24	EndDatePeriod .....	.49
8.25	EndDatePeriodStamp .....	.49
8.26	EndDateStamp .....	.49
8.27	EndTime .....	.49
8.28	EndTimeStamp .....	.50
8.29	EntryPointer .....	.50
8.30	EventClassification .....	.50
8.31	EventDateStamp .....	.50
8.32	EventDisplayMessageId .....	.50
8.33	EventPointer .....	.50
8.34	FacilityProvider .....	.51
8.35	FarthestPlace .....	.51
8.36	Fax .....	.51
8.37	Forename .....	.51
8.38	HangoverPeriod .....	.51
8.39	HolderAddress .....	.51
8.40	HolderCompany .....	.51
8.41	HolderId .....	.52
8.42	HolderProfiles .....	.52
8.43	IdentityDocumentId .....	.52
8.44	IssueDateStamp .....	.52
8.45	KeyVersionNumber .....	.52
8.46	LastMinuteSale .....	.52

8.47	LevelIndicator.....	52
8.48	LocationId.....	53
8.49	LocationIdentifier.....	53
8.50	LockTime	53
8.51	MaxAbnormalEvents.....	53
8.52	MostRecentPointer	53
8.53	NotOKCounter	53
8.54	NumberOfContracts.....	54
8.55	NumberOfEntries	54
8.56	NumberOfTimePeriods	54
8.57	PermitPeriodOfDay	54
8.58	PostCodeId	54
8.59	Priority	54
8.60	ProductOwner	54
8.61	ProductRetailer	55
8.62	ProductStatus	55
8.63	ReceiptData	55
8.64	ReceiptPoint.....	55
8.65	ReservationId	55
8.66	RestrictedDayOfWeek.....	55
8.67	RestrictedHalfDayOfWeek.....	56
8.68	RestrictedLocation	56
8.69	RestrictedPeriodOfDay.....	56
8.70	RestrictionEnd	56
8.71	RestrictionEndDate.....	56
8.72	RestrictionStart	56
8.73	SalesPoint	56
8.74	SecondaryFlag	57
8.75	SectionNumber	57
8.76	SecurityVersion.....	57
8.77	SerialNumber.....	57
8.78	ServiceOperator.....	57
8.79	StartDate.....	58
8.80	StartDatePeriod	58
8.81	StartDatePeriodStamp	58
8.82	StartDateStamp	58
8.83	StartTime	58
8.84	StartTimeStamp	58
8.85	StructureReferenceNumber	58
8.86	Surname	59
8.87	Telephone.....	59
8.88	TestFlag	59
8.89	Time	59
8.90	TransactionOperator.....	59
8.91	TransactionSequenceNumber	60
8.92	UnblockInstanceId	60
8.93	UserData	60
8.94	ValidationCounter	60
8.95	ValidationStatus	60
8.96	ValidDayOfExpiry	60
8.97	ValidDayOfIssue	61
8.98	ValidityCheckFlag	61
8.99	ValidityDuration	61
8.100	VehicleId	61
8.101	VersionNumberFor1545.....	61
9	Encoding rules	62
9.1	General	62
9.2	Basic encoding rules (BER)	62
9.3	Alternative encoding rules	62

EN 1545-1: 2005 (E)

9.3.1	General	62
9.3.2	Packed encoding rules	62
9.3.3	Other encoding rules	62
9.4	Value and size range definitions.....	62
10	Backwards compatibility	63
11	Transport general module definition	63
Annex A (normative) Assignment of object identifiers		81
Annex B (normative) Tags.....		82
Annex D (informative) Index		90

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[SIST EN 1545-1:2005](#)
<https://standards.iteh.ai/catalog/standards/sist/3c43262d-46e2-42b0-9125-92d9070b6bda/sist-en-1545-1-2005>

Foreword

This European Standard (EN 1545-1:2005) has been prepared by Technical Committee CEN/TC 224 "Machine readable cards, related device interfaces and operations", the secretariat of which is held by AFNOR.

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 April 2006, and conflicting national standards shall be withdrawn at the latest by April 2006.

