



SLOVENSKI STANDARD

oSIST prEN 18220:2025

01-september-2025

Digitalni potni list za proizvode - Nosilci podatkov

Digital product passport - Data carriers

Digitaler Produktpass - Datenträger

Passeport numérique des produits - Supports de données

Ta slovenski standard je istoveten z: prEN 18220

ICS:

35.240.63 Uporabniške rešitve IT v trgovini IT applications in trade
trgovini

oSIST prEN 18220:2025

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 18220

June 2025

ICS 35.240.63

English version

Digital product passport - Data carriers

Passeport numérique des produits - Supports de données

Digitaler Produktpass - Datenträger

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/CLC/JTC 24.

If this draft becomes a European Standard, CEN and CENELEC 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.

This draft European Standard was established by CEN and CENELEC in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN and CENELEC members are the national standards bodies and national electrotechnical committees of 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation. Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



CEN-CENELEC Management Centre:
Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword	5
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 Concepts	9
4.1 DPP objective	9
4.2 Basic specifications	9
4.3 General considerations	10
4.3.1 New and non-new products	10
4.3.2 DPP and other applications	10
4.3.3 Data carrier users and reading devices	10
5 Requirements	10
5.1 General	10
5.2 Data encoding	10
5.2.1 Data content	10
5.2.2 Data syntax	11
5.2.3 Character set	11
5.3 Data carrier reading	11
5.3.1 Reading process for barcodes	11
5.3.2 Reading process for NFC	11
5.3.3 Reading process for UHF RFID	11
5.3.4 Decoding software	11
5.4 Marking or embedding methods on product, packaging, labelling or associated document on product	11
5.4.1 General	11
5.4.2 Marking on product item	12
5.4.3 Marking on packaging	12
5.4.4 Labelling	12
5.4.5 Document	12
5.4.6 Embedded	12
5.5 Dimensional characteristics for barcodes	13
5.5.1 Error correction	13
5.5.2 Data carrier size	13
5.6 Data carrier quality/performance	13
5.6.1 General	13
5.6.2 Two-dimensional symbols	13
5.6.3 Barcode verification	14
5.6.4 HF, UHF RFID and NFC	14
5.7 Data carrier design	14
5.7.1 Data carrier placement	14
5.7.2 Human readable interpretation	14
5.7.3 Signage	14
5.7.4 Accessibility	14
5.8 Other considerations	15
5.8.1 References to recognised standards	15
5.8.2 Proven technologies	15
6 Data carrier technologies	15
6.1 General	15
6.2 Two-dimensional barcodes	15
6.2.1 General	15
6.2.2 Data Matrix	15

6.2.3	QR Code	16
6.2.4	Two-dimensional barcodes characteristics	16
6.3	Radio frequency data carriers	17
6.3.1	General	17
6.3.2	HF RFID	17
6.3.3	NFC	18
6.3.4	UHF RFID	19
Annex A	(normative) Criteria for selection of data carriers - Mandatory criteria	21
Annex B	(informative) List of criteria to be considered when selecting a data carrier to ensure success	22
Annex C	(informative) Examples of Data Syntax	24
C.1	Example as described in ISO/IEC 18975	24
C.2	Example as described in [6] and [7]	24
C.3	Example of [6]	25
C.4	Example of [7]	25
C.5	Examples of syntax with MH-10	26
C.6	Example of QR code embedding an identifier in URI a link, ISO/IEC 18975 compliant: GS1 Digital Link URI	27
Annex D	(informative) Data carriers and ID schemes for products	28
D.1	General	28
D.2	ID Scheme 5.1.2.1 Web enabled structured path identification for products	28
D.2.1	General	28
D.2.2	Example with a QR Code	28
D.2.3	Example of QR Code with [53] using GS1 Digital Link URI syntax for ECC L	29
D.2.4	Example with a Data Matrix	29
D.2.5	Example of Data Matrix with [53] using GS1 Digital Link URI syntax	29
D.2.6	Example of Data in an NFC tag	29
D.3	ID Scheme 5.1.2.2 Web enabled query string ID for products, without structure	29
D.3.1	Web enabled query string ID for products	30
D.4	Example with a QR Code	30
D.5	ID scheme 5.2.2.1: Identification Link (IL) with structure	30
D.5.1	Example of Identification Link (IL) with structure, with graphical frame to indicate item	30
D.5.2	QR Code size of IL with graphical marking	31
D.6	ID scheme 5.2.2.2: Identification Link (Structured ID Link)	31
D.6.1	Example of Identification Link (IL) with structure and graphical frame to indicate item	32
D.6.2	QR Code size of IL with graphical marking	32
D.6.3	Model Identification IL (product level with optional reuse of existing ID solutions) QR Code size with graphical marking	33
D.6.4	Example Model Identification (Product Code Level with optional reuse of existing ID solutions)	34
D.7	ID scheme 5.3: Decentralized Identifiers	34
D.7.1	General	34
D.7.2	Example with a QR Code	35
D.8	ID scheme 5.4.2.1: Product and group identification, RFID	36
D.9	ID scheme 5.4.1.2 Product and group identification, 2D-symbols	36
D.9.1	Example with a QR Code	37
D.10	ID scheme 5.5: Digital Object Identifier for products	38
D.10.1	Example of DOI with a QR Code	39
Annex E	(informative) DPP data carrier recognition	41
E.1	Example of Data carrier multiple use with implicit recognition	41
E.2	Examples of data carrier with explicit recognition	41
Annex ZA	(informative) Relationship between this European Standard and the essential requirements of 2024/1781	43

prEN 18220 (E)

Bibliography 44

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[oSIST prEN 18220:2025](https://standards.itih.ai/catalog/standards/sist/45487369-ec3e-47ef-82da-89a412cb2492/osist-pren-18220-2025)

<https://standards.itih.ai/catalog/standards/sist/45487369-ec3e-47ef-82da-89a412cb2492/osist-pren-18220-2025>