This European Standard comprises the following parts, under the general title "Identification card systems - Surface transport applications":

General part:

Part 1: Elementary data types, general code lists and general data elements;

Sector specific part:

Part 2: Transport and travel payment related data elements and codelists.

This document supersedes EN 1545-1:1998.

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

[SIST EN 1545-1:2005](#)

<https://standards.iteh.ai/catalog/standards/sist/3c43262d-46e2-42b0-9125-92d9070b6bda/sist-en-1545-1-2005>

Introduction

ICs offer far greater opportunities for use in surface transport applications (STA) when compared to magnetic stripe and barcoded cards. The standardisation of data elements, which is the purpose of this European Standard, facilitates the use of ICs across multiple transport applications and operators, and in a variety of transport related terminals. This European Standard also permits application builders to minimise data duplication.

This European Standard contains definitions of data formats, data elements, data types and specifies data elements with associated codelists. It is for use in the creation of surface transport related data structures that may reside on a transport application. Abstract Syntax Notation One (ASN.1) has been used in the definition of data types in this European Standard.

This European Standard provides a comprehensive toolbox of data elements and types as the basis for the creation of data structures to be used in STAs. This European Standard alone does not ensure interoperability; this is left to the application builders. The definition of data structures to be used in STAs is left to applications.

This European Standard has a hierarchical approach:

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1. basis for all definitions used in this European Standard is ASN.1 (ISO/IEC 8824);
 2. EN 1545-1 standardises its general elements, data types and data elements with associated code lists in accordance with ASN.1; <https://standards.iteh.ai/catalog/standards/sist/3c43262d-46e2-42b0-9125-SIST%20EN%201545-1%202005>
 3. sectoral parts of this European Standard (EN1545-2) define the sector specific elements and codes. Apart from the sector specific codes that are directly based on ASN.1 all definitions of sector specific data elements have to be based on EN 1545-1 definitions;
 4. it is left to applications to define the relevant data structures (data objects) strictly based on the definitions of EN 1545
 4. Any transport application data structures (objects)
 - sector specific data elements from EN 1545-sectoral
 - sector specific codes from EN 1545-sectoral
 - general data elements from EN 1545-1
 - elementary data types from EN 1545-1
 - general data elements with code lists from EN 1545-1
 3. EN 1545-sectoral
 - sector specific data elements
 - general data elements from EN 1545-1
 - elementary data types from EN 1545-1
 - sector specific code lists
 - codes expressed in ASN.1
 2. EN 1545-1
 - general data elements
 - elementary data types from EN 1545-1

universal ASN.1 types from ISO/IEC 8824
general data elements with associated code lists
 codes expressed in ASN.1
elementary data types
 universal ASN.1 types from ISO 8824

1. ISO 8824
 universal ASN.1 data types

This European Standard refers to existing ASN.1 encoding rules (transfer syntaxes), such as the basic and packed encoding rules, for use within surface transport applications. However this European Standard does not exclude the use of other encoding rules.

The ASN.1 basic encoding rules (BER) includes significant redundancy in order to make transferred data fully self-defining, which may result in data structures too large to be used in applications on ICs with restricted data storage capacity. Therefore this European Standard allows the use of alternative encoding rules such as the ones based upon the ASN.1 packed encoding rules (PER) (see Clause 9).

The mechanism for how to establish the application context, including the decision as to which encoding rules to use, is outside the scope of this European Standard.

This European Standard does not pretend to identify and specify every possible ASN.1 type that may be used in future applications by application builders. In addition, local systems may be defined in their own way.

This European Standard will be updated and added to over time as new surface transport applications are created, in accordance with the normal CEN practice.

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1 Scope

This European Standard specifies data formats, data elements, data types and data elements with associated codelists for general use within surface transport applications (STAs) on ICs.

The mechanism for how to establish the application context, including the decision of which encoding rules to use, is outside the scope of this European Standard.

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2 Normative references

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

EN 1332-4, *Identification card systems - Man-machine interface - Part 4: Coding of user requirements for people with special needs*

EN ISO 3166-1, *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes (ISO 3166-1:1997)*

ISO 639-2, *Codes for the representation of names of languages – Part 2: Alpha-3 code*

ISO 7372, *Trade data interchange -- Trade data elements directory*

ISO 4217, *Codes for the representation of currencies and funds*

ISO/IEC 5218, *Information technology-- Codes for the representation of human sexes*

ISO/IEC 7812-1:2000, *Identification cards – Identification of issuers – Part 1: Numbering system*

ISO/IEC 7816-5:2004, *Identification cards – Integrated circuit cards – Part 5: Registration of application providers*

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ISO/IEC 7816-6:2004, *Identification cards – Integrated circuit cards – Part 6: Inter-industry data elements for interchange*

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ISO 8824-1/IEC:2002, *Information technology – Abstract Syntax Notation One (ASN.1) : Specification of basic notation*

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ISO/IEC 8825-1:2002, *Information technology – ASN.1 encoding rules : Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*

ISO 8825-2/IEC:2002, *Information technology – ASN.1 encoding rules : Specification of Packed Encoding Rules (PER)*

ISO/TS 14816, *Road transport and traffic telematics -- Automatic vehicle and equipment identification -- Numbering and data structure*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1

account

held in a central location, used for payment for services. When payment is made through the use of a card, the card identifies the centrally held account

3.2

application

EN 1545-1: 2005 (E)

file structure, directory entries and security scheme loaded in part onto a smart card to perform a particular set of functions. A card may support one or more applications

3.3**basic data element**

data element with a single value, defined with reference to a single data type

3.4**code**

data element, with an associated mandatory codelist, expressed in ASN.1 types, namely:

- enumerated type

- integer type

3.5**constructed data element; composite data element**

group of basic data elements

3.6**data element**

single store for an irreducible datum value

3.7**elementary data type**

data element is an elementary data type when it occurs in more than one data construct whilst keeping the same semantic and syntactic values in each occurrence

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An elementary data type is either;

data type defined with reference to a single universal data type,

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or an enumeration

3.8**general data element**

data element defined with reference to universal or elementary data type

3.9**journey**

complete sequence of one or more journey legs required to achieve a specific purpose at a specific destination. This sequence may include the use of more than one vehicle and using more than one transport mode

3.10**network**

all coordinated lines of road based, rail based, water based transport within a defined geographical area and/or under a specified authority where a card is uniquely used

3.11**sector specific data element**

data element defined with reference to a general data element or an elementary data type

3.12**universal data type**

universal ASN.1 Type defined in ISO/IEC 8824-1:2002

NOTE UTF-8 strings are used to represent characters. Users should note that each character may occupy 1 to 4 bytes, depending upon the character. Length of such strings is therefore a count of characters, not a count of bytes.

4 Abbreviations

For the purposes of this European Standard, the following abbreviations apply.

AID	Application Identifier [ISO/IEC 7816-5:2004]
ASN.1	Abstract Syntax Notation One [ISO/IEC 8824:2002]
BCD	Binary Coded Decimal
BER	Basic Encoding Rules [ISO/IEC 8825-1:2002]
BIBO	Be-in, Be-out
CAD	Card accepting device
CICO	Check-in, Check-out
CIBO	Check-in, Be-out
EAN	European Article Numbering
GDF	Geographical Data File
GSM	Global System for Mobile Communication
ICC	Integrated Circuit Card <i>(standards.iteh.ai)</i>
IEP	Intersector Electronic Purse licensed according to the EC e-Money Directive 2000/46 <i>SIST EN 1545-1:2005</i>
MII	Major Industry Identifier [ISO/IEC 7812-1:2000] 43262d-46e2-42b0-9125-92d9070b6bda/sist-en-1545-1-2005
NOTOK	Not OK
PER	Packed Encoding Rules [ISO/IEC 8825-2:2002]
RFU	Reserved for Future Use
STA	Surface Transport Application
STR	Stored Travel Rights
VAT	Value Added Tax
WIWO	Walk-in, Walk-out

5 Approach for definition of data types and data elements

5.1 Data types and data elements

This European Standard uses Abstract Syntax Notation One (ASN.1) to define data types and data elements. This enables simple and structured data to be defined without implying any specific transfer syntax (encoding rules), which will be application - and environment dependant.